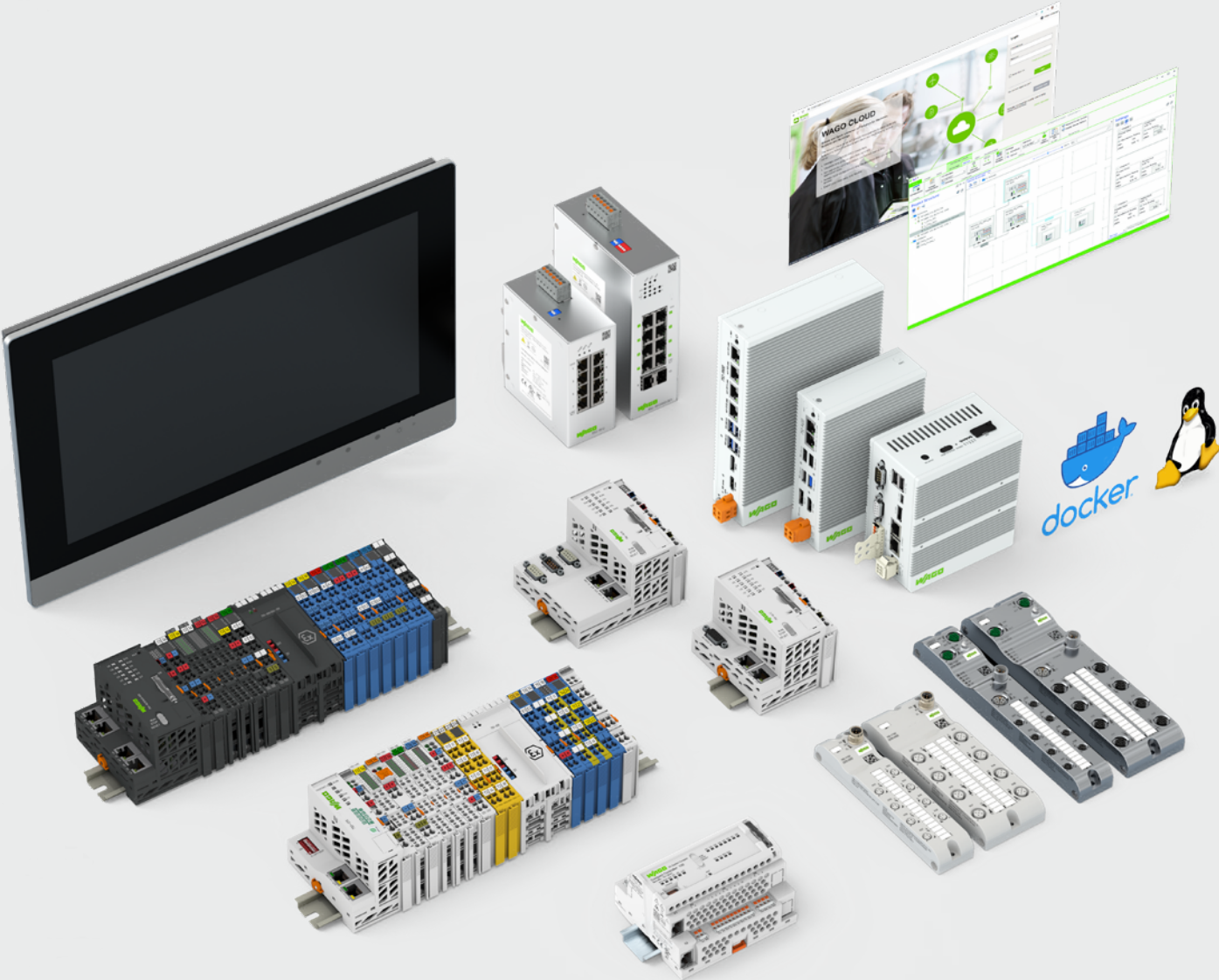




# WAGO Automation Technology

Edition 2023/2024



# WAGO Full Line Catalogs



## WAGO Rail-Mount Terminal Blocks and Connectors

- Rail-Mount Terminal Blocks
- Rail-Mount Terminal Blocks with Pluggable Connector (X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



## WAGO PCB Terminal Blocks and Connectors

- PCB Terminal Blocks
- THR/SMD PCB Terminal Blocks
- *MULTI CONNECTION SYSTEM (MCS)*
- Pluggable PCB Terminal Blocks
- Feedthrough Terminal Blocks
- Specialty Connectors
- Empty Housings



## WAGO Pluggable Connection System WINSTA®

- Pluggable Connectors
- Snap-In Device Connectors
- Pluggable PCB Connectors
- Distribution Connectors
- Cable Assemblies
- Flat Cable Systems
- Distribution Boxes



## WAGO Automation Technology

- Solutions & Software
- Operating & Monitoring
- Controllers, Edge Devices
- Modular I/O-SYSTEM IP20, I/O-SYSTEM IP67
- Industrial Switches
- Radio Technology
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors



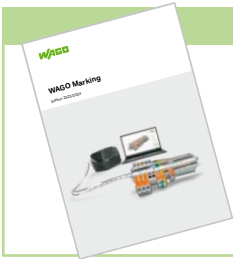
## WAGO Interface Electronics

- Relay and Optocoupler Modules
- Signal Conditioners and Isolation Amplifiers
- Current and Energy Measurement Technology
- Power Supplies
- Interface Modules and System Wiring
- Overvoltage Protection
- Empty Housings



## WAGO Power Supplies

- Power Supplies
- DC/DC Converters
- Circuit Protection
- UPS-Charger and Capacitive Buffer Modules
- Redundancy Moduls
- Current and Energy Measurement Technology
- Overvoltage Protection











## WAGO Marking

- Printer
- Software
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Marker Carriers

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| Solutions              |    | <b>Solutions</b><br>Cloud Solutions, Software Applications   | 5   | <b>1</b>  |
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| I/O Systems            |   | <b>I/O System – 750 and 753 Series</b><br>Fieldbus Couplers and I/O Modules (IP20)   | 191 | <b>7</b>  |
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# WAGO Automation Technology

|                      |   |  |  |   |
|----------------------|---|--|--|---|
| Solutions & Software | <p><b>Solutions</b></p>  <ul style="list-style-type: none"> <li>• Cloud solutions</li> <li>• Reusable, customizable software applications</li> </ul> <p><b>1</b></p> | <p><b>Engineering Software</b></p>  <ul style="list-style-type: none"> <li>• PC and web-based software</li> <li>• Customized tools for every automation task</li> </ul>   | <p><b>Runtime Software</b></p>  <ul style="list-style-type: none"> <li>• Standard machine component</li> <li>• Comprehensive, tested software modules for control, regulation, operation &amp; monitoring</li> </ul>  |   |
|                      | Operation & Monitoring<br>Edge Computing  | <p><b>Touch Panel 600 Standard Line</b></p>  <ul style="list-style-type: none"> <li>• High-performance touch panels with resistive touch-screens</li> <li>• 10.9 ... 54.7 cm (4.3 ... 21.5")</li> <li>• Models include Control, Visu or Web Panels for display of CODESYS visualizations</li> </ul> | <p><b>Touch Panel 600 Advanced Line</b></p>  <ul style="list-style-type: none"> <li>• High-performance touch panels with capacitive touch-screens and glass surfaces</li> <li>• 18 ... 54.7 cm (7 ... 21.5")</li> <li>• Models include Control or Visu Panels</li> </ul>  | <p><b>Touch Panel 600 Marine Line</b></p>  <ul style="list-style-type: none"> <li>• High-performance touch panels with resistive touchscreens</li> <li>• Ideal for marine applications</li> <li>• 10.9 ... 25.7 cm (4.3 ... 10.1")</li> <li>• Models include Control or Visu Panels</li> </ul> <p><b>3</b></p>                           |
|                      |   | Controllers  | <p><b>Compact Controller 100</b></p>  <p><b>5</b></p> <ul style="list-style-type: none"> <li>• Maximum performance in minimum space:</li> <li>• Controller with a real-time Linux® operating system</li> <li>• Compact controller with I/Os in a DIN-rail-mount enclosure</li> <li>• Manufacturer-independent CODESYS V3 engineering environment</li> </ul> | <p><b>Controllers PFC100/PFC200</b></p>  <p><b>6.1</b></p> <ul style="list-style-type: none"> <li>• Maximum performance in a minimum space</li> <li>• Also programmable in high-level languages based on Linux®</li> <li>• Security packages with SSH and SSL/TLS</li> <li>• Runtime system for CODESYS V3</li> </ul>                   |
| I/O Systems          |   |  | <p><b>I/O System – 750 and 753 Series</b></p>  <p><b>7</b></p> <ul style="list-style-type: none"> <li>• Highly versatile</li> <li>• More than 500 modules available</li> <li>• Functional Safety</li> <li>• Ex I</li> </ul>   | <p><b>I/O System – 750 XTR Series</b></p>  <p><b>8</b></p> <ul style="list-style-type: none"> <li>• For demanding applications where the following are critical:</li> <li>• Extreme temperature resistance</li> <li>• Immunity to electromagnetic interference and impulse voltages</li> <li>• Vibration and shock resistance</li> </ul> |
|                      | Infrastructure  |  | <p><b>Industrial Switches</b></p>  <p><b>10</b></p> <ul style="list-style-type: none"> <li>• Copper cable</li> <li>• Fiber optic cable</li> <li>• Ring redundancy</li> </ul>  | <p><b>Radio Technology</b></p>  <p><b>11</b></p> <ul style="list-style-type: none"> <li>• Bluetooth®</li> <li>• WLAN</li> <li>• EnOcean®</li> </ul>  |

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| <p><b>Basic Controllers 100</b></p> <p><b>6.3</b></p>  <ul style="list-style-type: none"> <li>Freely programmable per IEC 61131-3 with CODESYS V3</li> <li>HTML-5-based Web visualization</li> <li>Syslog in compliance with RFC 5424 and role-based user management (RBAC)</li> <li>Large amount of memory for projects and data</li> </ul> | <p><b>Controllers 750</b></p> <p><b>6.4</b></p>  <ul style="list-style-type: none"> <li>Controllers for all prominent fieldbus systems</li> <li>Programmable to IEC 61131-3</li> <li>Readily combine with the modules of the WAGO I/O System 750</li> </ul> | <p><b>Controllers 750 XTR</b></p> <p><b>6.5</b></p>  <p><b>6</b></p> <ul style="list-style-type: none"> <li>For demanding applications where the following are critical: <ul style="list-style-type: none"> <li>Extreme temperature resistance</li> <li>Immunity to electromagnetic interference and impulse voltages</li> <li>Vibration and shock resistance</li> </ul> </li> </ul>  | <p><b>5 Compact Controller 100</b> 101</p> <p><b>6 Controllers</b> 109</p> <ul style="list-style-type: none"> <li>6.1 Controllers PFC100/PFC200 111</li> <li>6.2 Controllers PFC200 XTR 131</li> <li>6.3 Basic Controllers 100 143</li> <li>6.4 Controllers 750 151</li> <li>6.5 Controllers 750 XTR 173</li> <li>6.6 Starter Kits, IoT Box 181</li> </ul> |
| <p><b>Starter Kits</b></p>  <p>To get you up and running quickly, we offer starter kits to suit the most diverse applications:</p> <ul style="list-style-type: none"> <li>with Controller PFC100</li> <li>with Controller PFC200</li> <li>with Controller 750 KNX IP</li> <li>with Touch Panel 600</li> </ul>                                | <p><b>IoT Boxes</b></p>  <p><b>6.6</b></p> <ul style="list-style-type: none"> <li>Ready to use</li> <li>Expandable, customizable hardware/software</li> <li>Flexible connection via ETHERNET, WLAN or mobile network</li> </ul>                            | <p><b>I/O Systems</b></p> <p><b>7 I/O System – 750 and 753 Series</b> 191</p> <ul style="list-style-type: none"> <li>7.1 Fieldbus Couplers 201</li> <li>7.2 Digital Input Modules 229</li> <li>7.3 Digital Output Modules 277</li> <li>7.4 Analog Input Modules 311</li> <li>7.5 Analog Output Modules 361</li> <li>7.6 Function/Technology Modules 377</li> <li>7.7 Communication Modules 397</li> <li>7.8 Functional Safety 417</li> <li>7.9 Intrinsically Safe Modules 431</li> <li>7.10 Supply/Segment Modules 449</li> </ul> <p><b>8 I/O System – 750 XTR Series</b> 479</p> <p><b>9 I/O System Field</b> 549</p> |  |
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# Solutions

## Cloud Solutions

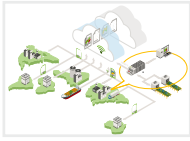
- "Internet of Things" (IoT) applications

## Software Applications

- Reusable, customizable solutions

# Solutions

## Cloud Solutions, Software Applications



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| <b>General Product Information</b>   | 6    |
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# Solutions

## General Product Information

1

### We Make It Simple!

WAGO products are at home in many industries. Tailored solutions make it easy for the customer to accomplish the task using WAGO products – in the form of libraries and complete products, regardless of industry.

### Cloud Solutions

Digitalization and networking offer great opportunities for every company. To use them, every company has to do its homework – in fact, the challenges are just as varied and diverse as the companies themselves. While there is no such thing as an all-in-one solution, smart products, methods and partners will help you advance digitalization in your business in a way that benefits all involved.

WAGO shapes the digital future with you. Cloud solutions have become popular industry staples. They link the real and digital worlds, allow efficient use of production-related data and simplify cross-site networking of global communication structures. This creates many new opportunities for the manufacturing industry – especially for plant availability and process optimization.



Member of **WAGO** Group

### Scalable Solution Thanks to Our Reliable Partner

With M&M as a member of the WAGO Group, WAGO has a partner for holistically developing industrial and technical software solutions, which also allows customer-specific applications to be implemented. We collaborate closely with Microsoft to implement corresponding solutions in the cloud and IoT, primarily using Azure.

### Application Software

Prepared applications make it easy to use WAGO products. We offer a range of complete industry-specific solutions such as *flexROOM*®, that dramatically shorten time to completion. But also industry-independent universally usable solutions are available (closed or adaptable) and are optimally adapted to the respective hardware.

### Standardized Applications

The better prepared, the easier it gets. For many applications, we offer configuration via web browser with a standard PC without special software. Thanks to a flexible software architecture, it is also possible to realize individual configurations. Here we combine the advantage of reusing a standardized and field-proven solution with customization via parameterization instead of individual programming. This saves costs by shortening the time required and makes commissioning easy!

### Tailor-Made Applications

If a standard solution does not fit, we can create a highly tailored, customer-specific approach that's as unique as your application. Start by contacting us, we'll be happy to assist you.

### Your Benefits:

- Solutions for digitalization
- Support for Industry 4.0/Internet of Things (IoT)
- Prepared field-tested applications for solving standard requirements in various industries
- Support with individual adjustments



# Solutions

## General Product Information

### Cloud Solutions

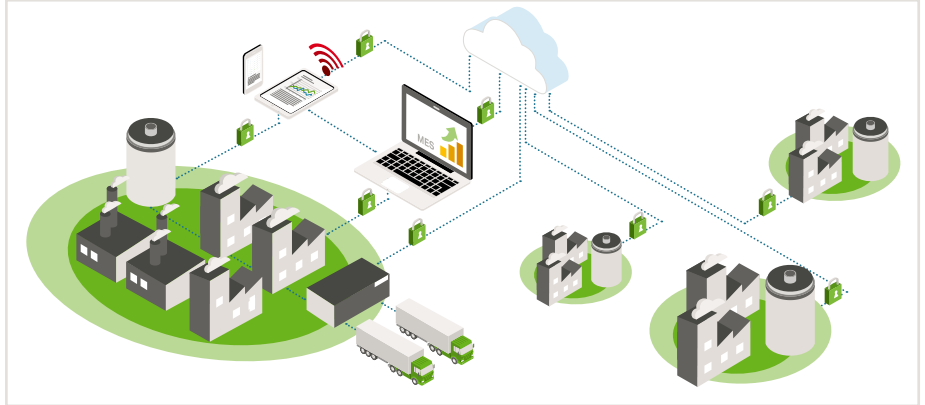
WAGO's universal cloud solutions are suitable for a wide variety of applications. These solutions offer:

#### WAGO Cloud:

- Collecting and saving data
- Setting up individual dashboards
- Central condition monitoring and alarm handling
- Central data visualization via location-independent access

#### Cloud Connectivity:

- Establishing connections
- Secure communication



### Application Software – Industry-Independent Solutions

Many solutions can be used regardless of industry, such as our energy management. For our modular energy data acquisition, we rely on an open and flexible system that you can easily install and extend. It doesn't matter if you are looking for an individual solution or want to use our standard solution.



### Building Automation

Whether you are planning lighting installations and automation in your office building, retrofitting a heating, ventilation and air-conditioning system or involved with room automation, WAGO helps implement your requirements in buildings, both in office and administrative buildings, as well as in production and warehouses, retail or infrastructure buildings.



### Power Engineering

Energy suppliers need to change the way they think. Instead of merely selling green energy, they also need to organize and market the flexibility that is required for maintaining stability on the electrical grid. This means that the energy system needs to be controllable from production to consumption using intelligent communication networks. WAGO supports digitizing the energy sector and designing smart grids with state-of-the-art control and measurement technology, along with software solutions that enable a simple and secure connection to the cloud.



# WAGO Cloud

## Collect, Analyze and Manage Data Centrally

WAGO Cloud lets you collect and centrally manage data from various machines.

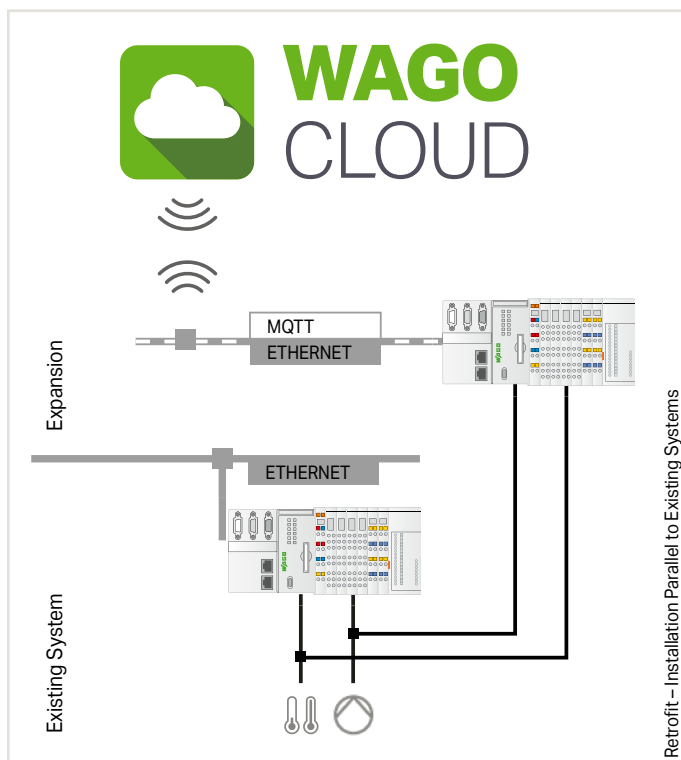
It also allows you to manage and monitor WAGO's controllers along with their data and applications. WAGO Cloud is hosted on Microsoft's Azure Cloud. Combining simplicity with usability, WAGO Cloud was designed so that people without IT experience can use it.

The cloud service is available online at <https://cloud.wago.com/>. After registering for free and linking to WAGO's controllers, you can get started in just a few minutes.

## How does machine data get to WAGO Cloud?

A WAGO PFC Controller or Touch Panel acts as a gateway, collecting and sending data to WAGO Cloud. Users log into their user interface on the Web portal, where they can use various applications and access functions like visualizations, controller and user management and status monitoring. They can also activate alarm functions and use them to automatically send email notifications if defined limit values are exceeded, for example. Data can be graphically visualized, evaluated and exported as needed.

Do you need to restrict and select what data is sent to the cloud? No problem! Configure the WAGO PFC Controller and specify what data to send to the cloud (or not) via IEC programming.



### Illustrations: Data Transfer to WAGO Cloud

The WAGO PFC Controller acts as a gateway for existing systems that it can easily expand. Various protocols allow the controller to collect and transmit data to the WAGO Cloud via TLS-encrypted MQTT connection. If a new system is installed and the WAGO PFC Controller is used, it can send the data directly to the cloud.

#### What advantages does WAGO Cloud offer?

##### • Simplicity

The solution is intuitive thanks to a clear functional range. Within minutes, you can send data to the cloud, without extensive IT expertise.

##### • Flexibility

Customize your cloud solution at any time and from any place. For instance, you can double your number of controllers from one day to the next without affecting performance and availability. Would you like a special expansion? We offer that as a project service through customized cloud expansions.

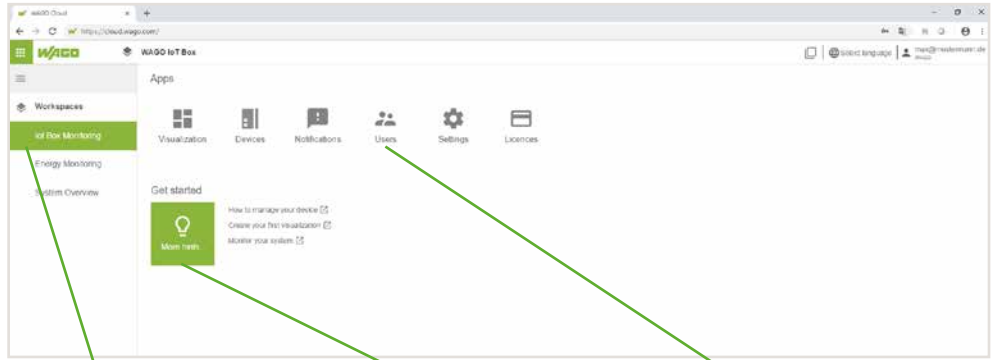
##### • Everything from a Single Source

Take advantage of the benefits of WAGO Cloud – software as a service. Save time by leaving the tasks of infrastructure, security platform and application management to WAGO.

# WAGO Cloud

## App Overview:

All functions at a glance thanks to an intuitive app structure



### Quick Access:

- Quickly discover what you are looking for – you have all your workspaces in view.

### Easy to Use:

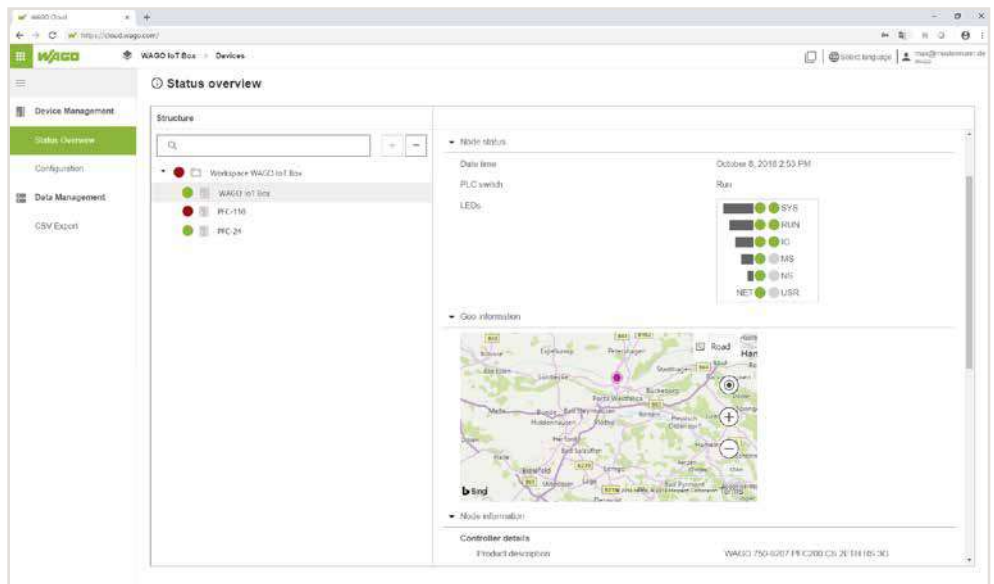
- Let us guide you in creating cloud projects.

### Relevant Functions:

- Only see the features that you have access to.

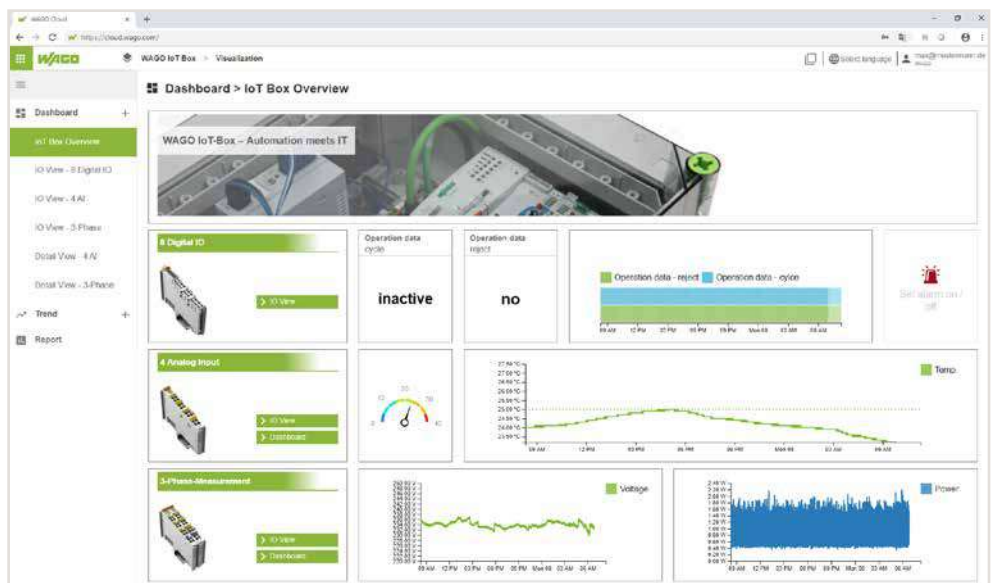
## Controller Status Overview:

See your connected and disconnected controllers, as well as relevant connection details.



## Dashboard:

Create your own custom dashboard, use both graphics and trends.



# WAGO Cloud

## What kind of services can I use on WAGO Cloud?

WAGO Cloud is a universal, industrial-strength data logger with data visualization. It allows customizable dashboards and analyses to be created quickly and easily in the cloud. Use interfaces via REST and CSV data export for further processing of data, or use them as a data supplier to perform detailed analyses in other systems, for example. Monitor controller statuses and receive notifications if specified limit values are exceeded.

## How can I use the functions?

Try WAGO Cloud for 30 days with no commitment to see if it's right for you.

The cloud service is available online at <https://cloud.wago.com/>. After registering for free and linking to WAGO's controllers, you can get started in just a few minutes.

After that, you book license points with a prepaid model, via our WAGO eShop for example, and simply redeem them in the cloud. Transparent billing management in the cloud allows you to fully monitor the current and anticipated scope of the functions used. When your license points are almost depleted, you will receive a notice to reload your points account soon.

You can find an overview of the functions we currently offer in the following table. There are various tiers for each individual function – depending on how many components you need – such as the number of connected controllers.

| Trial Period      |                               | <ul style="list-style-type: none"> <li>• Try WAGO Cloud for free for 30 days (limited test points).</li> <li>• Points account may be exceeded after the trial period.</li> </ul>  |   |
|-------------------|-------------------------------|---|---|
| Functions         |                               |   |   |
| Data Management   | Data Package                  | <ul style="list-style-type: none"> <li>• Connect the WAGO PFC Controller to the cloud.</li> <li>• Transfer data from the controller to the cloud.</li> <li>• Mount devices and data.</li> <li>• Visualize data.</li> </ul>        | <ul style="list-style-type: none"> <li>• Basic package, required for using WAGO Cloud</li> <li>• Minimum purchase: 50 license points/month</li> <li>• Volume-dependent, decreasing license point consumption</li> </ul> |
|                   | Restful API                   | <ul style="list-style-type: none"> <li>• Provide data for other cloud services and customer systems.</li> </ul>   | <ul style="list-style-type: none"> <li>• Volume-dependent, decreasing license point consumption</li> </ul>  |
| Device Management | Firmware & Application Update | <ul style="list-style-type: none"> <li>• Select/download firmware catalog.</li> <li>• Manage your own firmware application catalog.</li> <li>• Replace firmware on the device.</li> <li>• Install application updates.</li> </ul> | <ul style="list-style-type: none"> <li>• 1 license point/update</li> </ul>  |
|                   | Remote Visu Access            | <ul style="list-style-type: none"> <li>• Access local configurations and visualizations remotely (diagnostics, monitoring and remote maintenance).</li> </ul>   | <ul style="list-style-type: none"> <li>• 10 license points/hour</li> </ul>  |
|                   | User Management               | <ul style="list-style-type: none"> <li>• In a customer area, up to 10 users have free access. More can be booked upon request.</li> </ul>   |   |

| Item Description                |                   |
|---------------------------------|-------------------|
|                                 | Item No.          |
| WAGO Cloud; 100 license points  | 2759-1061/651-010 |
| WAGO Cloud; 500 license points  | 2759-1061/651-050 |
| WAGO Cloud; 1000 license points | 2759-1061/651-100 |

Redeem license points at: <https://cloud.wago.com/>

# Cloud Connectivity via MQTT

## Recording, digitizing and linking data profitably...

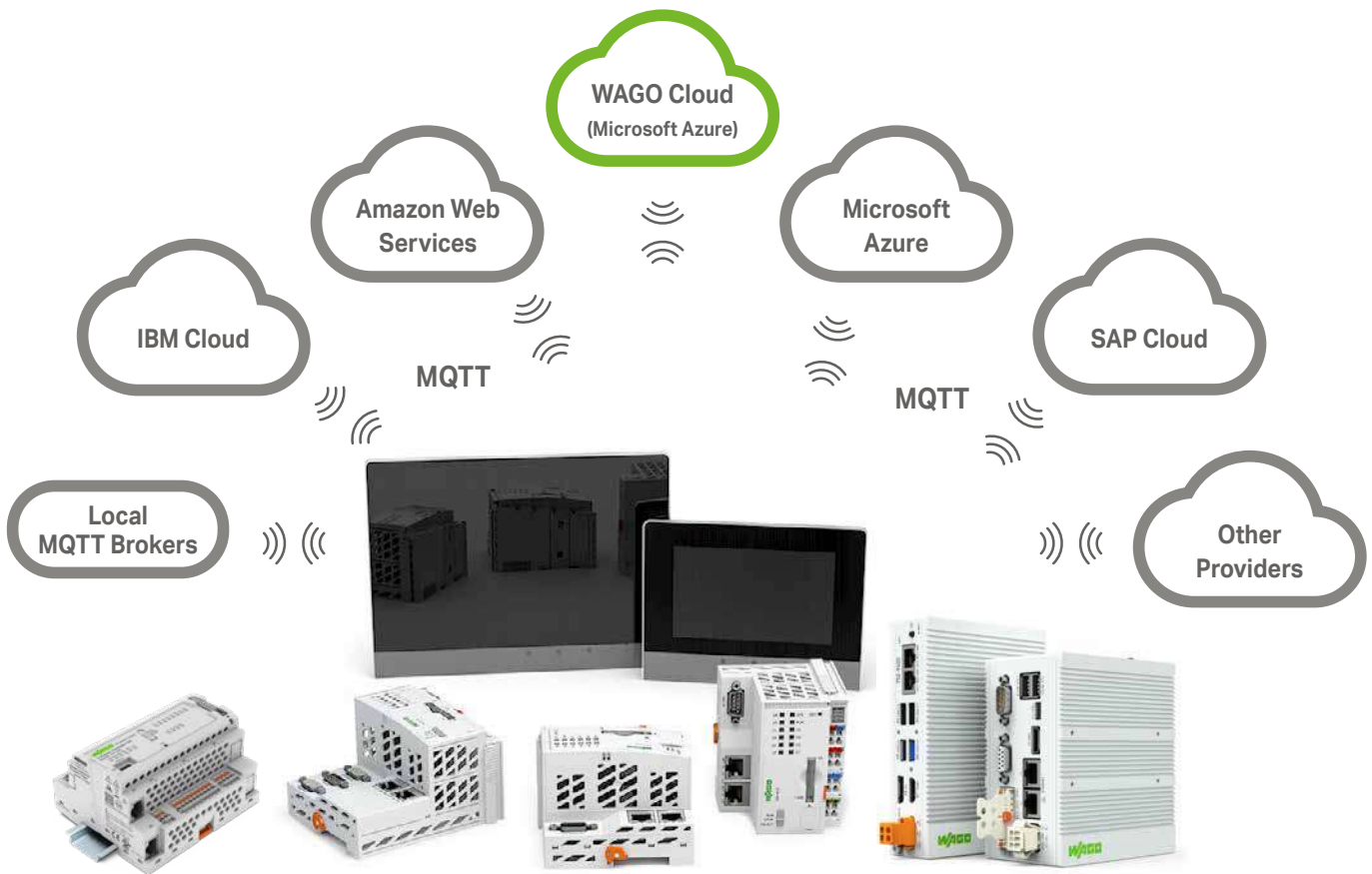
...this is the core concept behind Industry 4.0. Field level connection is established with the open WAGO I/O System 750, 750 XTR or Advanced, and a WAGO PFC Controller or Touch Panel 600 sends data to the cloud or a local MQTT broker. Once in the cloud, data can be aggregated and used for analysis. This capability creates tremendous added value for your company – whether it's increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services.

Existing systems also become IoT-ready, making them future-proof. Communication between PFCs and cloud suppliers is performed via the MQTT protocol and encrypted via TLS 1.2.

Cloud connection data is configured via Web-Based Management (WBM). WAGO Engineering includes appropriate libraries for specifying the variables for transfer to the cloud in the PLC program, allowing the PLC programmer to maintain complete control. Controller information, such as run/stop, connection status and device information, can also be transferred to a cloud solution with cloud connectivity or distributed via MQTT broker.

With a wide variety of interfaces, WAGO's controllers also provide the perfect foundation for an IoT gateway.

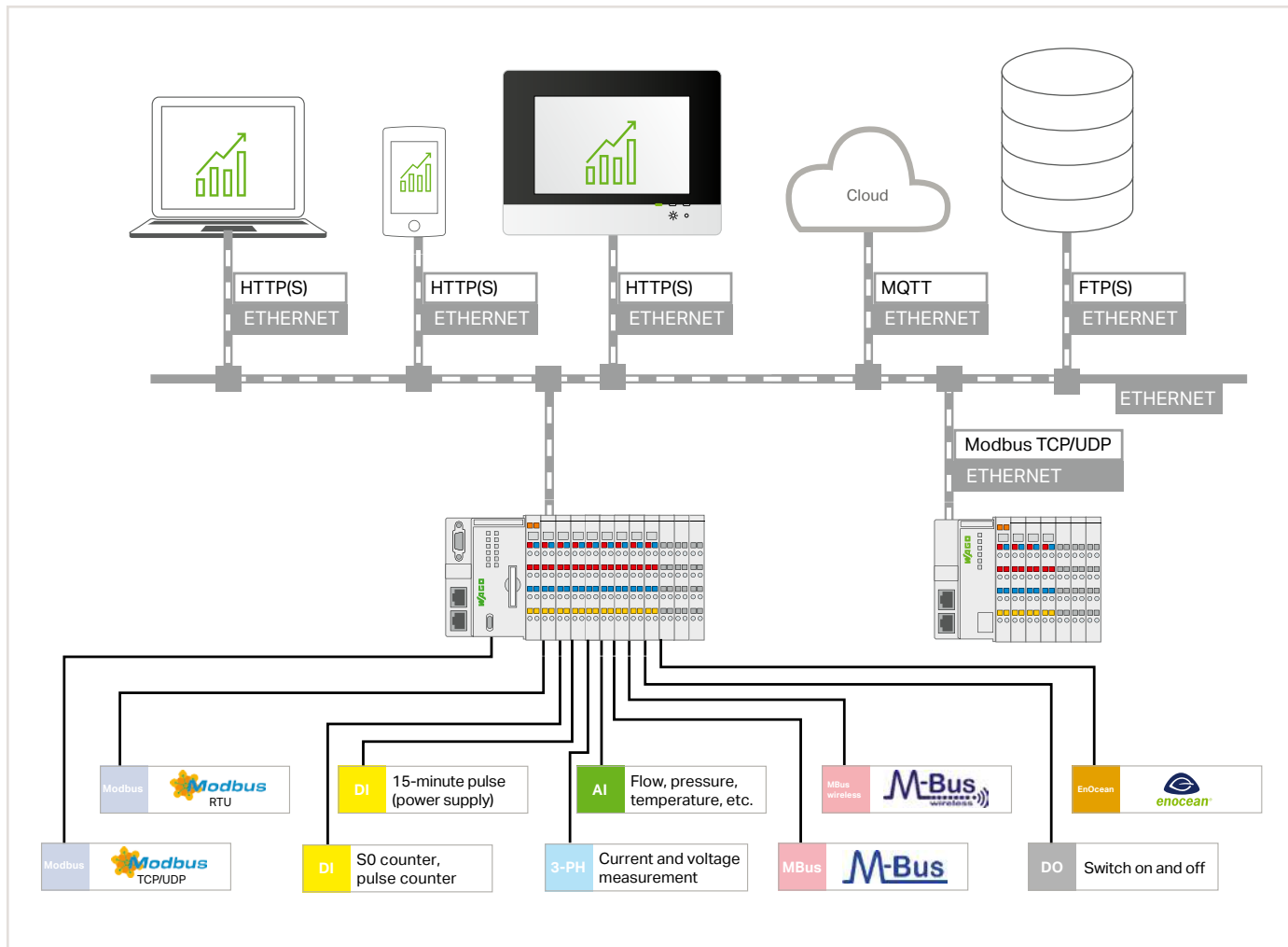
They can collect numerous field signals, communicate in many industrial protocols and even enable cloud connection of sensors and actuators that themselves have no Web interface. Thanks to the standardized MQTT protocol, it is possible to connect to cloud providers such as Microsoft Azure, Amazon Web Services, IBM Cloud and SAP Cloud. Of course, other MQTT brokers or solutions like WAGO Cloud can also be connected.



Cloud connectivity is possible with all PFC100 and PFC200 Controllers, Touch Panels 600, Compact Controller and Edge Devices.

# WAGO Energy Data Management

1



With WAGO's Energy Data Management solution, you can record and visualize your measurement data for different media and influencing variables (as well as the key figures calculated from it) in no time. Continuous acquisition and monitoring provide the basis for resource-efficient energy usage – the environment will thank you, and your operating costs will be minimized. As an added bonus, conformity with DIN EN 50001 for energy evaluation is part of the package.

WAGO Energy Data Management consists of Web-based application software combined with a modular control system. It records measurement data for different media along with influencing variables for energy monitoring –

all are processed for additional analysis, archiving and reporting. The software automatically detects different signals from the connected meters and sensors, making them available to additional energy analysis tools via simple parameter settings. This insight guides you in optimizing energy consumption in your building or production facility – either locally or across the globe.

### Your Benefits:

- Ready to go in a few easy steps
- No programming experience required
- Integrated cloud connectivity

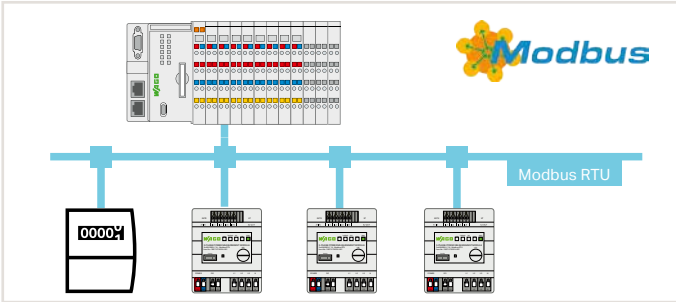
| Item Description  | Item No.          |
|---|-------------------|
| Energy Data Management Application; Single License; Online Activation   | 2759-206/261-1000 |
| Energy Data Management Visualization; Single License; Online Activation | 2759-207/271-1000 |
| <b>Compatible Controllers/Touch Panels</b>                              |                   |
| Controller PFC200; G2   | 750-821x          |
| Controller PFC200; G2; XTR  | 750-821x/000-040  |
| Touch Panel 600 Standard Line; PIO3                                     | 762-43xx/8000-002 |
| Touch Panel 600 Advanced Line; PIO3                                     | 762-53xx/8000-002 |

|   |  |
|---|--|
| Delivery type                               | License certificate by email (software available for download)   |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-206/261-1000">wago.com/2759-206/261-1000</a><br><a href="http://wago.com/2759-207/271-1000">wago.com/2759-207/271-1000</a><br><a href="http://wago.com/energy-data-management">wago.com/energy-data-management</a> |

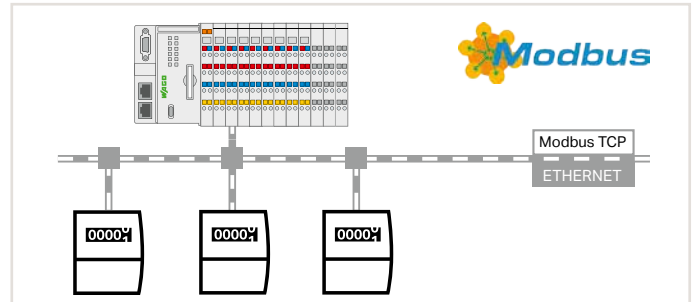
The "Energy Data Management" software is a pre-programmed application based on the CODESYS Development Environment and can be used for both PFC200 G2 Controllers or Touch Panels 600.

To download the application and license to the device, WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

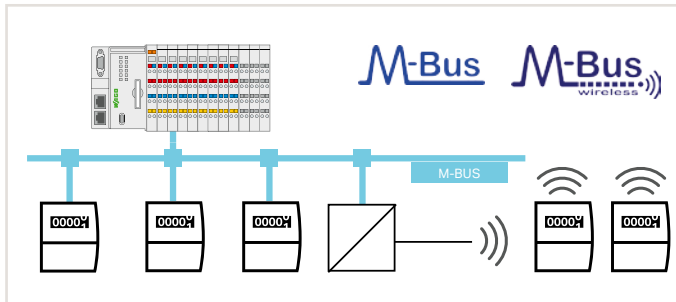
A single license allows installation on one controller/touch panel. One license per controller/touch panel is required.



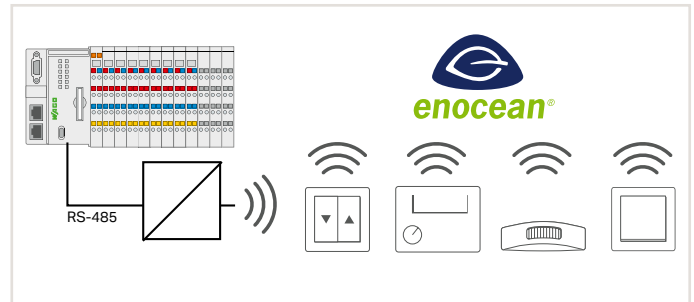
Energy Data Collection with Remote Devices via Modbus RTU



Energy Data Collection with Remote Devices via Modbus TCP



Measured Value Acquisition via M-Bus



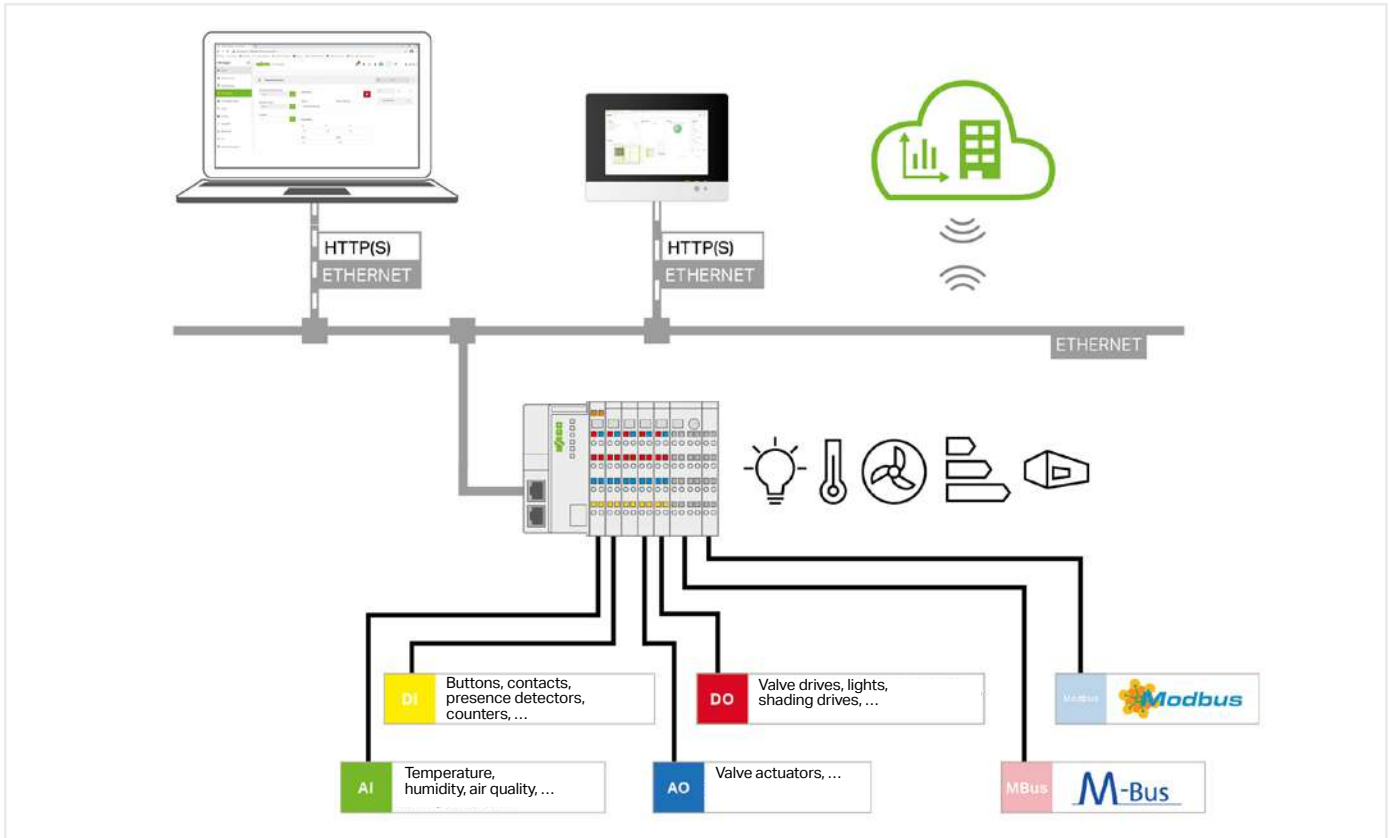
Data Acquisition via EnOcean®

The products listed below are typically used in conjunction with the "Energy Data Management" Application. Detailed information about the products, as well as other variants and accessories, can be found in our Full Line Catalog, Volume 3 or Volume 4.

| Energy Data Management  |  |                   |
|---|--|-------------------|
| Required Products   | Description  | Item No.          |
| <b>Software Licenses</b>  |  |                   |
| WAGO Cloud; 100 license points  | Licenses to use WAGO Cloud as a data collector with data visualization; the number of required                                     | 2759-1061/651-010 |
| WAGO Cloud; 500 license points  | license points depends on the functions used and the data volume (for details see <a href="http://www.wago.com/">www.wago.com/</a> | 2759-1061/651-050 |
| WAGO Cloud; 1000 license points   | cloud).  | 2759-1061/651-100 |
| <b>Digital I/O Modules</b>  |  |                   |
| 4-Channel Digital Input; 24 VDC; 3 ms   | E.g., for recording the PSC effective power pulse  | 750-402           |
| 4-Channel Digital Output; 24 VDC; 0.5 A   | E.g., for switching outputs when alarm thresholds are reached  | 750-504           |
| 8-Channel Digital Output; 24 VDC; 0.5 A   |  | 750-530           |
| <b>Analog I/O Modules</b> Recording temperature, pressure, flow meters and other analog signals |  |                   |
| 8-Channel Analog Input; Resistance Measurement; Adjustable                                      |  | 750-451           |
| 8-Channel Analog Input; 0/4 ... 20 mA; Single-Ended   |  | 750-496           |
| 8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-Ended  |  | 750-497           |
| 2-Channel Analog Input; 0 ... 20 mA; Differential Input   |  | 750-452           |
| 4-Channel Analog Input; Voltage/Current; Differential Input; Electrically Isolated Channels     |  | 750-471           |
| <b>Power Measurement Modules</b> Power measurement directly connected to the controller         |  |                   |
| 3-Phase Power Measurement Module; 480 VAC; 1 A  | With split-core or plug-in current transformers  | 750-494           |
| 3-Phase Power Measurement Module; 690 VAC; 1 A  | With split-core or plug-in current transformers  | 750-495           |
| 3-Phase Power Measurement Module; 690 VAC; 0.5 A  | With split-core or plug-in current transformers  | 750-495/000-001   |
| 3-Phase Power Measurement; 690 VAC; RTC   | With Rogowski coils  | 750-495/000-002   |
| <b>Communication and Technology Modules</b>   |  |                   |
| M-Bus Master  | Reading in separately recorded meter readings via M-Bus  | 753-649           |
| RS-232/RS-485 Serial Interface  | Reading in data via RS-232 or RS-485 gateways (e.g., EnOcean®)   | 750-652           |
| 2-Channel Up/Down Counter; 24 VDC; 16-bit; 500 Hz   | Recording S0 and pulse counters  | 750-638           |
| <b>Power Supplies</b>   |  |                   |
| Compact Power Supply; Switched-Mode; 1-Phase  | 24 VDC output voltage; 2.5 A output current  | 787-1012          |
| Pro 2 Power Supply; 1- or 3-Phase   | 24 VDC output voltage; 5 ... 40 A output current   | 2787-2xxx         |
| <b>Distributed Power Measurement Modules</b> For distributed energy acquisition via Modbus RTU  |  |                   |
| 3-Phase Power Measurement Module; Input: Current Transformer (1 A)                              |  | 2857-570/024-001  |
| 3-Phase Power Measurement Module; Input: Current Transformer (5 A)                              |  | 2857-570/024-005  |
| 3-Phase Power Measurement Module; Input: Rogowski Coil  |  | 2857-570/024-000  |
| <b>Gateways</b>   |  |                   |
| STC65-RS-485 EVC EnOcean® Receiver/Sender with RS-485 EVC Interface                             | Gateway for the acquisition of EnOcean® signals  | 2852-7101         |
| WLAN ETHERNET Gateway; 2.4 GHz  | Gateway for creating wireless ETHERNET connections   | 758-916           |

# WAGO Application Building Control

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WAGO Application Building Control is a pre-programmed software solution for building automation applications.

- The application is ideal for virtually all building automation functions, such as lighting control, HVAC control, and energy data management.
- Despite pre-programming, it is possible to define almost any data points that can be linked together, put into dependency with each other or provided with control and regulating functions.
- The application has an integrated dashboard for advanced visualization options.
- Commissioning is performed through a configuration interface, following the design principle of "configuration instead of programming."

**Advantages:**

- Easy configuration, commissioning and operation without programming knowledge
- Highly versatile
- High flexibility and scalability for adapting to different needs
- Integrated monitoring, alarming for limit violation and status monitoring
- Optional connection to WAGO's "Cloud Building Operation and Control" cloud solution for access to all of the data from anywhere in the world

**Benefits:**

- High cost efficiency and profitability thanks to quick and easy commissioning
- User-friendly and intuitive visualization and operation
- High functional safety and reliability thanks to pre-programmed and tested functional units

| Item Description   |                    |
|--|--------------------|
|  | Item No.           |
| WAGO Application Building Control; Single License; Online Activation | 2759-2120/261-1000 |
| Compatible Controllers   |                    |
| Controller PFC200; G2; 2ETH RS                                       | 750-8212           |

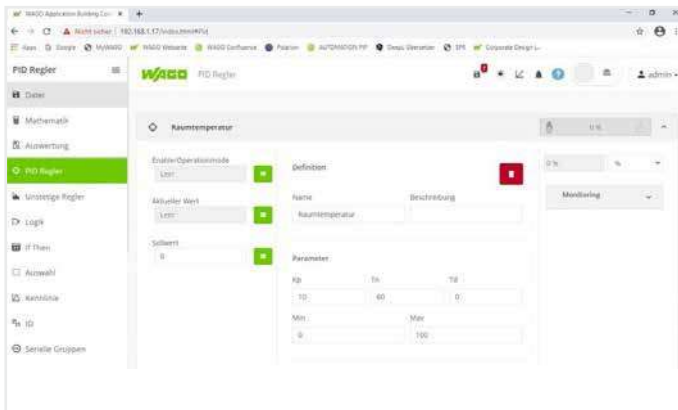
|   |  |
|---|--|
| Delivery type                                   | License certificate by email (software available for download)               |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2120/261-1000">wago.com/2759-2120/261-1000</a> |

The "WAGO Application Building Control" software is a pre-programmed application based on the CODESYS Development Environment and can be used for PFC200 G2 Controllers.

To download the application and license to the device, WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

A single license allows installation on one controller. One license per controller is required.

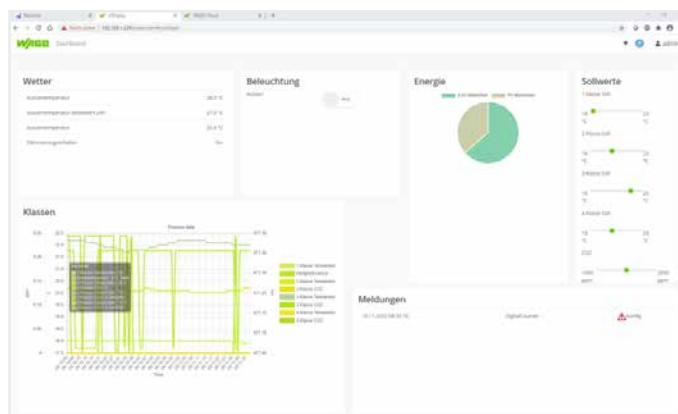




## Configuration Screen

### Data point catalog

- Central list of all configured data points (inputs, outputs, functions, dashboard elements)
- The input value, e.g., for a function or an output is selected from the data point list.
- Search function for finding the desired data point (helpful for long lists of larger applications)



## Dashboard

The integrated dashboard offers a freely configurable visualization interface for the display of current system values and states and the possibility of operator interventions

The I/O modules (type and number) connected via the local bus are automatically detected and displayed in the application for further configuration.

| WAGO Application Building Control   |  |   |          |
|---|--|---|----------|
| Supported I/O modules as interfaces for the connection of sensors and actuators |  | Item No.  |          |
| Quantity  | <b>Digital Input Modules</b>                               |   |          |
|   | 10   | 2-Channel Digital Input; 230 VAC  | 750-405  |
|   |  | 4-Channel Digital Input; 24 VDC; 3 ms   | 750-402  |
|   |  | 4-Channel Digital Input; 120/230 VAC  | 753-440  |
|   |  | 8-Channel Digital Input; 24 VDC; 3 ms   | 750-430  |
|   |  | 8-Channel Digital Input; 24 VDC; 3 ms; 2-Wire Connection                          | 750-1415 |
|   |  | 16-Channel Digital Input; 24 VDC; 3 ms  | 750-1405 |
| 10  | <b>Analog Input Modules</b>                                |   |          |
|   |  | 2-Channel Analog Input; for Pt100/RTD Resistance Sensors                          | 750-461  |
|   |  | 2-Channel Analog Input; 4 ... 20 mA; Single-Ended                                 | 750-466  |
|   |  | 2-Channel Analog Input; 0 ... 10 VDC; Single-Ended                                | 750-467  |
|   |  | 4-Channel Analog Input; 4 ... 20 mA; Single-Ended                                 | 750-455  |
|   |  | 4-Channel Analog Input; 0 ... 10 VDC; Single-Ended                                | 750-459  |
|   |  | 4-Channel Analog Input; Voltage/Current; Differential Input; 16 Bits; Diagnostics | 750-471  |
|   | 8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-Ended   | 750-497   |          |
| 10  | <b>Analog Temperature Input Modules</b>                    |   |          |
|   |  | 8-Channel Analog Input; Resistance Measurement; Adjustable                        | 750-451  |
|   | 4-Channel Analog Input; Resistance Measurement; Adjustable | 750-450   |          |
| 10  | <b>Digital Output Modules</b>                              |   |          |
|   |  | 4-Channel Digital Output; 24 VDC; 0.5 A   | 750-504  |
|   |  | 2-Channel Relay Output; 250 VAC; 1 A; Potential-Free; 2 Changeover Contacts       | 750-517  |
|   |  | 8-Channel Digital Output; 24 VDC; 0.5 A   | 750-530  |
|   |  | 8-Channel Digital Output; 24 VDC; 0.5 A; 2-Wire Connection                        | 750-1515 |
|   | 16-Channel Digital Output; 24 VDC; 0.5 A                   | 750-1504  |          |
| 10  | <b>Analog Output Modules</b>                               |   |          |
|   |  | 2-Channel Analog Output; 0 ... 10 VDC   | 750-550  |
|   |  | 2-Channel Analog Output; 0 ... 10 VDC; 10 Bits; 100 mW/24 V                       | 750-560  |
|   |  | 4-Channel Analog Output; 0 ... 10 VDC   | 750-559  |
|   | 8-Channel Analog Output; 0 ... 10 VDC/±10 V                | 750-597   |          |
| 4   | <b>RS-232/485 Serial Interface Modules</b>                 |   |          |
|   | Serial Interface RS-232/485                                | 750-652   |          |
| 4   | <b>M-Bus Modules</b>                                       |   |          |
|   | M-Bus Master   | 753-649   |          |

# WAGO flexROOM® Application

## A Flexible Room Solution



### Our Solution

Planning, commissioning and building operation must demonstrate maximum efficiency and a high degree of adaptability. Pre-configured programs and pre-defined hardware significantly streamline planning and commissioning. The more applications created within a project, the greater the benefit. Flexible building operation (e.g., conversions and room remodeling) via special maintenance programs eliminates external service costs because the user can make their own changes. Install, commission and configure according to project specifications – WAGO flexROOM® combines these strengths into a standard module. The integrated control unit and application software are precisely tailored to room requirements.

### Parameter Setting

For each room, parameters can be individually stored for lighting, shading and room control. All parameters are cyclically saved either directly in the distribution box or on a separate computer via network connection. A higher-level management station accesses the distribution box parameters via the open Modbus TCP/IP protocol. This ensures that all modifications can be implemented on site or via the management station. BACnet or KNX IP systems can also be connected via Modbus TCP/IP.

### Configuring – Not Programming

Each WAGO flexROOM® Distribution Box has a Web interface. Both the commissioning technician and end user can configure the controls for each room via Web browser, regardless of the user's location and the distribution box in use. Complete wall relocations, room assignments, lighting and shading groups can be changed from the parameter interface. No additional software is required.

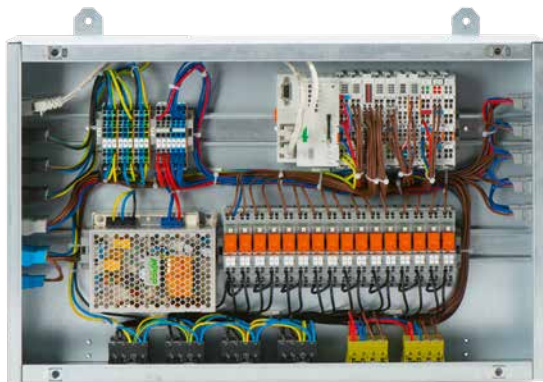
| Item Description  | Item No.           |
|---|--------------------|
| flexROOM Application; Single License; Online Activation | 2759-2110/261-1000 |
| Compatible Controller                                   |                    |
| Controller PFC200; G2; 2ETH RS                          | 750-8212           |

A single license allows installation on one controller.  
One license per controller is required.

|   |  |
|---|--|
| Delivery type                               | License certificate by email (software available for download)   |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-2110/261-1000">wago.com/2759-2110/261-1000</a><br><a href="http://wago.com/room-automation">wago.com/room-automation</a> |

The "flexROOM" software is a pre-programmed application based on the CODESYS Development Environment and can be used for PFC200 G2 Controllers.

To download the application and the license to the device, the WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.



### Benefits:

The distribution box is delivered ready to operate and can be installed directly in a suspended ceiling or a sub-floor. Room segment configuration is performed directly in the distribution box via standard Web browser. No expert knowledge is required to configure rooms or convert them later. Several *flexROOM*® Distribution Boxes can be wired into a building automation network via ETHERNET to automate a building area, a floor or an entire office section. A standard Web browser also establishes communication between the distribution boxes. If electrical distribution boxes are present, *flexROOM*® components can also be installed or retrofitted during facility renovation. Space conversion costs are reduced with *flexROOM*® because expenses are transparent and predictable.

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| Room Automation Distribution Boxes |          |                         |            |                |                              |            |            |            |                  |
|------------------------------------|----------|-------------------------|------------|----------------|------------------------------|------------|------------|------------|------------------|
| Type                               | Quantity | Office Areas (Segments) |            |                | Special-Use Areas (Segments) |            |            |            | Item No.         |
|                                    |          | Valves                  | Lighting   | Sun Protection | Quantity                     | Valves     | Lighting   | Shading    |                  |
| Type 1                             | 16       | 8 (MP Bus)              | 64 (DALI)  | 16 (SMI)       |                              |            |            |            | 2854-301/000-011 |
| Type 2                             | 16       | 8 (MP Bus)              | 64 (DALI)  | 16 (SMI)       | 8                            | 8 (MP Bus) | 64 (DALI)  | 16 (SMI)   | 2854-301/000-021 |
| Type 3                             | 16       | 8 (DO)                  | 64 (DALI)  | 16 (relays)    |                              |            |            |            | 2854-301/000-031 |
| Type 4                             | 16       | 8 (DO)                  | 64 (DALI)  | 16 (relays)    | 4                            | 4 (DO)     | 4 (relays) | 4 (relays) | 2854-301/000-041 |
| Type 5                             | 16       | 8 (DO)                  | 64 (DALI)  | 16 (relays)    | 4                            | 4 (DO)     | 64 (DALI)  | 4 (relays) | 2854-301/000-051 |
| Type 6                             | 8        | 4 (DO)                  | 64 (DALI)  | 8 (relays)     |                              |            |            |            | 2854-301/000-061 |
| Type 7                             | 24       | 24 (MP Bus)             | 128 (DALI) | 32 (SMI)       | 8                            | 8 (MP Bus) | 64 (DALI)  | 16 (SMI)   | 2854-301/000-071 |

All distribution boxes include an EnOcean® interface to accommodate room control units, sensors and buttons.

| <i>flexROOM</i> ® Application                   |  |                   |
|---|--|-------------------|
| Required Products                               | Description  | Item No.          |
| <b>Controllers</b>                              |  |                   |
| Controller PFC200 G2 2ETH RS                    | Powerful IP controller, expandable with I/O modules and communication modules  | 750-8212          |
| Serial Interface Module RS-232/RS-485           | Connects to devices with a serial interface (e.g., weather sensors, EnOcean receivers)                                   | 750-652           |
| End Module                                      | Properly terminates the I/O bus  | 750-600           |
| Power Supply 24 VDC, 2.5 A                      | Supplies both controllers and modules  | 787-1012          |
| <b>I/O Modules</b>                              |  |                   |
| Digital Input Modules                           | Connect to push-buttons, switches and sensors with a potential-free contact  | 75x-4xx, 750-14xx |
| Digital Output Modules                          | Connect to digital actuators and relays  | 75x-5xx, 750-15xx |
| Relay Module                                    | For lamp loads   | 788-354           |
| Relay Module                                    | For sunblind actuators   | 788-304           |
| Analog Input Modules                            | Connect to sensors with analog output signal (0 ... 10 V)  | 75x-4xx           |
| Analog Output Modules                           | Connect to actuators with analog control signal (0 ... 10 V)   | 750-5xx           |
| <b>DALI</b>                                     |  |                   |
| DALI Multi-Master Module                        | Connects to a maximum of 64 DALI actuators (ECGs) and a maximum of 16 DALI multi-sensors (max. 64 sensor addresses)      | 753-647           |
| DALI Multi-Master DC/DC Converter               | Supplies (24 VDC/18 VDC) one DALI Multi-Master Module  | 753-620           |
| Power Supply to DALI Multi-Master               | Supplies a maximum of five DALI Multi-Master Modules   | 787-1007          |
| DALI-2 Certified Sensors and other DALI Sensors | DALI compatibility list available at <a href="http://www.wago.com/room-automation">www.wago.com/room-automation</a>      |                   |
| <b>SMI</b>                                      |  |                   |
| SMI-Master                                      | Connects to a maximum of 16 SMI drives (230 VAC)   | 753-1630          |
| SMI-Master LoVo                                 | Connects to a maximum of 16 SMI low-voltage drives (24 VDC)  | 753-1631          |
| <b>MP-Bus</b>                                   |  |                   |
| MP-Bus Master Module                            | For connecting valve and damper actuators with an MP-Bus interface   | 750-643           |
| <b>EnOcean</b>                                  |  |                   |
| EnOcean Receiver                                | Receiver with serial interface for EnOcean switches, sensors and room control units                                      | 2852-7101         |
| EnOcean Repeater                                | Improves coverage – further information on planning can be found at <a href="http://www.enocean.com">www.enocean.com</a> | 2852-7102         |
| EnOcean®-RS-485-Gateway                         |  | 750-940           |
| EnOcean Light Push-Button (2 Channels)          | For one light circuit  | 758-940/001-000   |
| EnOcean Light Push-Button (4 Channels)          | For two light circuits   | 758-940/003-000   |
| EnOcean Sunblind Button (2 Channels)            | For one blind  | 758-940/002-000   |
| EnOcean Sunblind Button (4 Channels)            | For two blinds   | 758-940/004-000   |
| EnOcean Room Control Unit, SR04 P               | With integrated temperature sensor and rotary wheel for setpoint correction, for surface mounting                        | 2852-7112         |
| EnOcean Room Control Unit with LCD, SR06-LCD    | With integrated temperature sensor and buttons for setpoint correction, for 55 x 55 switch programs                      | 2852-7113         |
| <b>KNX</b>                                      |  |                   |
| KNX TP1 Module                                  | Connects to KNX TP1 components (e.g., room control units and buttons)  | 753-646           |
| <b>M-Bus</b>                                    |  |                   |
| M-Bus Master Module                             | For connecting energy meters with an M-Bus interface   | 753-649           |

# WAGO Application Weather Station

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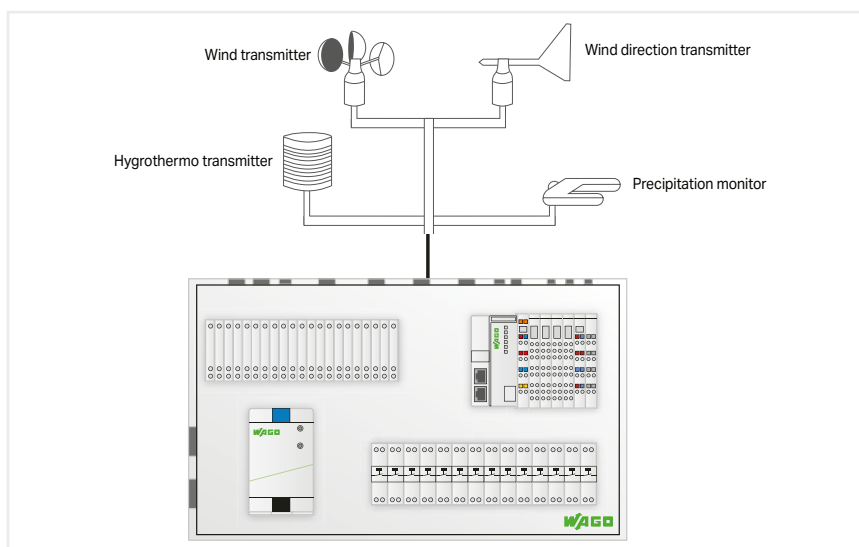
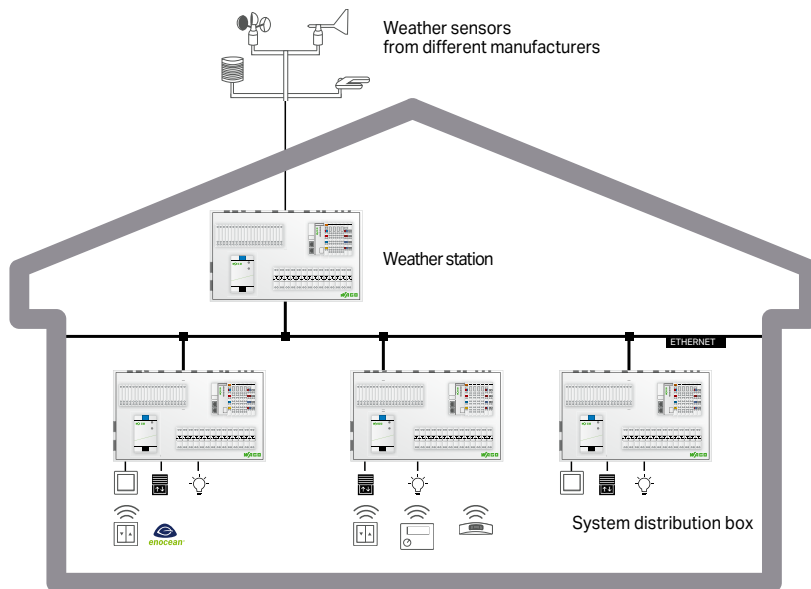
The WAGO Weather Station makes data from the connected weather sensors (e.g., temperature, precipitation, wind speed and light intensity) available on a network for further processing and display in visualization or a management system.

It also provides central functions such as weather protection and automated glare protection.

Weather protection prevents damage to exterior sun protection fixtures (e.g., blinds, awnings, curtains) due to wind, rain or ice formation. Dynamic wind monitoring is available as an option, which selectively ensures and improves protection against wind damage according to an existing object-specific wind analysis.

The glare protection automation based on the position of the sun (slat tracking) simultaneously ensures that the maximum amount of daylight is allowed into the rooms and also avoids glare. For this purpose, the WAGO Weather Station calculates the exact position of the sun, records its intensity with the help of connected light intensity sensors and cyclically adjusts the position of the blinds. Additional optimization of the daylight supply is provided by the optional shading correction. It takes the shading caused by surrounding buildings and vegetation into account according to an existing shading analysis for the specific property.

The WAGO Weather Station solution consists of a web-based application software and a modular I/O system. In addition to simple commissioning, the system distribution box design paired with the WAGO WINSTA® Pluggable Connection System guarantees fast and safe installation.



| Weather Distribution Box          |                                    | Signals (Inputs)      |                               |                 |                      |                   |                       |                         |                |                            |                  |                                | Item No. |   |
|-----------------------------------|------------------------------------|-----------------------|-------------------------------|-----------------|----------------------|-------------------|-----------------------|-------------------------|----------------|----------------------------|------------------|--------------------------------|----------|---|
| Description                       | Equipment                          | Digital (24 VDC)      |                               |                 | Analog (4 ... 20 mA) |                   |                       |                         |                |                            | Serial Interface |                                |          |   |
|                                   |                                    | Precipitation monitor | Sun protection (central (UP)) | Real-time clock | Temperature          | Relative humidity | Wind sensor (central) | Additional wind sensors | Wind direction | Brightness sensor (single) | Twilight sensor  | Global radiation (pyranometer) |          | Modbus® interface (combi sensor connection) |
| Weather distribution box (type 1) | Analog and digital inputs          | 1                     | 1                             | 1               | 1                    | 1                 | 1                     | 8                       | 1              | 1                          | 1                | 1                              |          | 2854-302/000-011                            |
| Weather distribution box (type 2) | Modbus®, digital inputs            |                       | 1                             |                 |                      |                   |                       |                         |                |                            |                  |                                | x        | 2854-302/000-021                            |
| Weather distribution box (type 3) | Modbus®, analog and digital inputs |                       | 1                             |                 |                      |                   |                       | 3                       |                |                            |                  | 1                              | x        | 2854-302/000-031                            |

| Item Description   | Item No.          |
|--|-------------------|
| Application Weather Station; Single License; Online activation | 2759-241/261-1000 |
| Compatible Controllers   |                   |
| Controller PFC200; G2; 2ETH RS                                 | 750-8212          |

A single license allows installation on one controller. One license per controller is required.

|   |  |
|---|--|
| Delivery type                                   | License certificate by email (software available for download)             |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-241/261-1000">wago.com/2759-241/261-1000</a> |

The „Application Weather Station“ software is a pre-programmed application based on the CODESYS Development Environment and can be used for PFC200 G2 Controllers.

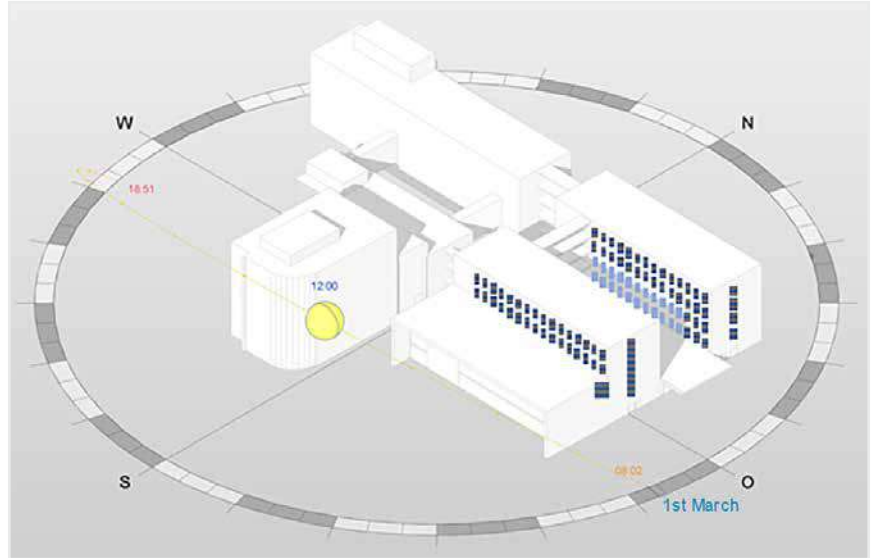
To download the application and license to the device, WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

# WAGO Application Weather Station

The "Shadow Correction" function extends the sun position-dependent slat tracking and additionally optimizes the supply of daylight in the rooms. It takes the shading caused by surrounding buildings and vegetation into account according to an existing shading analysis for the specific property. As a result, only the blinds that are actually in the sun are adjusted to the sun's position. Blinds of the shaded windows can be raised, or their slats can be set in a horizontal position, to improve the supply of sunlight in the room, increasing workplace comfort.

**Note:**

This is an additional function for the WAGO Application Weather Station. A license is required for productive use of the "Shadow Correction" function without time restriction. The full scope of this function can be used for evaluation without a license for 30 days.



| Item Description  |                   |
|---|-------------------|
|   | Item No.          |
| Application Weather Station; Shadow Correction; Single License; Online activation | 2759-242/261-1000 |
| Compatible Controllers  |                   |
| Controller PFC200; G2; 2ETH RS  | 750-8212          |

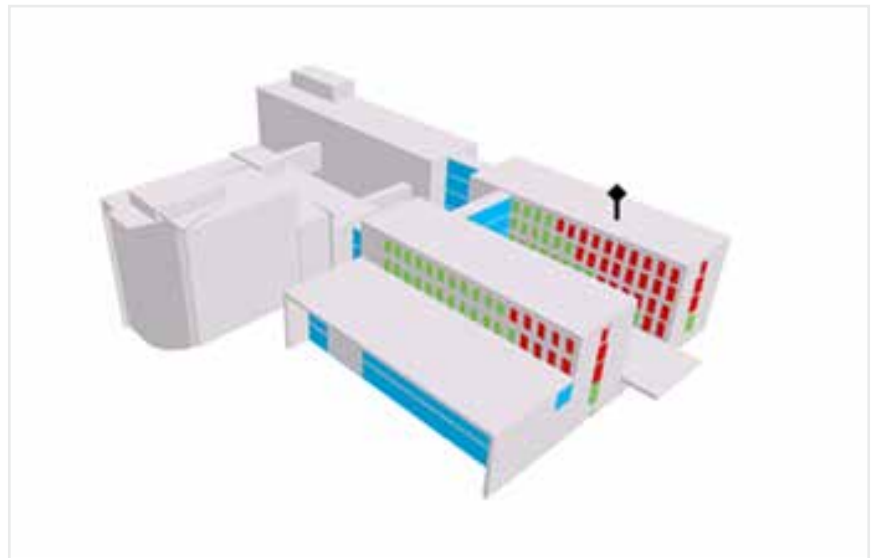
A single license allows installation on one controller. One license per controller is required.

|   |  |
|---|--|
| Delivery type                                   | License certificate by email (software available for download)             |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-242/261-1000">wago.com/2759-242/261-1000</a> |

The "Application Weather Station; Shadow Correction" software is a pre-programmed application based on the CODESYS Development Environment and can be used for PFC200 G2 Controllers.

To download the application and license to the device, WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

Typical weather protection functions move all the building's shades into a safe position and lock them there when there is a risk of damage; in contrast, the "Dynamic Wind Monitoring" function allows selective weather protection. In the presence of strong winds, it only protects the shades that are actually at risk of damage according to a wind analysis. This means the slat tracking for glare-free operation and the automatic thermal control for reducing cooling loads can remain active for the remaining blinds, for example. That way, they can continue to maximize comfort and optimize energy efficiency and CO2 savings. Taking local wind profiles into account also provides better protection against damage.



| Item Description  |                   |
|---|-------------------|
|   | Item No.          |
| Application Weather Station, Dynamic Wind Protection; Single License; Online activation | 2759-243/261-1000 |
| Compatible Controllers  |                   |
| Controller PFC200; G2; 2ETH RS  | 750-8212          |

A single license allows installation on one controller. One license per controller is required.

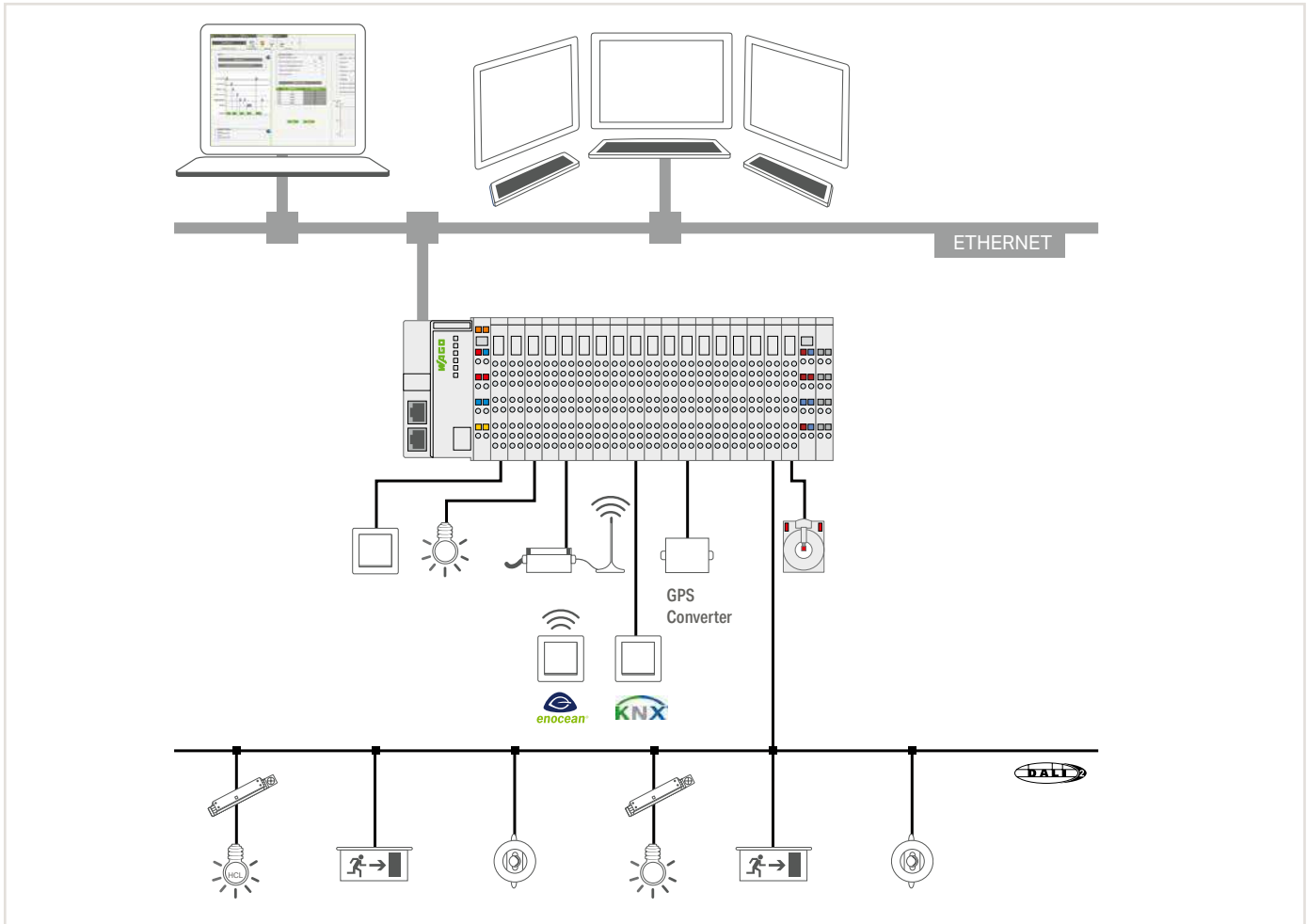
|   |  |
|---|--|
| Delivery type                                   | License certificate by email (software available for download)             |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-243/261-1000">wago.com/2759-243/261-1000</a> |

The „Application Weather Station, Dynamic Wind Protection" software is a pre-programmed application based on the CODESYS Development Environment and can be used for PFC200 G2 Controllers.

To download the application and license to the device, WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

# WAGO Lighting Management Application

1



WAGO Lighting Management is a proven solution based on predefined hardware and preconfigured software, which greatly simplifies planning, commissioning and operation. The basic idea: WAGO Lighting Management is ready for the vastly different light requirements of warehouses and production facilities. For example, a production facility is divided into virtual rooms in which the light can be flexibly adapted. Each virtual room receives signals from sensors and actuators in order to automatically set the appropriate light intensity. Virtual rooms allow both conversions and remodeling to be implemented quickly and simply via Web configuration. A separate HTML5 user interface is available for convenient and intuitive operation of WAGO Lighting Management. Operation is optimized for display on different end devices, such as tablets, smartphones and touch panels.



| Item Description   |                      |  | Item No.           |
|--|----------------------|--|--------------------|
| Lighting Management Application; Single License; Online Activation   |                      |  | 2759-204/261-1000  |
| Lighting Management Visualization; Single License; Online Activation |                      |  |                    |
| Visualization – S  | 1 controller         |  | 2759-2101/271-1000 |
| Visualization – M  | up to 3 controllers  |  | 2759-2102/271-1000 |
| Visualization – L  | up to 10 controllers |  | 2759-2103/271-1000 |
| Compatible Controllers/Touch Panels                                  |                      |  |                    |
| Controller PFC200; G2; 2ETH RS                                       |                      |  | 750-8212           |
| Touch Panel 600 Advanced Line; PIO3                                  |                      |  | 762-53xx/8000-002  |

|   |  |
|---|--|
| Delivery type                               | License certificate by email (software available for download)   |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-204/261-1000">wago.com/2759-204/261-1000</a><br><a href="http://wago.com/2759-210x/271-1000">wago.com/2759-210x/271-1000</a><br><a href="http://wago.com/lighting-management">wago.com/lighting-management</a> |

The "Lighting Management" software is a pre-programmed application based on the CODESYS Development Environment and can be used for both PFC200 G2 Controllers or Touch Panels 600.

To download the application and the license to the device, the WAGOupload software is required, which can be obtained free of charge from the WAGO homepage. Internet connection may be required for license activation.

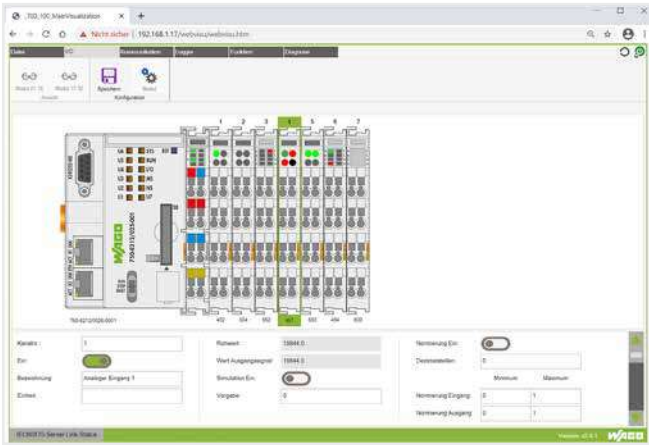
A single license allows installation on one controller/touch panel. One license per controller/touch panel is required.

The products listed below are typically used in conjunction with the "Lighting Management" Application. Detailed information about the products, as well as other variants and accessories, can be found in our Full Line Catalog, Volume 3 or Volume 4.

| Lighting Management Application  |   |                      |
|--|---|----------------------|
| Required Products  | Description   | Item No.             |
| <b>Base Unit</b>   |   |                      |
| DALI Multi-Master  | In addition to 64 DALI actuators (ECGs), a DALI Multi-Master Module supports up to 16 DALI Multi-sensors (max. 64 sensor addresses); max. 10 DALI modules per base package. | 753-647              |
| End Module   | An end module must be snapped onto the assembly at the end of a fieldbus node.  | 750-600              |
| Power Supply to I/O Node   | 24 VDC power supply to controllers and additional modules   | 787-1012             |
| Power Supply to DALI Multi-Master                                      | Supplies a maximum of five DALI Multi-Master modules  | 787-1007             |
| <b>Extension for Inputs/Buttons</b>                                    |   |                      |
| 16-Channel Digital Input; 24 VDC; 3 ms                                 | For 1...16 light button/switch inputs; max. 4 extensions per base package   | 750-1405             |
| <b>Extension for Outputs/Actuators</b>                                 |   |                      |
| 16-Channel Digital Output; 24 VDC; 0.5 A                               | For 1 ... 16 actuators/lamps/relays/ECG control; max. 2 extensions per base package   | 750-1504             |
| Socket with Relay and Status Indicator; 1 Make Contact; 24 VDC         | Light switching via relay   | 788-357              |
| <b>Extension for EnOcean Radio</b>                                     |   |                      |
| RS-232/-485 Serial Interface   | Serial interface connects to STC65-RS-485 EVC EnOcean Radio Transmitter/Receiver (for 1 ... 64 rocker switches)   | 750-652              |
| EnOcean Receiver/Transmitter   | Receives EnOcean radio signals and transmits them to the I/O node   | 2852-7101            |
| EnOcean Repeater   | Extends the transmission range (for more planning information, visit the EnOcean website)   | 2852-7102            |
| Radio Transmitter; EnOcean easyfit PTM 250; 2-Channel Lighting Control | 1 ... 2 or 1 ... 4 signals; range of 30 meters from the radio receiver in buildings   | 758-940/001-000      |
| Radio Transmitter; EnOcean easyfit PTM 250; 4-Channel Lighting Control |   | 758-940/003-000      |
| <b>Extension for External Time Request</b>                             |   |                      |
| GPS DCF Converter  | Converter/external receiver for time synchronization  | 2852-7901            |
| <b>Extension for Energy Data Measurement</b>                           |   |                      |
| 3-Phase Power Measurement; 690 VAC                                     | The 3-Phase Power Measurement Module (750-495) measures electrical data in a three-phase supply network.  | 750-495/xxx-xxx      |
| Current and Voltage Connections  | Pre-assembled terminal block assemblies for easy connection and short-circuiting of current transformers (for current transformers, see Full Line Catalog, Volume 4)        | 2007-8874; 2007-8877 |
| <b>Extension for KNX Buttons</b>                                       |   |                      |
| KNX/EIB/TP1 Interface  | Connects KNX buttons to the I/O node; max. 1 module per base package  | 753-646              |
| <b>Extension for Sensors (DALI-2)</b>                                  |   |                      |
| DALI Sensor; PD11-BMS-FLAT   | LOW BAY Sensor for offices (2 ... 5 m)  | 2852-7210            |
| DALI Sensor; PD4-BMS-GH  | HIGH BAY Sensor for warehouses (5 ... 16 m)   | 2852-7213            |
| DALI Sensor; PD4N-BMS  | MID BAY Sensor for open-plan offices, underground garages, entrance halls, production facilities (2 ... 10 m)   | 2852-7214            |
| Adapter; AP Assembly Kit IP54; Accessories for 2852-7214               | Accessories for surface mounting of the PD4N-BMS (B.E.G.)   | 2852-7215            |
| DALI Sensor; MSensor G3 SRC 30 PIR 5DPI WH                             | LOW BAY Sensor for offices (up to 5 m)  | 2852-7220            |
| DALI Sensor; MSensor G3 SSM 30 10DPI WH                                | MID BAY Sensor for high-ceiling rooms (up to 10 m)  | 2852-7221            |
| DALI Sensor; IR Quattro HD DALI-2                                      | LOW/MID BAY Sensor for offices (2.5 ... 10 m)   | 2852-7230            |
| DALI Sensor; IR Quattro SLIM XS DALI-2                                 | LOW BAY Sensor for offices, slim design (2.5 ... 4 m)   | 2852-7231            |
| DALI Sensor; IS3360 MX HIGH BAY DALI-2                                 | HIGH BAY Sensor for industrial buildings, circular detection range (4 ... 14 m)   | 2852-7232            |
| DALI Sensor; IS345 MX HIGH BAY DALI-2                                  | HIGH BAY Sensor for industrial buildings, rectangular detection range (4 ... 14 m)  | 2852-7233            |
| DALI XC G3 (DALI-2)  | Push-button coupler connects 4 conventional push-buttons to DALI  | 2852-7225            |
| <b>DALI Sensors</b>  |   |                      |
| DALI Multi-Sensor Kit  | Brightness measurement and motion sensor: Kit connects to a DALI bus system   | 2851-8201            |
| DALI Sensor Coupler  | Sensor coupler connects MULTI-3-CI Sensors to DALI (max. 16 DALI Sensor Couplers per 753-647 DALI Multi-Master)   | 2851-8202            |
| DALI HIGHBAY ADAPTER + HIGH BAY  | Brightness measurement and motion sensor for large installation heights (3 ... 13 m)  | 2852-7207, 2852-7201 |
| DALI HIGHBAY ADAPTER + VISION  | Motion sensor for large areas, open offices, hallways or warehouses   | 2852-7207, 2852-7202 |
| DALI LS/PD LI  | Motion sensor for office lighting (1 ... 5 m)   | 2852-7203            |
| DALI Sensor Coupler HF LS LI + Radar Sensor HF LS LI                   | Light and recessed ceiling sensor: combined daylight and motion detection, motion detection via radar   | 2852-7205            |
| 4p4c Connection Cable, 50 cm   |   | 2852-7208            |
| DALI XC  | Push-button coupler connects 4 conventional push-buttons to DALI  | 2852-7301            |
| DALI Sensor Coupler E  | Sensor coupler connects standard sensors to DALI  | 2852-7204            |

# WAGO Application Grid Gateway

1



Setting application parameters via HTML-5 WEB visualization



Example: Grid Gateway Distribution Box

WAGO Grid Gateway Application supports power distribution grid operators in assessing the grid performance. This application allows grid operators to use their existing distribution grid more efficiently, while avoiding unnecessary grid expansion. The measurement technology required in the substation for both the transformer and low-voltage outputs can be easily retrofitted.

The measurement values of the medium voltage, transformer, low-voltage outputs, valve positions and temperatures are transmitted to the grid control system via IEC 60870-5-104. Commands and setpoints can also be received and processed. External measurement systems such as short-circuit/ground-fault direction indicators can be easily parametrized via Modbus RTU. The entire parameterization can be stored in a clear manner and, if necessary, added to other stations. The option of simulating measured data makes it possible to commission new substations at the station builder's location from the grid control system without the field side being connected.

All data, for example the measured values from the low-voltage outputs, can be communicated via MQTT to a cloud.

Asset managers can more accurately plan substation maintenance cycles by accessing both stored data and digital drag indicators. Grid managers are prepared for local situations, having remote access for maintenance and errors in the grid.

Remote updates for software modules and extensions are possible, eliminating unnecessary in-the-field service.

Upon request, WAGO will provide you a hardware solution tailored to your customers' substations.

Patch and device management is available for the administration of a large number of distributed telecontrol devices with the WAGO Application Grid Gateway. This enables application updates, configuration changes, security patches and firmware upgrades, among other things.

| Item Description   |                    |
|--|--------------------|
|  | Item No.           |
| Application Grid Gateway; Single License; Online activation                            | 2759-2015/261-1000 |
| Application Grid Gateway; Single License   | 2759-2015/260-1000 |
| Accessories  |                    |
| Custom/tailored system distribution boxes (e.g., for use in substations) are available | upon request       |
| Compatible devices   |                    |
| PFC200; G2; 4ETH   | 750-8210           |
| PFC200; G2; 4ETH; T  | 750-8210/025-000   |
| PFC200; G2; 4ETH; XTR  | 750-8210/040-000   |
| PFC200; G2; 2ETH 2SFP  | 750-8211           |
| PFC200; G2; 2ETH 2SFP; XTR   | 750-8211/040-000   |
| PFC200; G2; 2ETH RS  | 750-8212           |
| PFC200; G2; 2ETH RS; TELE; T   | 750-8212/025-001   |
| PFC200; G2; 2ETH RS; TELE; T; ECO  | 750-8212/025-002   |
| PFC200; G2; 2ETH RS; XTR   | 750-8212/040-000   |
| PFC200; G2; 2ETH RS; Tele; XTR   | 750-8212/040-001   |
| PFC200; G2; 2ETH M12; RS; XTR  | 750-8212/040-010   |
| PFC200; G2; 2ETH RS; 4G  | 750-8217           |
| PFC200; G2; 2ETH RS; 4G; T   | 750-8217/025-000   |

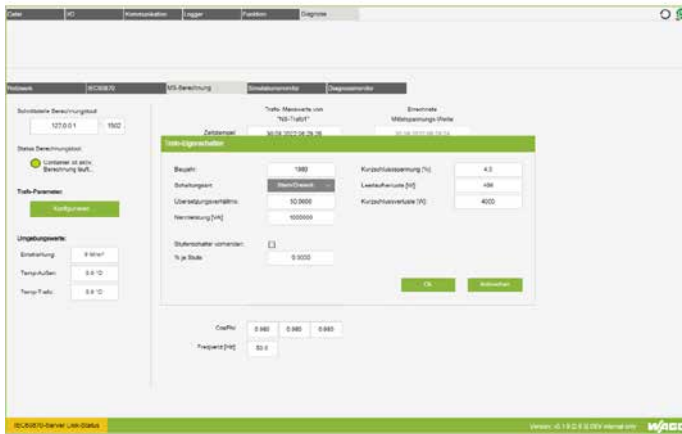
| Technical Data                              |  |
|---|--|
| Number of LV outputs                        | Up to 17 LV outputs  |
| Firmware                                    | Hardening in compliance with BDEW White Paper                                      |
| Patch/device management                     | Application updates, configuration changes, security patches and firmware upgrades |
| Communication to the grid control system    | IEC 60870-5-104  |
| Communication to the office network         | HTTPS, MQTT  |
| Memory required on the SD card              | Less than 2 MB measurement data per day for 15 LV outputs                          |
| Authentication                              | Local, LDAP  |
| User groups                                 | Grid manager, grid technician, grid planner, asset manager, administrator          |
| Network interfaces                          | Secure separation between SCADA and office networks                                |
| Delivery type                               | License certificate by email (software available for download)                     |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-2015/261-1000">wago.com/2759-2015/261-1000</a>       |

A single license allows installation on one controller. One license per controller is required.



# WAGO Application Medium Voltage Calculation

## Add-on Application for WAGO Application Grid Gateway



Setting the individual transformer values



View of the current measured values and the calculated medium voltage values

It is becoming increasingly important for network operators to precisely monitor the medium-voltage values in transformer stations. For example, these values are required for calibrating the short-circuit/ground-fault indicators and are essential for wide-range control. Until now, accurate medium-voltage measurement has required expensive resistive couplers or ohmic medium-voltage sensors. With the WAGO Application Medium Voltage Calculation (additional application), highly precise medium voltage values can be calculated without resistive couplers based on precisely measured low voltages. Through this, an accuracy class of 1.5 percent is achieved. The add-on application for medium-voltage calculation runs on a Docker® container. Data exchange between the "WAGO Application Grid Gateway" basic application and the container occurs via the Modbus TCP protocol. The necessary transformer parameters can be conveniently entered via the Web

visualization or CSV file upload. Electrical variables are measured on the low-voltage side either with WAGO's 3-Phase Power Measurement Modules (Item No. 750-495/040-010) or third-party devices that transmit their values via the Modbus® protocol, for example. The mean voltage is calculated by accounting for various parameters such as winding ratios, loads and temperatures. The calculation also incorporates individual transformer parameters, such as the short-circuit voltage, no-load losses or the losses in the event of a short circuit. The higher-level WAGO Application Grid Gateway transmits the calculated, measured values to the process control systems or the grid operators' data clouds, for example.

| Item Description                       |                    |
|--|--------------------|
| <b>WAGO Application Medium Voltage</b> | <b>Item No.</b>    |
| Single license                         | 2759-2016/261-1000 |
| Requirement                            |                    |
| WAGO Application Grid Gateway          | 2759-2015/26x-1000 |
| Compatible Devices                     |                    |
| PFC200; G2; 4ETH                       | 750-8210           |
| PFC200; G2; 4ETH; T                    | 750-8210/025-000   |
| PFC200; G2; 4ETH; XTR                  | 750-8210/040-000   |
| PFC200; G2; 2ETH 2SFP                  | 750-8211           |
| PFC200; G2; 2ETH 2SFP; XTR             | 750-8211/040-000   |
| PFC200; G2; 2ETH RS                    | 750-8212           |
| PFC200; G2; 2ETH RS; TELE; T           | 750-8212/025-001   |
| PFC200; G2; 2ETH RS; TELE; T; ECO      | 750-8212/025-002   |
| PFC200; G2; 2ETH RS; XTR               | 750-8212/040-000   |
| PFC200; G2; 2ETH RS; Tele; XTR         | 750-8212/040-001   |
| PFC200; G2; 2ETH M12; RS; XTR          | 750-8212/040-010   |
| PFC200; G2; 2ETH RS; 4G                | 750-8217           |
| PFC200; G2; 2ETH RS; 4G; T             | 750-8217/025-000   |

### Technical Data

Accuracy class of up to 1.5 percent, depending on the available transformer parameters

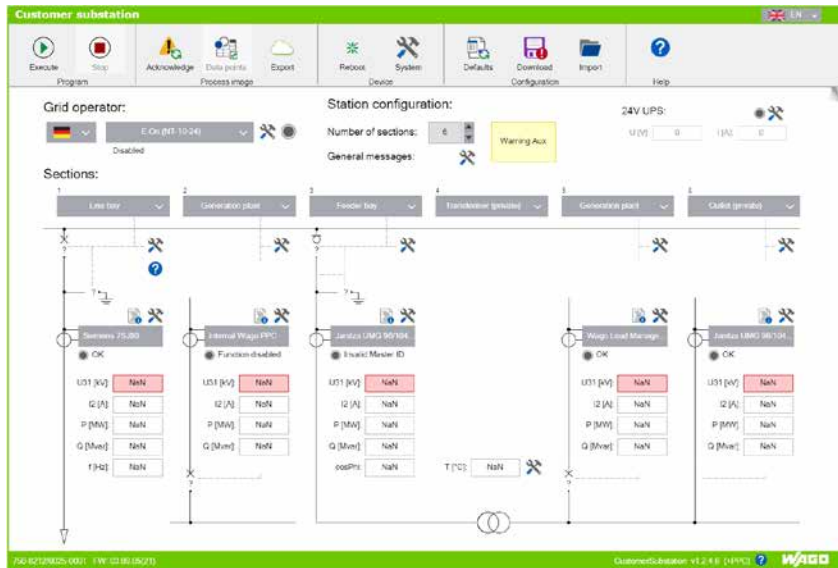
### Delivery type

License certificate by email (software available for download)

A single license allows installation on one controller. One license per controller is required.

# WAGO Application Customer Substation

1



WAGO Application Customer Substation allows customer systems to communicate with the regional grid operator (control technology) in compliance with the IEC 60870-5-101 or IEC 60870-5-104 guidelines. Measured values like voltage, reactive power, active power and station parameters (position messages) are determined and monitored. The application enables automatic mapping of the respective data points according to the TAB (Technische Anschlussbedingung) technical connection requirement (TCR) of the selected grid operator.

The station can be customized depending on the number of sections. The application connects all relevant measurement and protection systems. For standard devices, communication templates are stored for easy configuration.

Optionally, data can also be transmitted to a cloud (MQTT). A direct marketer interface is also available. Available options: A certified EZA controller (Item No. 2759-203/211-1000) can be activated and connected to various actuators if desired.

The WagoAppRTU\_Slaves library on which the application is based provides simple function blocks for use with specific power system operators. They enable customer systems to communicate with the grid operator per IEC 60870-5-101 or IEC 60870-5-104. Supported grid operators: E.ON (Avacon Netz, Bayernwerk Netz, Schleswig Holstein Netz, E.DIS Netz); EWE NETZ; Netze BW; Westnetz, VSE; WEMAG; Mitnetz and SachsenNetze. Note: Additional information available upon request

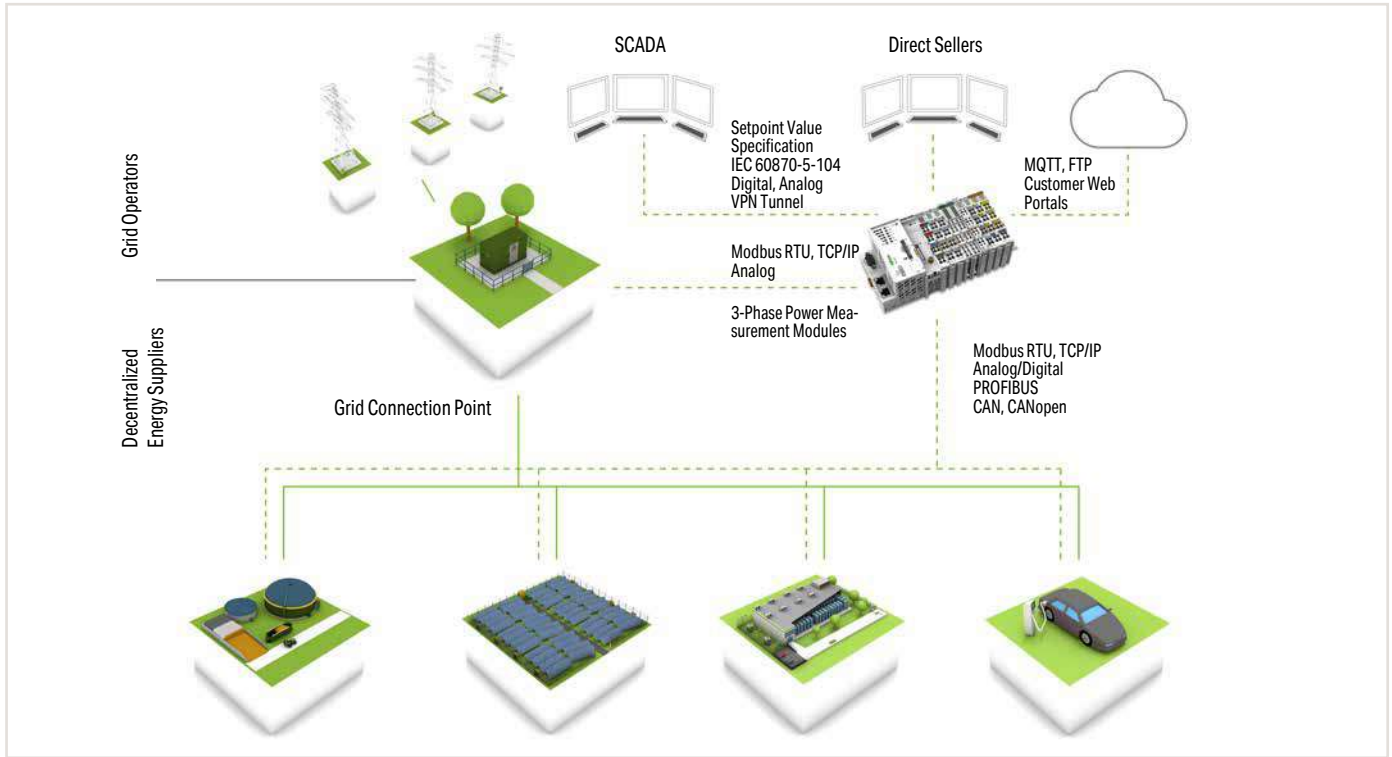
| Item Description                            |                    |
|---|--------------------|
| <b>WAGO Application Customer Substation</b> | <b>Item No.</b>    |
| Single license; online activation           | 2759-2018/261-1000 |
| WAGO Cloud                                  |                    |
| WAGO Cloud; 100 license points              | 2759-1061/651-010  |
| WAGO Cloud; 500 license points              | 2759-1061/651-050  |
| WAGO Cloud; 1000 license points             | 2759-1061/651-100  |
| Compatible Devices                          |                    |
| PFC200; G2; 4ETH                            | 750-8210           |
| PFC200; G2; 4ETH; T                         | 750-8210/025-000   |
| PFC200; G2; 4ETH; XTR                       | 750-8210/040-000   |
| PFC200; G2; 2ETH 2SFP                       | 750-8211           |
| PFC200; G2; 2ETH 2SFP; XTR                  | 750-8211/040-000   |
| PFC200; G2; 2ETH RS                         | 750-8212           |
| PFC200; G2; 2ETH RS; TELE; T                | 750-8212/025-001   |
| PFC200; G2; 2ETH RS; TELE; T; ECO           | 750-8212/025-002   |
| PFC200; G2; 2ETH RS; XTR                    | 750-8212/040-000   |
| PFC200; G2; 2ETH RS; Tele; XTR              | 750-8212/040-001   |
| PFC200; G2; 2ETH M12; RS; XTR               | 750-8212/040-010   |
| PFC200; G2; 2ETH RS; 4G                     | 750-8217           |
| PFC200; G2; 2ETH RS; 4G; T                  | 750-8217/025-000   |

| Functions                                       |  |
|---|--|
| Control sections                                | Input panel (1-n)<br>Transfer panel/network connection point<br>Metering panel<br>Disconnectors, HH fuses<br>Generation plants (various energy types)<br>Additional generation units |
| Delivery type                                   | License certificate by email (software available for download)   |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2018/261-1000">wago.com/2759-2018/261-1000</a>   |

A single license allows installation on one controller. One license per controller is required.

| Complete Solutions  | Item No.          |
|---|-------------------|
| <b>Control cabinet customer substation – standard</b><br>Design according to the TCR of the grid territories of E.ON and grid subsidiaries (AVACON, E.DIS, SH Netz, Bayernwerk), Westnetz, Wemag Netz, NetzeBW, EWE   | 8007-100/1000-247 |
| <b>Control cabinet customer substation – comb., including protection</b><br>Design according to the TCR of the grid territories of E.ON and grid subsidiaries (AVACON, E.DIS, SH Netz, Bayernwerk), Westnetz, Wemag Netz, NetzeBW, EWE<br>Includes protective devices: - SEG MRA4; - NA-protection Ziehl UFR1001E<br>Note: Other protective devices upon request! | 8007-100/1000-270 |

# WAGO Power Plant Control Library



The WAGO Power Plant Control Library is an CODESYS library with a control algorithm for the active and/or reactive power in energy generation plants.

The control algorithm for active and/or reactive power and corresponding setpoint specifications required by the operator can be adjusted during operation per IEC 60870 by, e.g., telecontrol technology. The controller compares the specified setpoint values with the actual values measured at the network connection point and provides the calculated correction variables for the energy generation plant.

This library can be used on second-generation PFC200 Controllers and is certified per VDE-AR-N 4110 or 4120.

The library can be used for a 30 day trial period at no cost, after which a license for the respective controller is required.

The license can be separately purchased under Item Number 2759-203/211-1000.

### Functions:

- Pfix, Qfix: Fixed active/reactive power specifications
- P(f): Frequency-dependent active power regulation
- P(Uoff): Active power ramp – restart after network failure
- Q(P): Reactive power control per active power characteristic
- Q(U): Reactive power control per voltage characteristic
- Q(Udb): Reactive power control per voltage characteristic with voltage limiting function
- cosφfix: Fixed displacement factor specification
- PSM, QSM: Slave mode, looping through the external active/reactive power specifications

| Item Description                                |                   |
|---|-------------------|
| <b>WAGO Power Plant Control Library</b>         | <b>Item No.</b>   |
| Single License; Online Activation               | 2759-203/211-1000 |
| Compatible Controllers                          |                   |
| Controller PFC200; G2; 2ETH RS; Tele; T         | 750-8212/025-001  |
| Controller PFC200; G2; 2ETH RS; Tele; T; ECO    | 750-8212/025-002  |
| Controller PFC200; G2; 2ETH RS CAN DPS; Tele; T | 750-8216/025-001  |

|   |  |
|---|--|
| Certification                               | VDE-AR-N 4110 / 4120   |
| Delivery type                               | License certificate per email  |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-203/211-1000">wago.com/2759-203/211-1000</a> |

Internet connection may be required for license activation.

A single license allows installation on one controller. One license per controller is required.

# Controller Redundancy Master Library

**Description:**

Increase availability in central ship alarm systems with WAGO's Application-Based Controller Redundancy (ACR). The licensed software library (2759-245/211-1000) and an CODESYS redundancy framework allows you to easily program and operate redundant master PLCs in single point of failure (SPOF) tolerant systems. A large number of the available 750 Series I/O Modules can be integrated into the system via Smart Couplers. These decentralized PLCs automatically recognize the input and output modules, which makes commissioning easy. The redundant communication of the two Master PLCs and the Smart Couplers is performed either via two separate networks (Dual-LAN) or a ring topology. These Master PLCs (2nd generation PFC200) communicates with higher-level SCADA systems, for example, via the Modbus TCP protocol. The application notes (a2020003 and a2020004) describe the practical use of the library and define the application area and the maximum number of participants within the system.

**Advantages:**

- Easy commissioning of the entire system with WAGO's standard hardware
- Simple/slow control loops can be mapped (Alarm & Monitoring, Data Acquisition, Slow Running Processes)
- Low switchover time (per marine classification society requirements)
- Use of complex modules such as HART or DALI

**Benefits:**

- With the application redundancy concept, WAGO provides you with a redundant framework for simple and economical system integration in ship technology.
- You save engineering effort and can focus on your application.

**Licensing:**

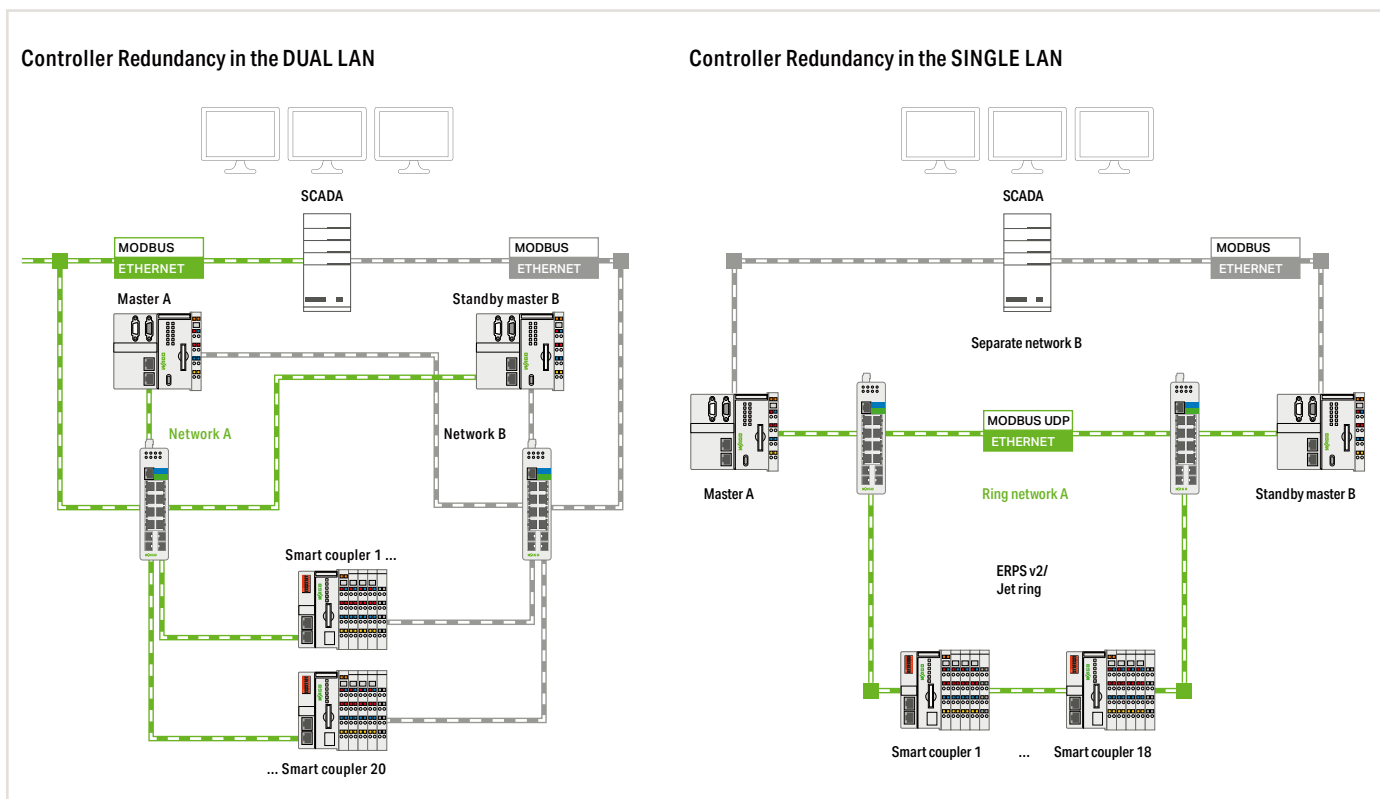
To use the "WagoAppRedundancyMaster.library," a "Controller Redundancy Master Library" license (2759-245/211-1000) must be purchased for each Master PLC. An SD card image in the redundancy framework is available for the Smart Couplers.

**Use:**

The license is registered with WAGO Upload and loaded onto a device. No other installation steps are required.

**Note:**

Register here to download the redundancy framework and test ACR free of charge for 30 days.



| Item Description                     |                   |
|--------------------------------------|-------------------|
| Controller Redundancy Master Library | Item No.          |
| Single License; Online Activation    | 2759-245/211-1000 |
| Recommended Controller               |                   |
| PFC200; G2; 2ETH RS                  | 750-8212          |

|   |  |
|---|--|
| Delivery type                               | License certificate by email (software available for download)             |
| Data sheet and additional information, see: | <a href="http://wago.com/2759-245/211-1000">wago.com/2759-245/211-1000</a> |

Internet connection may be required for license activation. A single license allows installation on one computer.

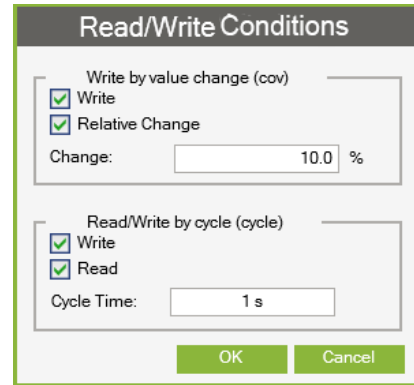
# WAGO Gateway Application

With the new WAGO Gateway Application, it is possible to implement information exchange between different bus systems. This is supported by a user-friendly interface, so no programming is necessary – nothing but configuring connections.



### Function in Detail:

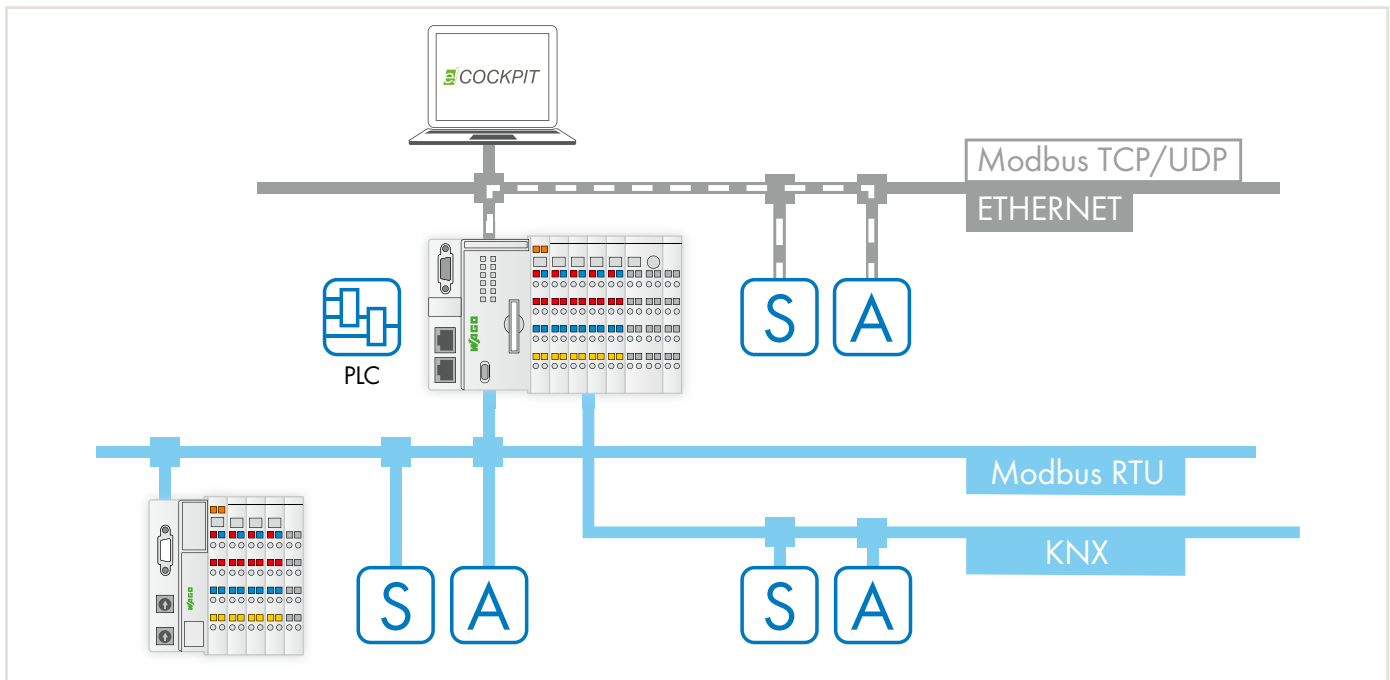
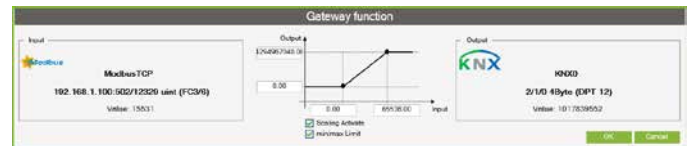
- Automatic detection of station structure
- Display of the available interfaces
- Creation of data points
- Import/export of ETS files (KNX)
- Linking of data points
- Conditional reading/writing



### Benefits:

- Exchange of information between the bus systems:
  - Modbus TCP
  - Modbus UDP
  - Modbus RTU
  - KNX
- Commissioning time reduced through interface-supported configuration instead of programming
- Easily manage up to 255 KNX data points per KNX module via ETS import and export

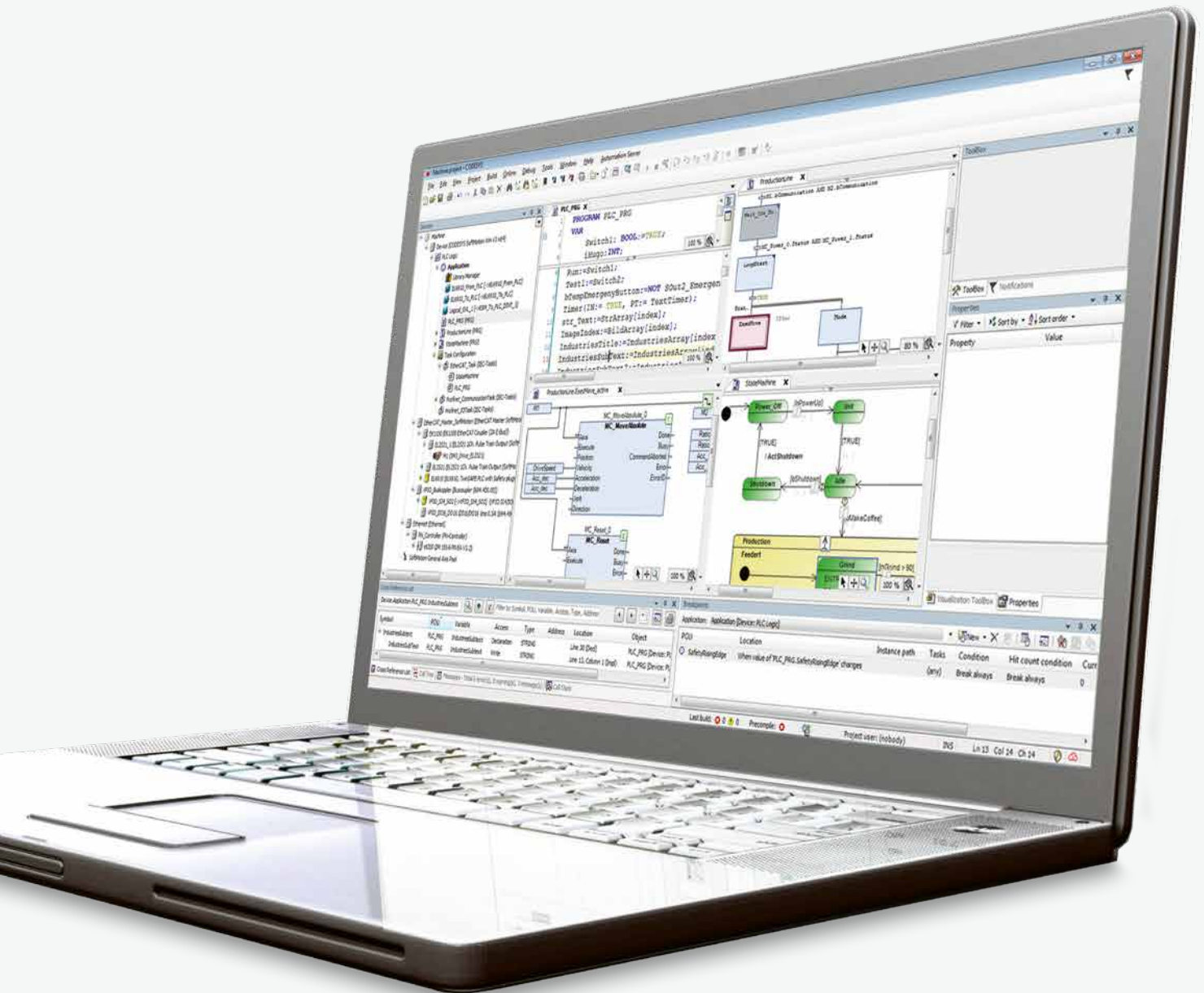
- Functional coupling



| Item Description         |                      |
|--------------------------|----------------------|
| WAGO Gateway Application | Item No.<br>Download |

|                       |  |
|-----------------------|--|
| Delivery type         | Closed application<br>Download at <a href="http://www.wago.com">www.wago.com</a> |
| Compatible Controller | 750-8212   |
| PFC200; G2; 2ETH RS   |  |

You can find detailed information on the controllers in Section Controller PFC200.



# Software

## Engineering Software

- PC and web-based software
- Customized tools for every automation task

## Runtime Software

- Standard machine component
- Comprehensive, tested software modules for control, regulation, operation and monitoring

## Mobile Software (Apps)

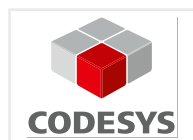
- Machine operation and monitoring via tablet and smartphone

## Solutions

- Cloud solutions
- Reusable, customizable software applications

# Software

## Engineering Software, Runtime Software and Mobile Software



|                                    | Page |
|------------------------------------|------|
| <b>General Product Information</b> | 30   |

|  | Description                                 | Item No.           |    |
|--|---|--------------------|----|
| <b>Engineering Software</b>            |   |                    |    |
| Designing and marking                  | smartDATA Engineering                       | Online             |    |
| Programming and configuration software | CODESYS V3                                  | Download           | 32 |
|  | Solution Builder                            | Download           | 34 |
|  | WAGO-I/O-PRO                                | 759-333            | 36 |
|  | WAGO-I/O-CHECK                              | 759-302            | 37 |
|  | IO-Link Configurator                        | 2759-106/1121-1000 | 38 |
|  | SMI Configurator                            | Download           | 39 |
|  | BACnet Configurator                         | Download           | 40 |
|  | DALI Configurator                           | Download           | 41 |
|  | LON® configurator                           | Download           | 42 |
| Plug-ins                               | Device- and Industry-Specific Configurators |                    |    |
|  | WAGO ETS Plug-in                            | Download           | 43 |



|                         | Description                          | Item No.   |    |
|-------------------------|--------------------------------------|--|----|
| <b>Runtime Software</b> |                                      |  |    |
| Libraries               | based on CODESYS V3                  | Download   | 44 |
|                         | WAGO-I/O-PRO (based on CODESYS V2.3) | Download   | 45 |
| Runtime                 | Multi Cloud Connectivity             | 2759-248/211-1000  | 48 |
|                         | Sparkplug                            | 2759-247/211-1000  | 49 |
|                         | MicroBrowser                         | 2759-230/211-1000  | 50 |
|                         | BACnet/IP                            | 2759-283/211-1000, 2759-286/211-1000<br>2759-2273/211-1000, 2759-2276/211-1000 | 51 |
|                         | OPC UA Server Extended               | 2759-2233/211-1000, 2759-2236/211-1000   | 52 |
|                         | OPC UA Mapping Editor                | Download   | 53 |
|                         | OPC UA Client                        | 2759-2230/211-1000   | 54 |
|                         | IEC-60870 Slave                      | 2759-290/211-1000  | 56 |
|                         | IEC-60870 Master                     | 2759-293/211-1000, 2759-296/211-1000   | 57 |
|                         | IEC-61850 Client                     | 2759-2243/211-1000, 2759-2246/211-1000   | 58 |
|                         | IEC-61850 Server                     | 2759-2240/211-1000   | 59 |
|                         | DNP3 Slave                           | 2759-2290/211-1000   | 60 |
|                         | DNP3 Master                          | 2759-2293/211-1000, 2759-2296/211-1000   | 61 |



|                               | Description        | Item No. |    |
|-------------------------------|--------------------|----------|----|
| <b>Mobile Software (Apps)</b> |                    |          |    |
|                               | WAGO WebVisu App   | Download | 62 |
|                               | WAGO I/O Field App | Download | 63 |



|                    | Description                                  | Item No. |    |
|--------------------|--|----------|----|
| <b>Accessories</b> |  |          |    |
|                    | Configuration Cable, USB Communication Cable |          | 64 |

## Software

### General Product Information

#### Software Factors into Success

Projects in production, process and building automation are characterized by shorter and shorter implementation times, ever more complex structures and the increasing role of software as part of the overall solution. In fact, software is becoming an essential factor that influences the success of a project.

Engineering software is used for both machine and system development, as well as the implementation of building automation projects. Runtime software controls the devices during operation.

#### Customized Software Tools

Significant challenges must be overcome to develop, operate and maintain modern machines and systems, as well as program, configure and commission building automation applications. Customized software tools are available as needed for every task. With these, specialized automation tools for specific user groups are now available, giving users exactly the features they need for their applications. Wherever possible and appropriate, standards are used in engineering, such as CODESYS V3. Thus the automation environment is becoming more and more open.

#### CODESYS as an Integrated Environment



#### CODESYS

All WAGO Controllers are equipped with the high-performing CODESYS industry-standard development environment. This enables software development in both IEC 61131-3 PLC programming languages (ST, FBD, LD, IL, SFC) and CFC. As a trusted programming environment, CODESYS guides developers, enabling them to reuse and further develop existing projects without relearning software. This means that advanced paradigms, such as object-oriented programming (OOP), or modern visualization technologies, are available.

#### Pre-Made Software Solutions

Pre-made software solutions and applications simplify automation. Such solutions involve reusable software that can be used for a specific application by making simple adjustments. This approach saves time and money. WAGO's pre-made software solutions can be found in Section 1.

#### Open to Proven Standards



WAGO Software is open to well-established standards and supports all prominent fieldbuses, making it an investment in the future. This allows all of WAGO's components to be seamlessly integrated into engineering software via standardized device description files. Furthermore, connecting controllers to fieldbus systems via WAGO Engineering Software is incredibly simple, opening up all the advantages of existing field devices. Ultimately, WAGO Software is based on modern IT standards and development methods for long-term viability.

#### Extensive Import and Export Functionality



WAGO's software tools demonstrate an impressive ability to exchange project data with the external software tools involved in the development process – preventing costly, error-prone double entry.

#### Industry-Specific Configurators



Whether industry, process or building automation, every sector and industry has specific requirements. Therefore, plug-ins specifically customized for the needs of individual industries are available in addition to WAGO's software portfolio. For example, these plug-ins can be used to measure energy or easily configure a DALI network.

#### Your Benefits:

- Customized software for every automation task
- Extensive import functions from external design tools
- Plug-ins for industry-specific development environments
- Comprehensive software solutions for various industries
- Simple and secure licensing

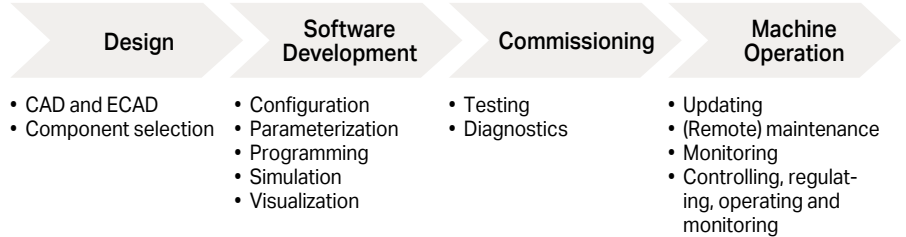


# Software

## General Product Information

### Software for Mechanical Engineering

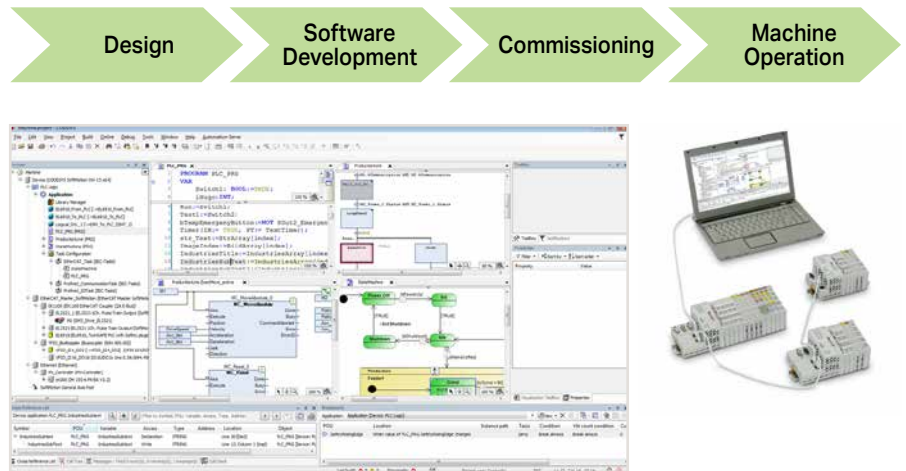
WAGO Software is used in every phase of machine and system automation – from design to successful machine operation.



### Engineering Software

Quickly implementing complex machine functions is critical in modern mechanical engineering applications. WAGO's PC-based engineering software supports all development activities. The focus is on simple configuration, timely programming and efficient commissioning of automation network components.

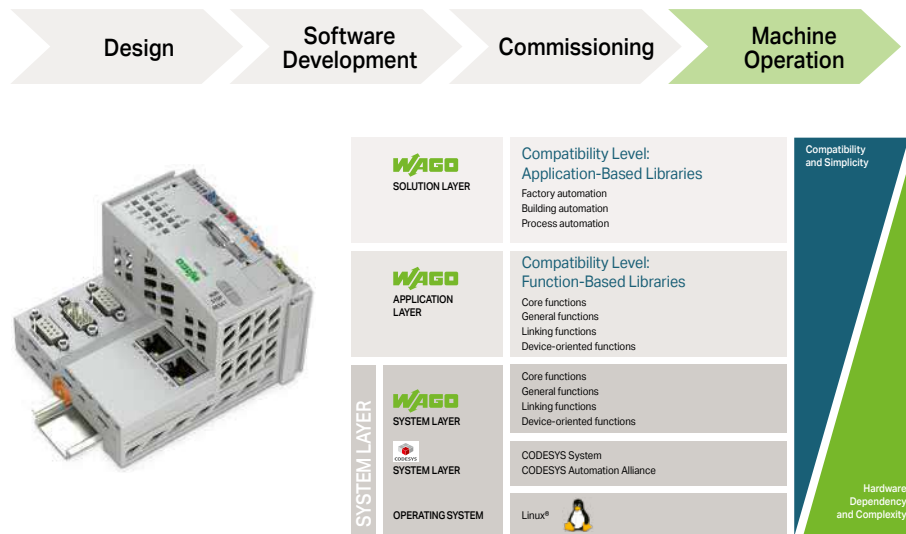
Engineering tools are typically not permanently linked to the machine – they only communicate with the machine during startup and maintenance.



### Runtime Software

Machines are controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems. With comprehensive, tried-and-tested software function blocks (IEC libraries), development goals are reached more quickly.

Unlike engineering software, runtime software operates continuously – it is a part of the machine and ensures correct operation.



### Mobile Software (Apps)

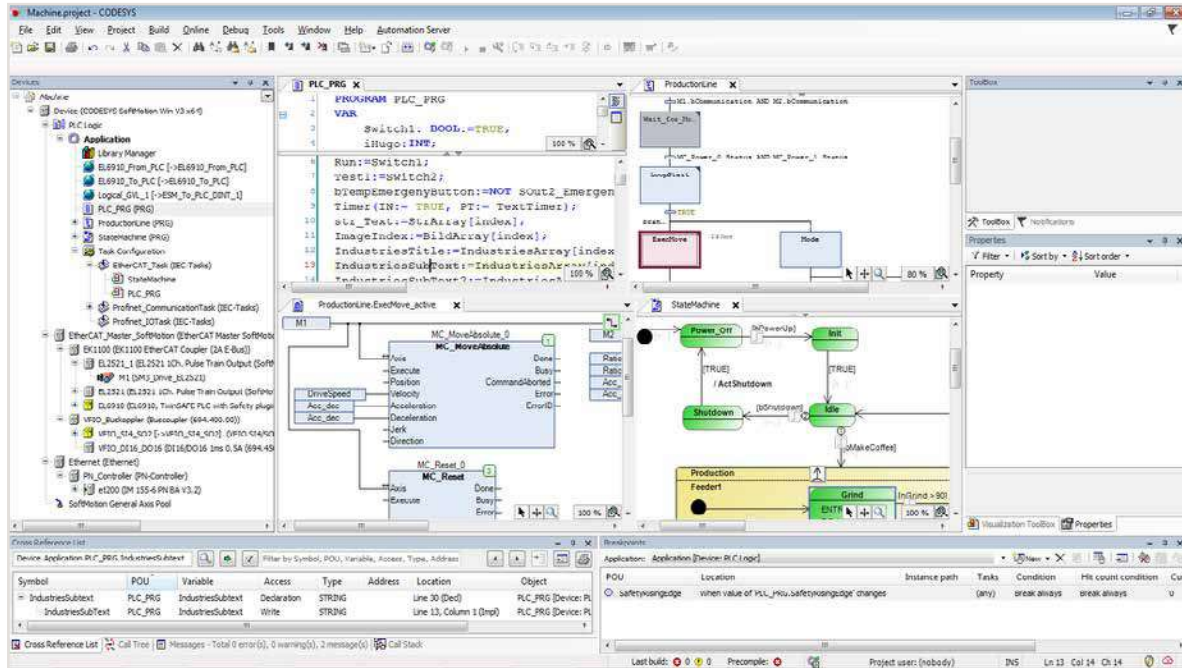
Software on mobile devices offers productivity advantages in an industrial environment as well. This integration enables users to quickly and easily operate and monitor automation processes via smartphone or tablet – from virtually anywhere.

Mobile software typically communicates only with the machine's controller for a specific application.



2

## CODESYS V3



The CODESYS open automation software opens up flexible engineering possibilities based on an open industry standard that many different manufacturers use.

It offers a wide variety of integrated connectivity options, such as conventional fieldbuses, but also modern communication standards like OPC UA.

From controller configuration to programming, visualization and diagnostics, all functions are combined in one tool.

The basic programming environment is available for free and includes multiple built-in functions. WAGO also offers add-ons and an extensive collection of libraries, which are partly subject to a fee.

CODESYS users also benefit from the CODESYS community's broad-base expertise.

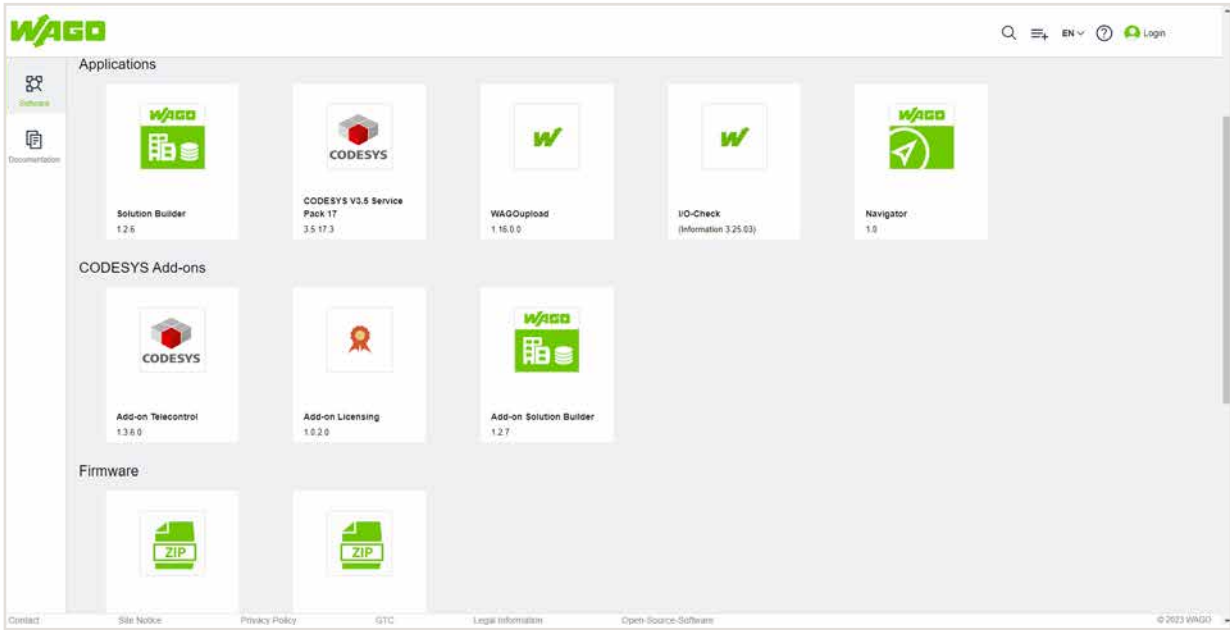
### CODESYS V3

Via WAGO Download Center (Link: <https://downloadcenter.wago.com/>)

|   |  |
|---|--|
| Supported operating systems   | Windows 10 (64-bit);<br>Windows 11 (64-bit)  |
| <b>System Requirements</b>  |  |
| Processor   | 2.5 GHz  |
| Memory  | 8 GB RAM   |
| Hard disk space   | 12 GB  |
| Supported devices   | WAGO PFC200 G2;<br>WAGO Edge Controller;<br>WAGO Touch Panel 600 (Control Panel);<br>WAGO Compact Controller;<br>WAGO Basic Controller |
| Supported fieldbuses (depending on the devices and the respective firmware version) | CANopen;<br>Modbus TCP/UDP; Modbus RTU;<br>EtherCAT® Master;<br>EtherNet/IP™ Scanner/Adapter;<br>PROFIBUS® Slave;<br>PROFINET Device   |
| Paid options  | BACnet® (see page 51)<br>Telecontrol (see pages 56 ... 61)   |
| <b>More information about CODESYS:</b>  | <a href="https://store.codesys.com/codesys.html">https://store.codesys.com/codesys.html</a>  |

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# WAGO Navigator and Download Center



2

Always using the latest software version is very important, especially for cybersecurity. That goes without saying for a PC's operating system, but it's increasingly important within automation too.

To ensure no update is missed, the Download Center provides central access to all updates, for example, for the two engineering tools WAGO Solution Builder and CODESYS V3, along with libraries, firmware, etc.

In addition, the Navigator enables central notification of new WAGO software product versions.

After installation, the Navigator is fully integrated into Windows messaging. This means that the user no longer misses updates. A direct interface to the Download Center makes the update process particularly easy – with just a mouse click!

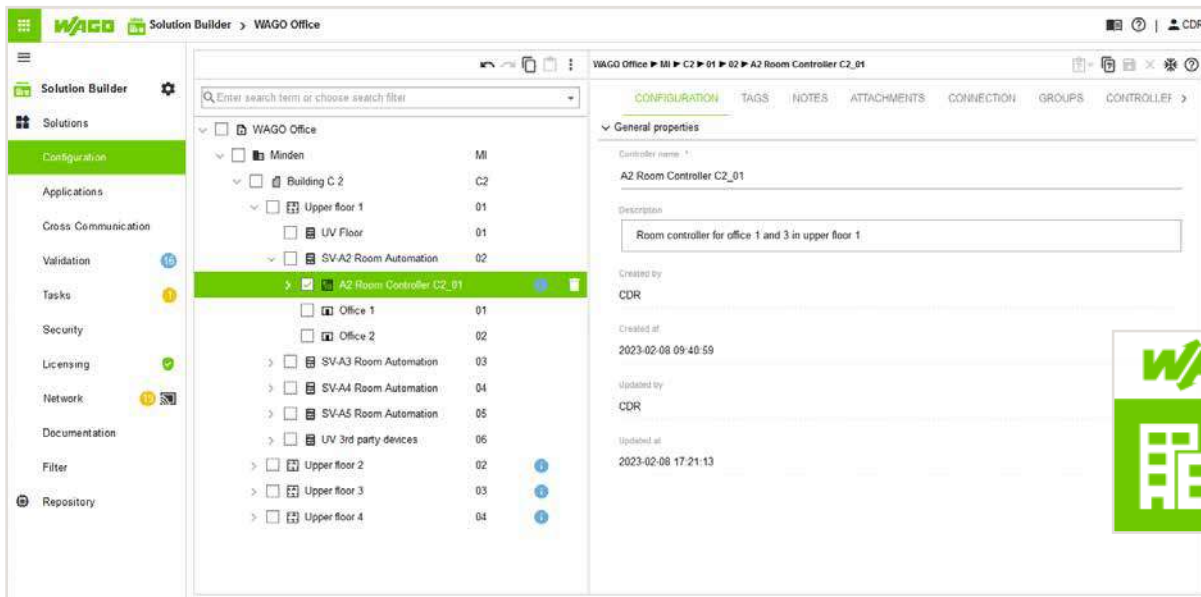
**WAGO Navigator and Download Center**  
<https://downloadcenter.wago.com>

|                             |  |
|-----------------------------|--|
| Supported browsers          | Google Chrome;<br>Microsoft Edge;<br>Mozilla Firefox |
| Navigator supply channel    | Via WAGO Download Center                             |
| Supported operating systems | Windows 10 (64-bit), Version 1809;<br>Windows 11     |
| <b>System Requirements</b>  |  |
| Hard disk space             | 120 MB (+210 MB for .NET 6 Runtime)                  |

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## WAGO Solution Builder

### Efficient Engineering of Multi-Controller Projects



WAGO Solution Builder is an integrated and efficient software solution that optimally supports designers with hundreds of devices – especially in building automation.

The workflow is streamlined to separate full project creation in the office (offline) and commissioning on-site (online). All the project documentation can be generated with one mouse click. Applications can also be saved as templates for reuse. All user groups work together through the new software solution's central Web-based interface. This ensures a consistent workflow and lets you keep an eye on the whole building project.

The option of bulk data processing, even for projects with several controllers, also saves time and money.

The solution provides native support for customizable addressing systems for the project tree and the description of data points, so they are a fixed component of the project organization. That eliminates the need to create them later, which would take more time and money and be prone to errors.

Benefits at a glance:

- A clearly organized representation of the system on a Web interface
- An efficient workflow to save engineering time
- Intelligent bulk processing of data and devices helps prevent errors
- Comprehensive project documentation with one mouse click
- Efficient organization of (large) projects into solutions
- Working on a project in parallel
- Easy data transfer between employees
- Device management for many controllers, even for maintenance and service
- Complete controller commissioning workflow
- Configure applications without a programming background (IEC know-how) and transfer them to the device
- Easy basic cybersecurity protection for the controllers

| WAGO Solution Builder                         |                |   |                    |
|---|----------------|---|--------------------|
| Order Text                                    | License Type   | Description   | Item No.           |
| WAGO Solution Builder; User License; 1 year   | Single license | Allows use on one PC by one user with any number of solutions (projects).     | 2759-132/1119-1012 |
| WAGO Solution Builder; Site License; 1 year   | Site license   | Allows use on one server by any number of users, limited to one solution.     | 2759-132/1119-3012 |
| WAGO Solution Builder; Server License; 1 year | Server license | Allows use on one server by any number of users with any number of solutions. | 2759-132/1119-6012 |

The software can be used for free during its launch until October 2023. After that, you can activate WAGO Solution Builder by purchasing a license key.

|                             |   |
|-----------------------------|---|
| Supported operating systems | Windows 10 (x86, 64-bit)<br>Windows 11 (64-bit)   |
| <b>System Requirements</b>  | minimum/recommended   |
| Processor                   | 4 / 8 CPU cores   |
| Memory                      | 8 / 16 GB RAM   |
| Hard disk space             | 50 / 100 GB   |
| Graphics resolution         | 1366 x 768 / 1920 x 1080 pixels   |
| Supported devices           | PFC200 G2 (750-821x/xxxx-xxxx)<br>Touch Panel 600 (762-xxxx/8000-0002)<br>Edge Controller (752-8303/8000-0002)<br>Compact Controller 100 (751-9301)                             |
| Sales channel/delivery type | Via WAGO Download-Center (Link: <a href="https://downloadcenter.wago.com/">https://downloadcenter.wago.com/</a> )   |
| Additional information      | <a href="https://www.wago.com/us/automation-technology/discover-software/solution-builder">https://www.wago.com/us/automation-technology/discover-software/solution-builder</a> |

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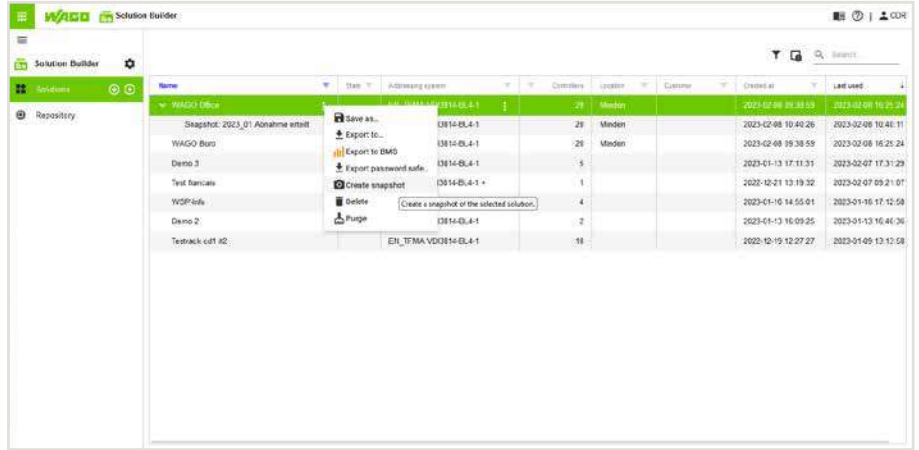
# WAGO Solution Builder

## A Holistic Multi-Project Approach

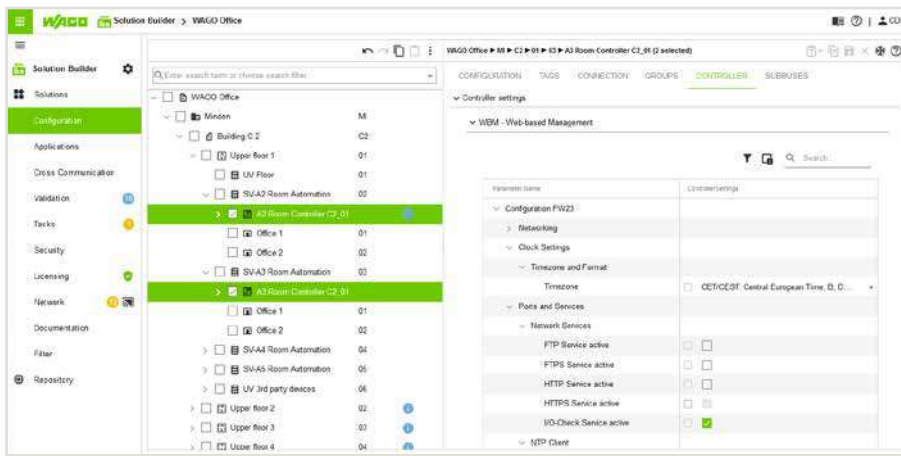
WAGO Solution Builder supports your project, from winning the contract, to commissioning, execution and documentation, all the way to periodic servicing and hardware and software maintenance. The software lets you create multiple building automation solutions in parallel and makes all the data available at all times.

Additional advantages:

- Easy data sharing between WAGO Solution Builder components through interfaces optimized for the workflow
- In addition to automation solutions, couplers, switches, field devices and third-party devices can be integrated into the cross-communication and documented as part of the solution.



2



## Offline Project Configuration – with Bulk Processing

WAGO Solution Builder was developed for processing large data volumes in building automation.

This has clear advantages for users:

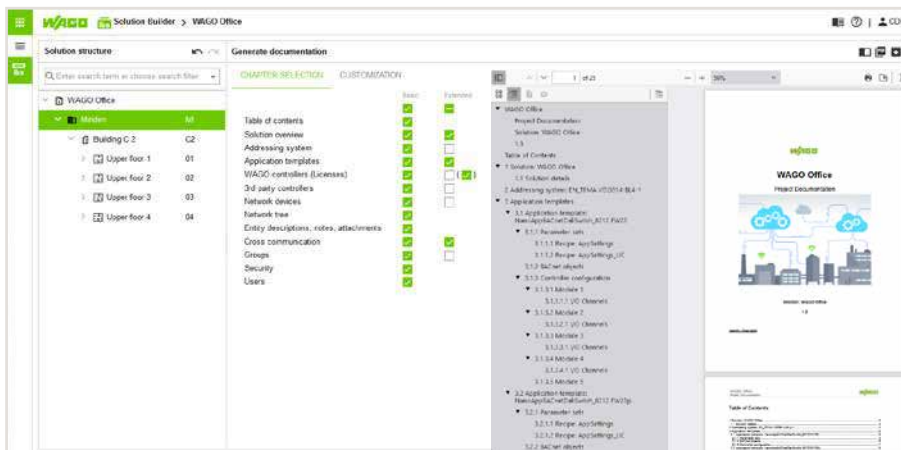
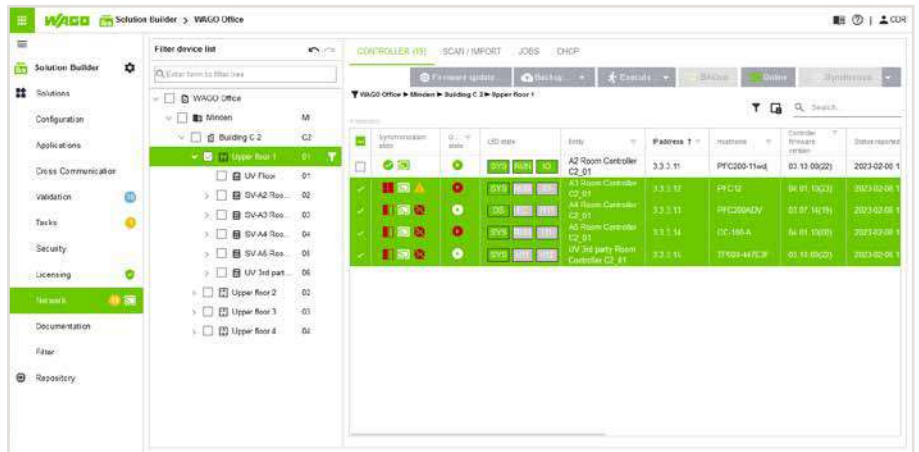
- Set up pattern structures in detail; when reproducing them, you then benefit from clever inheritance mechanisms and logical groupings.
- A solution can contain just a few automation stations or hundreds with thousands of data points.
- Many devices can be set in one step via multiple selection.

## Bidirectional Synchronization of the Project Data with the Controllers

When you create a solution with controllers offline, it is transferred to the devices on a job-by-job basis, including your settings and applications. The jobs are processed asynchronously in an outsourced service. What that means is:

- During the transfer process, you can continue to use WAGO Solution Builder without restrictions.
- If parameters on the controllers have been modified during operation, they can be read back in during the next synchronization.

This bidirectionality ensures that no settings get lost.



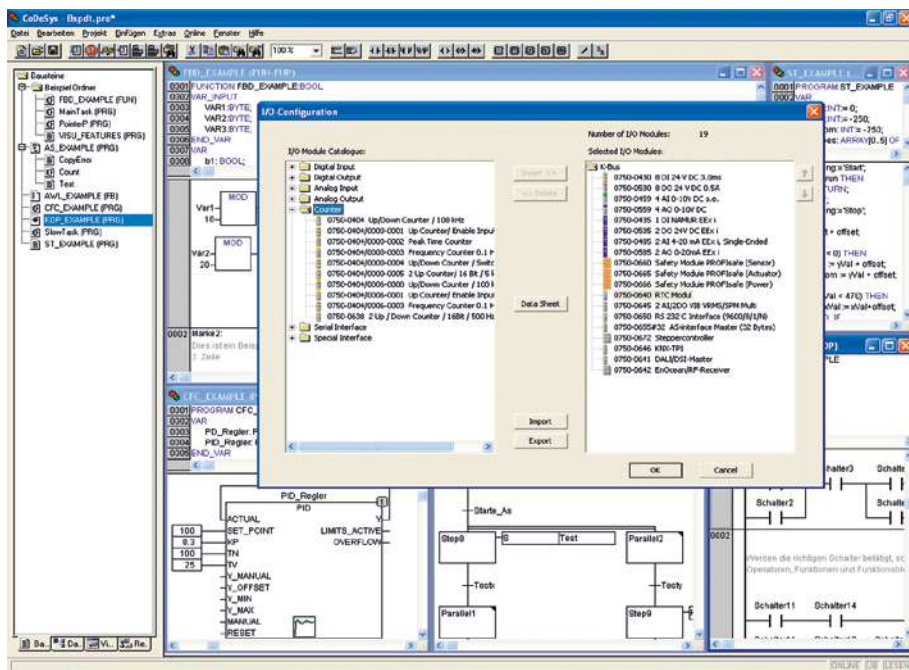
## Project Documentation in One Click

WAGO Solution Builder automatically creates the required project documentation with just one mouse click. You benefit from clear organization:

- All the information entered into the solution, such as IP addresses, applications, firmware versions or the hardware used, is output as a PDF in the project documentation.
- The project documentation layout and degree of detail are easy to customize.

# WAGO-I/O-PRO

## Engineering Software based on CODESYS V2.3



WAGO-I/O-PRO is a programming and visualization tool for control programs. This software is used to develop PLC applications for the WAGO I/O System 750's controllers.

WAGO-I/O-PRO runs in compliance with the IEC 61131-3 standard, which specifies the requirements for a programming system. The IL, SFC, LD, FBD and ST programming languages are supported. The optimal programming language can be chosen for each application.

With extensive programming functions, the software readily meets the increasing demands on control program development, e.g., reusability and modularization.

- Efficiently translate between programming languages
- Automatic variable declaration
- Library management

Integrated test and diagnostic functions also streamline and accelerate the steps for implementing PLC projects.

- Online status display using the program code
- Offline simulation
- Integrated process visualization
- Record and graphically display project variables

WAGO-I/O-PRO also offers the option of programming your existing products from other manufacturers within the CODESYS automation alliance in addition to WAGO's standard programmable CODESYS automation alliance products.

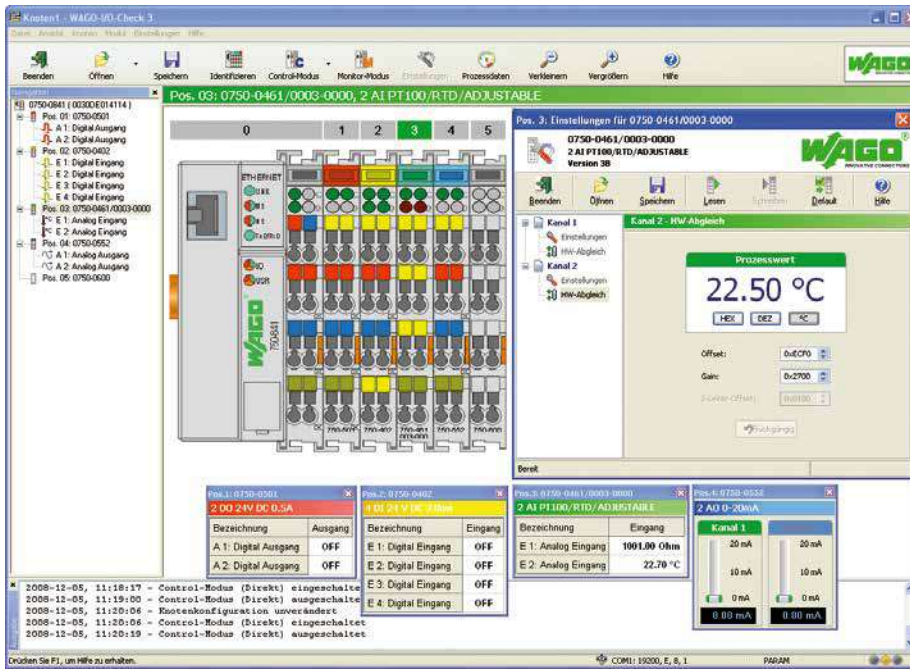
### WAGO-I/O-PRO

| Version    | Delivery Type                         | Item No.        |
|------------|---------------------------------------|-----------------|
| RS-232 Set | CD-ROM and serial communication cable | 759-333         |
| USB Set    | CD-ROM and USB communication cable    | 759-333/000-923 |

|   |  |
|---|--|
| Supported operating systems                     | Windows 7; Windows 10  |
| <b>System Requirements</b>                      |  |
| Processor                                       | 1 GHz or higher; 32-bit (x86) or 64-bit (x64)  |
| Memory  | 1 GB of RAM (min.)   |
| Hard disk space                                 | 300 MB (min.)  |
| Graphics resolution                             | 1024 x 786 (min.)  |
| Other system requirements                       | Open serial interface  |
| Delivery type                                   | Installation file (CD-ROM) or download link via WAGO Support possible  |
| For data sheet and additional information, see: | <a href="http://wago.com/759-333">wago.com/759-333</a><br><a href="http://wago.com/759-333/000-923">wago.com/759-333/000-923</a> |

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# WAGO-I/O-CHECK



WAGO-I/O-CHECK is an easy-to-use Windows application for operating and displaying a WAGO I/O System 750's node without connecting to a fieldbus system.

The software reads the configuration from the node and displays it graphically on the screen. This graphic can be printed together with a configuration list as documentation.

With WAGO-I/O-CHECK, it is possible to display and specify the process data of the I/O modules. The field wiring, including all sensors and actuators, can thus be checked before startup.

For some types of interface, Pt100 and thermocouple modules, application-specific settings can be made, such as the baud rate or sensor types.

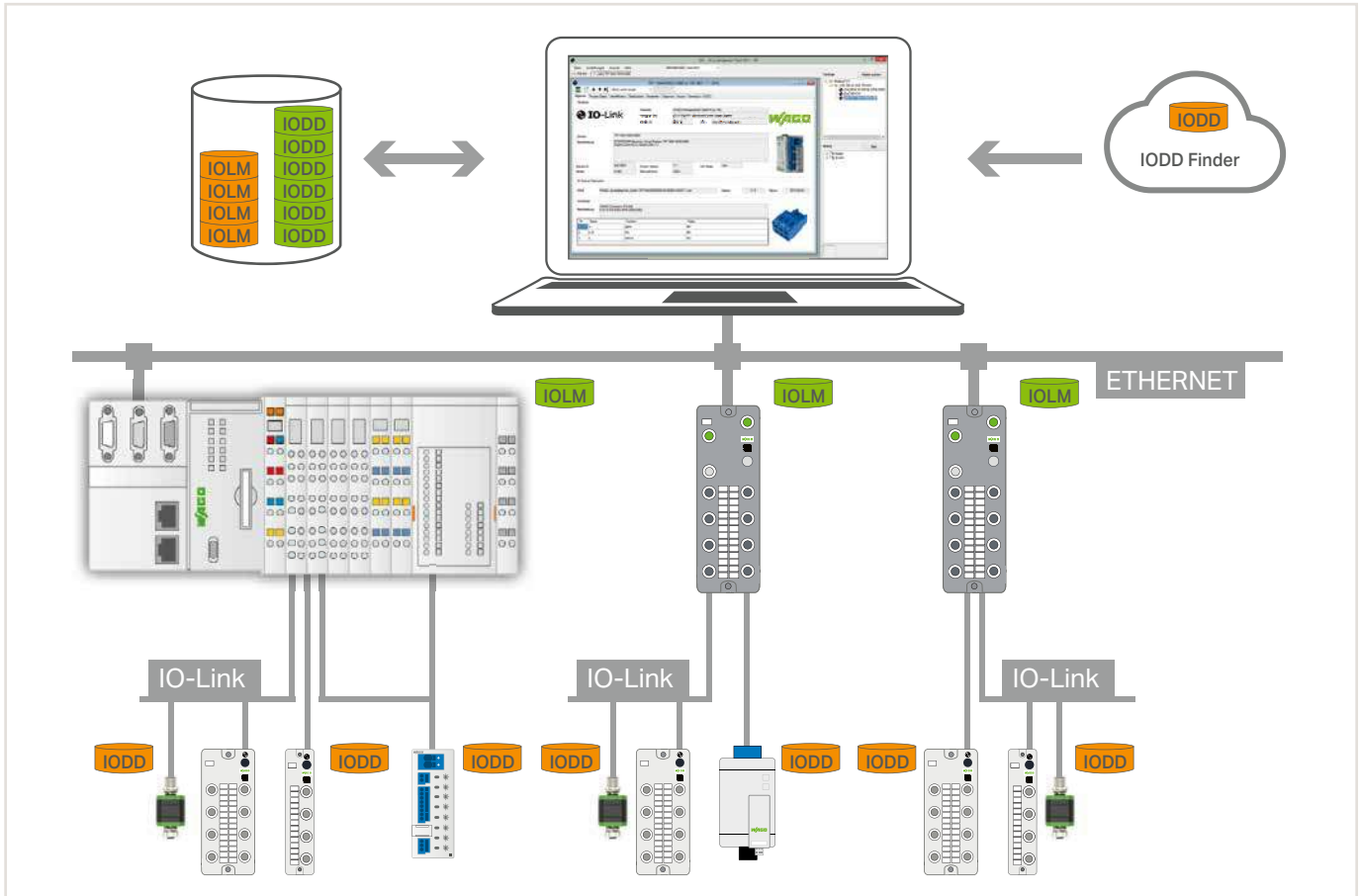
The coupler must be connected to a free serial or USB port of the PC using the communication cable supplied in the set with the system to enable communication between WAGO-I/O-CHECK and the node.

| WAGO-I/O-CHECK |                                       |                 | Supported operating systems                     | Windows 7; Windows 10                                  |
|----------------|---------------------------------------|-----------------|---|--|
| <b>Version</b> | <b>Delivery Type</b>                  | <b>Item No.</b> | <b>System Requirements</b>                      |  |
| RS-232 Set     | CD-ROM and serial communication cable | 759-302         | Processor                                       | 1 GHz or higher; 32-bit (x86) or 64-bit (x64)          |
| USB Set        | CD-ROM and USB communication cable    | 759-302/000-923 | Memory  | 1 GB of RAM (min.)                                     |
|                |                                       |                 | Hard disk space                                 | 150 MB (min.)  |
|                |                                       |                 | Graphics resolution                             | 1024 x 786 (min.)                                      |
|                |                                       |                 | Other system requirements                       | CD-ROM and mouse required                              |
|                |                                       |                 | Delivery type                                   | Installation file (CD-ROM)                             |
|                |                                       |                 | For data sheet and additional information, see: | <a href="http://wago.com/759-302">wago.com/759-302</a> |

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# WAGO IO-Link Configurator, WAGO-I/O-CHECK

2



The WAGO IO-Link Configurator enables configuration and parameterization, as well as operation and monitoring of WAGO IO-Link Masters in the WAGO I/O System 750 and WAGO I/O System Field and, in particular, the WAGO IO-Link devices connected to them.

Additionally, IO-Link devices from all third-party manufacturers can be completely configured and operated via the WAGO IO-Link Configurator, as long as they comply with the IO-Link specification. The process data of a product can be graphically visualized and stored in trend curves. Up to eight elements can be selected for visualization, and the data can be recorded for up to 24 hours.

Device description files for the IO-Link Masters (IOLM) or IO-Link Devices (IODD) can be used to integrate new devices into the tool at any time. Convenient access to the IODD finder of the IO-Link user organization is available for the IODDs. It allows an automated and selective download of IODDs when integrating new IO-Link devices.

WAGO IO-Link Configurator can be used either as a standalone program or integrated into engineering systems with a TCI interface and WAGO-I/O-CHECK.

An integrated IODD viewer allows detailed insight into the IODD device description.

The license is assigned to the respective PC on which it is installed (workstation license).

| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>WAGO IO-Link Configurator</b>  | <b>Item No.</b>    |
| Single License; Online Activation | 2759-106/1121-1000 |

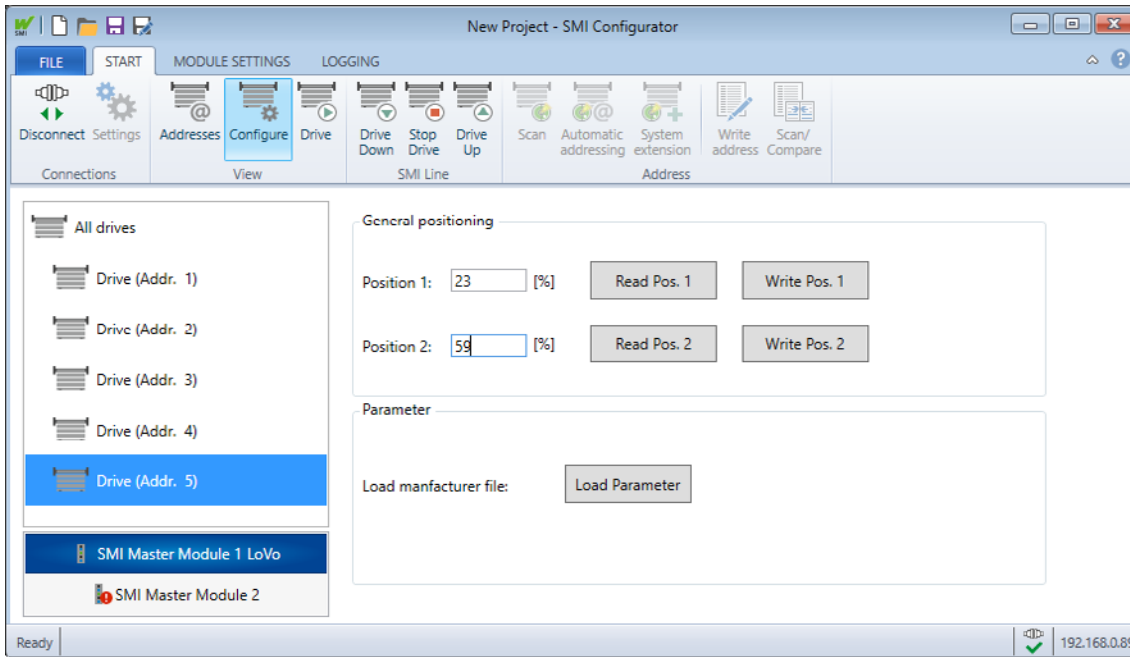
A single license allows installation on one device. Every additional device requires its own license.

|   |  |
|---|--|
| Operating system                                | Windows 7 or higher  |
| Memory  | 2 GB or larger   |
| Processor                                       | 1 GHz with 32 bits or 64 bits  |
| Free hard disk space                            | 150 MB   |
| Screen resolution                               | 800 x 600 pixels   |
| Delivery type                                   | License certificate by email   |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-106/1121-1000">wago.com/2759-106/1121-1000</a> |

Internet connection is required for license activation.



# WAGO SMI Configurator



The WAGO SMI Configurator is a parameterization software for SMI master modules. You can use the software to commission SMI drives that are connected to SMI master modules.

The SMI Configurator offers functions for commissioning and configuring SMI drives. Besides the online mode, in which you can control the SMI drives directly, you have the option of using the SMI Configurator in offline mode. This includes offline configuration of all SMI drives connected to available SMI master modules within a node, as well as saving and restoring SMI drive configurations from existing CSV addressing files.

You can directly transfer all module settings of an SMI master module to any number of additional SMI master modules with the "Transfer settings" function. Furthermore, you have the option of using the SMI Configurator to generate project documentation and display the log data of a selected SMI master module.

A scan function makes it possible to identify the SMI drives connected to an SMI master module and display the settings in the SMI Configurator. If SMI addresses are missing or there is an address conflict, you can use automatic addressing to assign a new SMI address to all drives automatically, or alternatively use system extension to resolve the address conflict and delete any missing SMI drives.

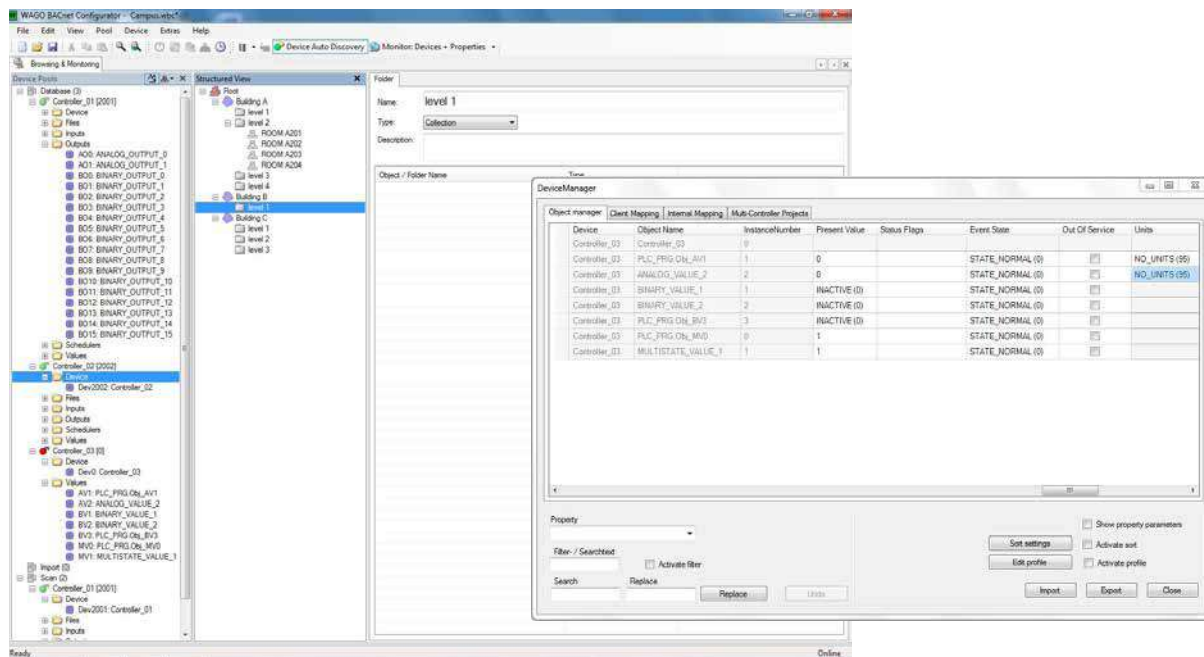
## WAGO SMI Configurator

Download: [www.wago.com](http://www.wago.com)

|                             |  |
|-----------------------------|--|
| Supported operating systems | Windows 7; Windows 10  |
| <b>System Requirements</b>  |  |
| Processor                   | 1 GHz (min.)   |
| Memory                      | 1 GB (min.)  |
| Hard disk space             | 20 MB (min.) for the SMI Configurator and 60 MB for the .NET Framework 4.0 |
| Other system requirements   | .NET Framework 4.0   |
| Delivery type               | Download   |

Windows® is a registered trademark of Microsoft Corporation.

## WAGO BACnet Configurator



The WAGO BACnet Configurator is an independent commissioning, configuration and management software program. The configurator fully supports the BACnet-specific functions of WAGO's 750-829, 750-830, 750-831 and 750-832, as well as the BACnet/IP PFC200 Controller (750-8212/000-100), which is programmed via *e!COCKPIT*.

The configurator creates and configures WAGO BACnet Controllers and sets up data exchange between the IEC application and BACnet objects. Import and export functions allow further processing of the configuration data.

For integration into existing BACnet networks, the BACnet devices available can be scanned and displayed in a browser; also, data exchange can be implemented for WAGO devices.

Among the configurator's capabilities are the logical structuring of the project and network, addressing of the controller and client/server configuration in every WAGO BACnet Controller.

The devices, objects and configuration data are displayed in a logical, structured network and browser view.

### WAGO BACnet Configurator

The WAGO BACnet Configurator can be downloaded for free at: [www.wago.com](http://www.wago.com)

Depending on the function used, both online and offline operation is possible.

The configurator displays all configuration data. To edit BACnet objects, the configurator offers specific table views in which the corresponding properties of the object can be modified. Typical table editing functions, e.g., search/replace, sort, filter and show/hide, are available. The user can upload the updated configuration data to one or more controllers and save as a project.

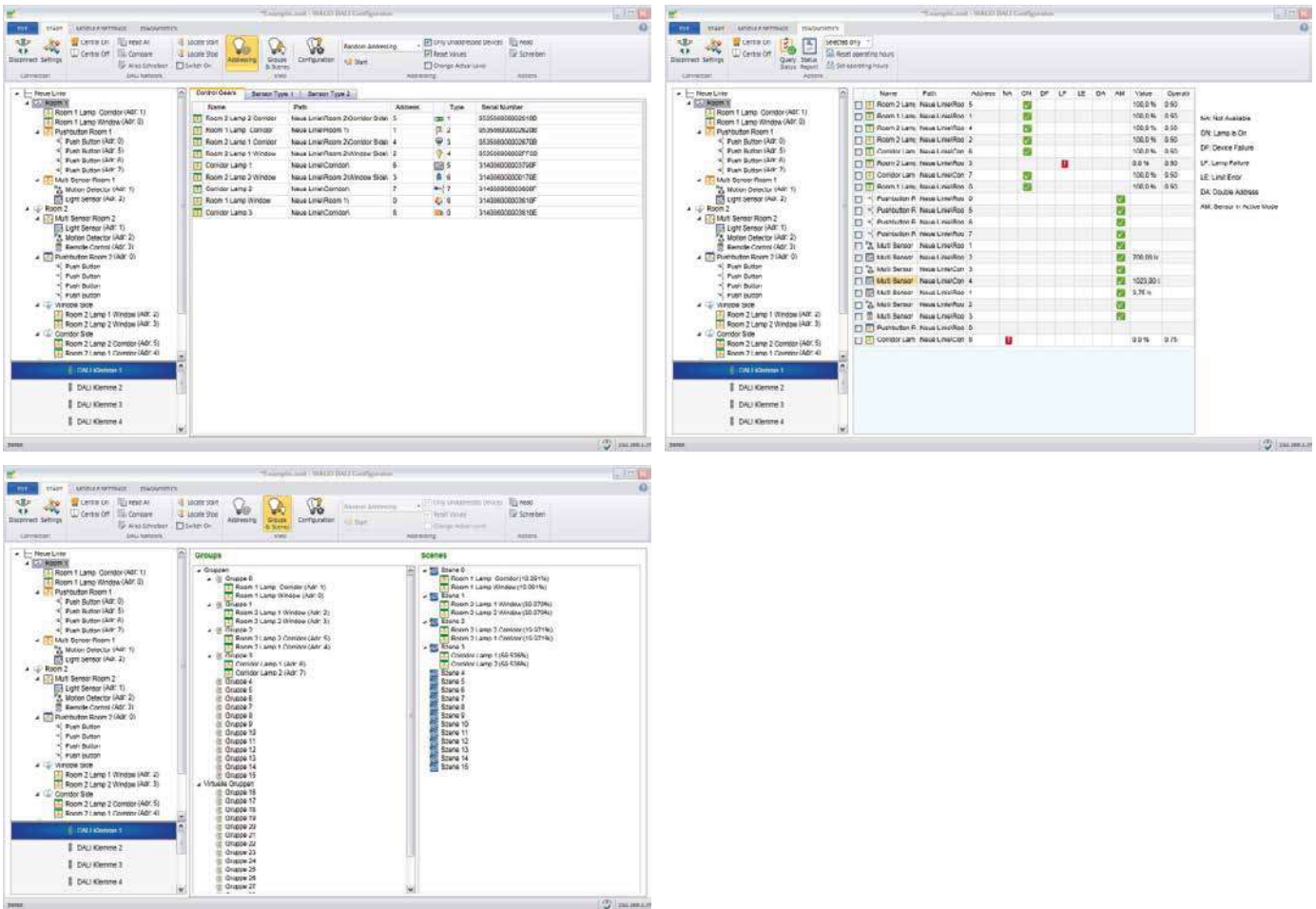
The configurator provides a browser to view the BACnet object properties and modify current parameters (communicate value changes, write property values, utilize BACnet services, etc.). Additionally, a transaction log window is available for client services.

Supported operating systems

Windows 7; Windows 10

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# WAGO DALI Configurator



2

The WAGO DALI Configurator simplifies commissioning of a DALI network via 753-647 DALI Multi-Master. The configurator is available as a stand-alone Windows application or for use with WAGO-I/O-CHECK Software.

It provides the following functions: easy commissioning, configuration, service, support and maintenance of a DALI network. Comprehensive backup & restore features, as well as an offline configuration option for the entire DALI network (including ECGs and sensors) are available.

### WAGO DALI Configurator

The WAGO DALI Configurator is available as part of WAGO-I/O-CHECK (Version 3.5.1 or higher) or as a stand-alone version ([www.wago.com](http://www.wago.com)).

### Features

#### Commissioning function

Stand-alone software or for use with WAGO-I/O-CHECK

Addressing, scenes and group formation; control gear configuration, optional offline configuration, import and export functions, project documentation

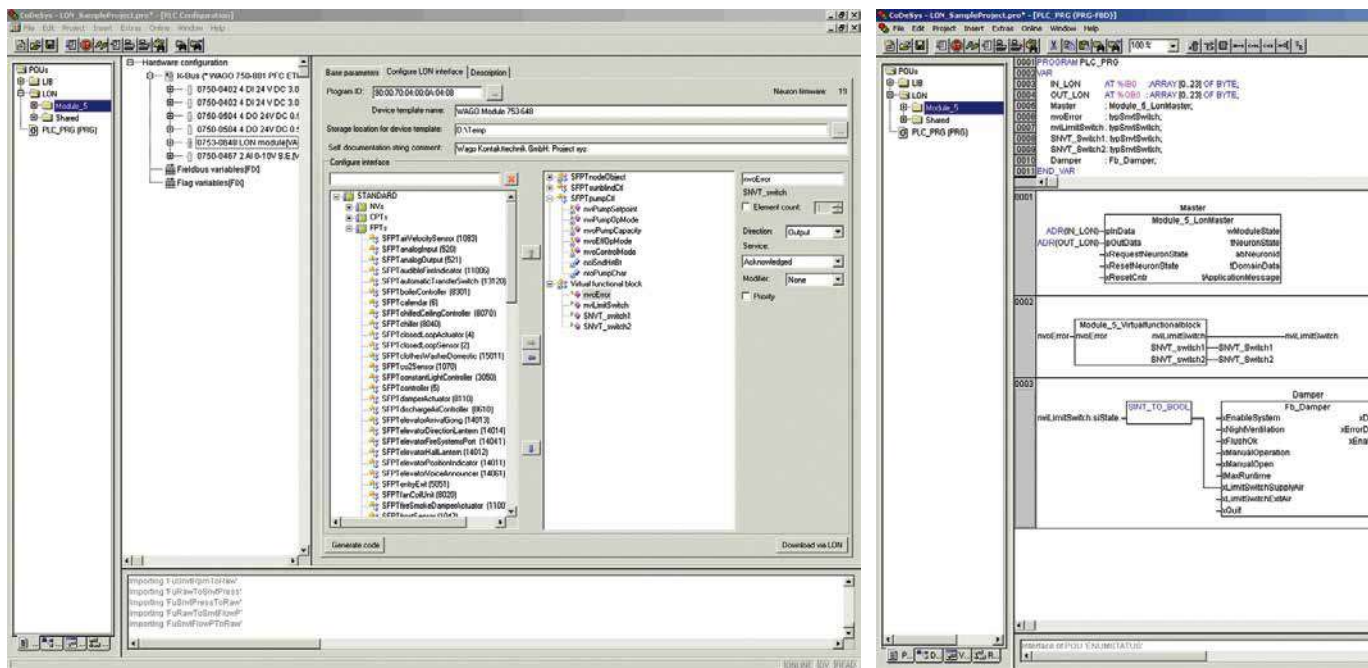
#### Service, support and maintenance functions

Backup & restore, reporting ECG illuminant failures, identification of doubled addresses, diagnostics report

#### Windows-compliant user interface

Multiple selection for time-optimized configuration and a clearly organized network display with tree structure support different commissioning workflows

## WAGO LON® Configurator



The WAGO LON® Configurator is an integral part of the WAGO-I/O-PRO IEC-61131-3 Programming Environment. The configurator supports both the 753-648 LON® Module's LonWorks® network interface configuration and WAGO-I/O-PRO project integration.

Network variables of any type can be defined. In addition to standard network variable types (SNVTs) and standard configuration property types (SCPTs), user-defined types (UNVTs/UCPTs) and LonMark® functional profiles (FPTs) are also supported. Network variables are defined using the types and objects of the LonMark® resources installed on your computer.

IEC-61131-3 function blocks are automatically created in the IEC application, simplifying operation. The function blocks represent the LON® network interface in the IEC application. When starting the controller, both network variable interface and configuration data are automatically downloaded into the I/O module.

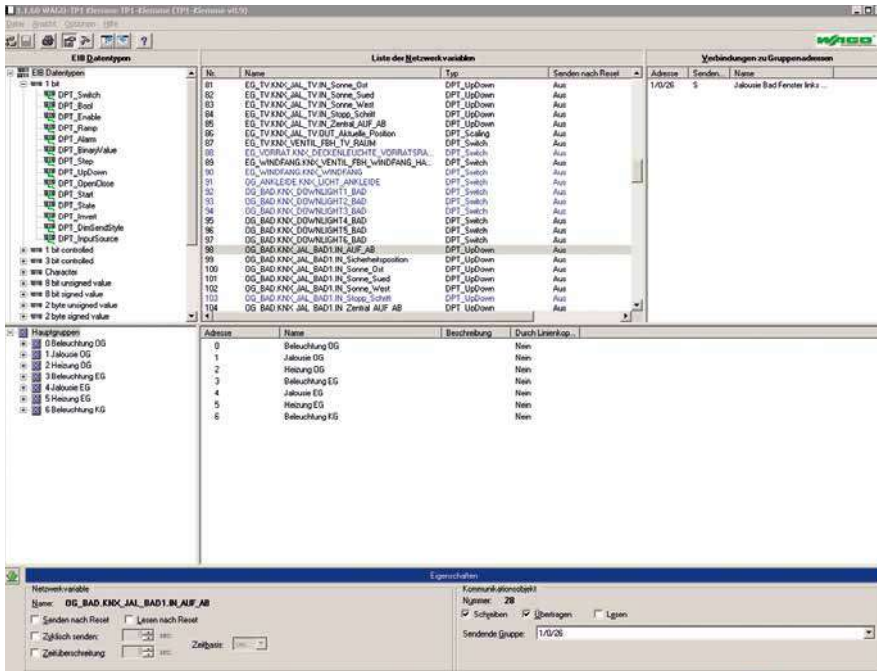
An external interface file (XIF) is created for offline configuration in a network management tool.

### WAGO LON® Configurator

The WAGO LON® Configurator is available as part of WAGO-I/O-PRO (Version 2.3.9.34 or higher)

- Integral part of WAGO-I/O-PRO programming software
- Defines and implements a LON® network interface
- Automatically generates IEC 61131-3 function blocks to represent the LON® network interface within an IEC application
- Downloads both network interface and configuration data when controller is started
- Configuration check and test
- Generates XIF files

# WAGO ETS Plug-in



2

The WAGO ETS Plug-in is a WAGO ETS product database extension that allows the use of WAGO devices, such as the 753-646 KNX/EIB/TP1 Interface, 750-889 KNX IP Controller and KNXnet/IP Router (consisting of KNX/EIB/TP1 Interface and KNX IP Controller).

The software's enhanced structure offers intuitive navigation – providing both new and experienced ETS users with exceptional usability.

The WAGO ETS Plug-in provides three clearly structured user interfaces for the various devices. Depending on the mode selected, either the KNX/EIB/TP1 Module, KNX IP Controller or the KNXnet/IP Router (IP Controller with KNX/EIB/TP1 Module in first position) are supported.

In the graphical interfaces, device parameters are easy to configure. Only the options pertaining to the selected device are displayed. During software development, creating a convenient and time-saving graphical user interface was heavily emphasized – and this is beneficial when assigning communication objects to group addresses. Two different drag-and-drop options and a context menu with automatic filter function are available allowing users to select their favorite procedure.

### WAGO ETS Plug-in

The WAGO ETS Plug-in can be downloaded for free at: [www.wago.com](http://www.wago.com)

Supported operating systems

Windows 7; Windows 10

Other

The plug-in requires the ETS product database.

Configuration

KNX/EIB/TP1 Module

Load/assign IEC variables (communication objects); Create/configure group addresses

KNX IP Controller

Allocate IP addresses; Download IEC application to controller; Load/assign IEC variables (communication objects); Create/configure group addresses

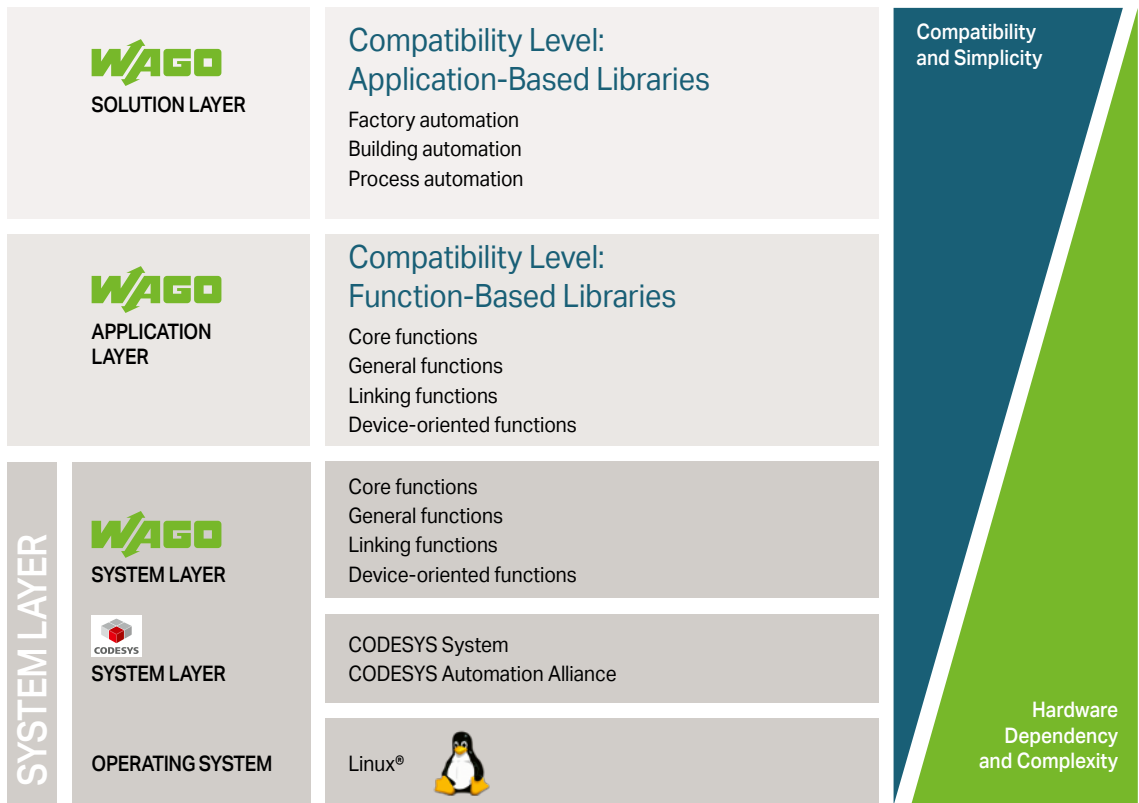
KNXnet/IP Router

Allocate IP addresses; Set routing multicast addresses; Filter/transmit telegrams

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# Runtime Software – Libraries based on CODESYS V3

2



### Runtime Software Controls the Machine

Machines and systems are controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems. Unlike engineering software, runtime software operates continuously – it is a part of the machine and ensures correct operation.

### Ready-to-Use Function Blocks Save Development Time

Comprehensive, tried-and-tested software function blocks (IEC libraries) expedite development. Thus, CODESYS is supplemented with comprehensive IEC libraries.

Essentially, the libraries are divided into three abstraction layers: The solution layer primarily contains complete, easy-to-use software solutions for production, building and process automation.

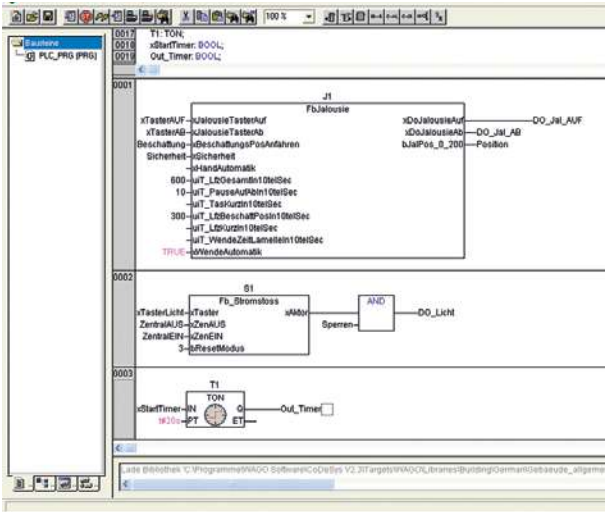
The application layer contains technology functions, e.g., for communication, that are ideal for convenient, easy application. The system layer provides experts with complete system access.

The upper layers are separated by compatibility levels. Essentially, this enables software to be developed independently of the hardware it will be used on. This provides the greatest degree of flexibility in selecting the right device for the right application, while retaining a uniform software base. It also provides investment security.

**Function Modules and Libraries**  
available in the WAGO Download Center

# Runtime Software – Libraries

## WAGO-I/O-PRO (based on CODESYS V2.3)



2

### Room Applications

Integrated into WAGO-I/O-PRO Software

This library contains custom function blocks for building automation, which accelerate the programming of building applications.

- Lighting
- Dimming
- Lighting scenes
- Constant light control
- Sun protection
- Shading
- Other applications

**Application note**

**Macro KNX/DALI – Dimming Actuator**

Version: 12.05.2016

**Application note**

**WAGO-I/O-SYSTEM 750  
DALI Multi-Master Module  
753-647**

Setting Up and Using the Configurations Options for  
DALI ECG,  
DALI Sensor Types 1/2 and DALI Standard Sensors

Version 1.0.2 from 29.04.2019

### Application Notes

Download: Current application notes available at:  
[www.wago.com](http://www.wago.com)

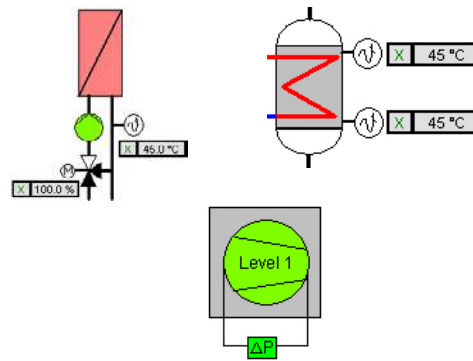
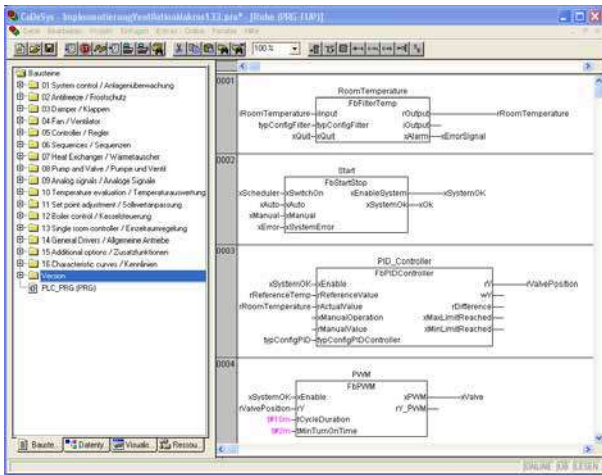
The application notes contain function blocks (FBs) for communication applications.

- KNX/EIB
- DALI
- EnOcean Radio Technology
- Modbus
- M-Bus
- MP-Bus
- SMI
- LonWorks®
- Email
- SMS
- Other applications

# Runtime Software – Libraries

## WAGO-I/O-PRO (based on CODESYS V2.3)

2



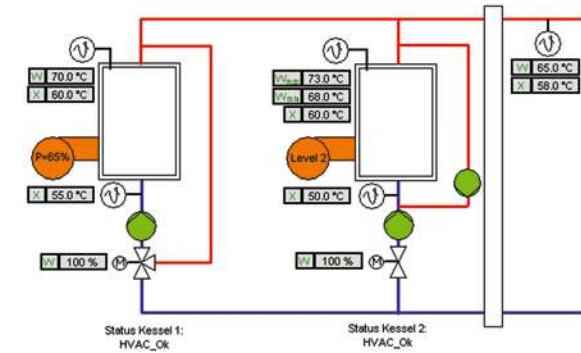
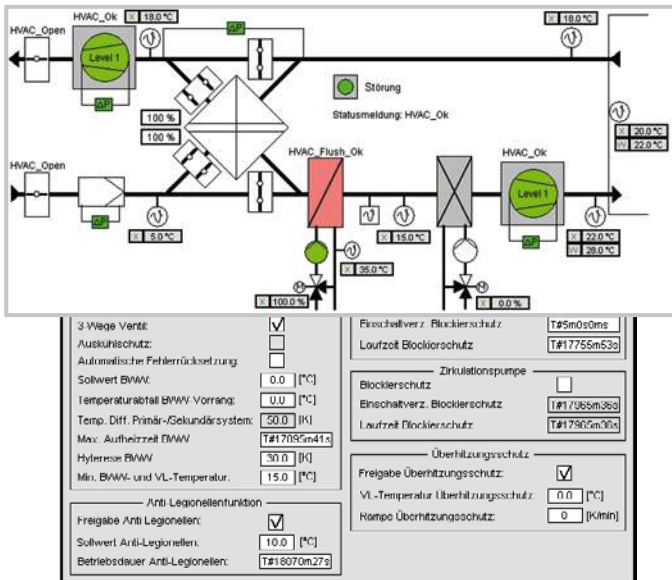
Graphical elements for HVAC applications

### Heating, Ventilation, Air Conditioning

Integrated into WAGO-I/O-PRO Software

This library contains function blocks (FBs) to create automation applications for complex heating, ventilation and air-conditioning (HVAC) systems.

These include: fault monitoring, starter circuits, monitoring frost protection systems, fan control (stepped/continuous), air mixture valve control, air heater/cooler control, cascade control of room/feed air temperature, free night cooling, summer/winter compensators, enthalpy calculations, PID controllers, filter monitoring, blockage protection, heating circuit control, heat recovery control, boiler control (stepped/continuous), boiler sequence, domestic hot water control, start/stop optimization, humidification and dehumidification (climate) and more.



Boiler sequence control

### System Macros

Download: Current application notes available at: [www.wago.com](http://www.wago.com)

- District heating transfer station macros
- Boiler macros
- Heating circuit macros
- Drinking water heating macros
- Ventilation macros



2

## Runtime; Multi-Cloud Connectivity

### Function:

MQTT is a powerful IoT protocol that has become standard in many industrial automation applications. Both PFC200 Controller (Generation 2) and Touch Panel 600 support an MQTT connection by default. "Multi-Cloud Connectivity" enables the parallel connection of a device to two different cloud systems, IoT platforms or MQTT brokers, allowing different tasks to be implemented in the appropriate cloud application. For example, device management can be performed within WAGO Cloud. At the same time, specific tasks can be implemented in another cloud-based solution, e.g., IBM Watson, Amazon Web Services (AWS) or other specialized IoT platform. Data can also be split up, allowing critical data to go to a local MQTT broker and less critical data to a cloud.

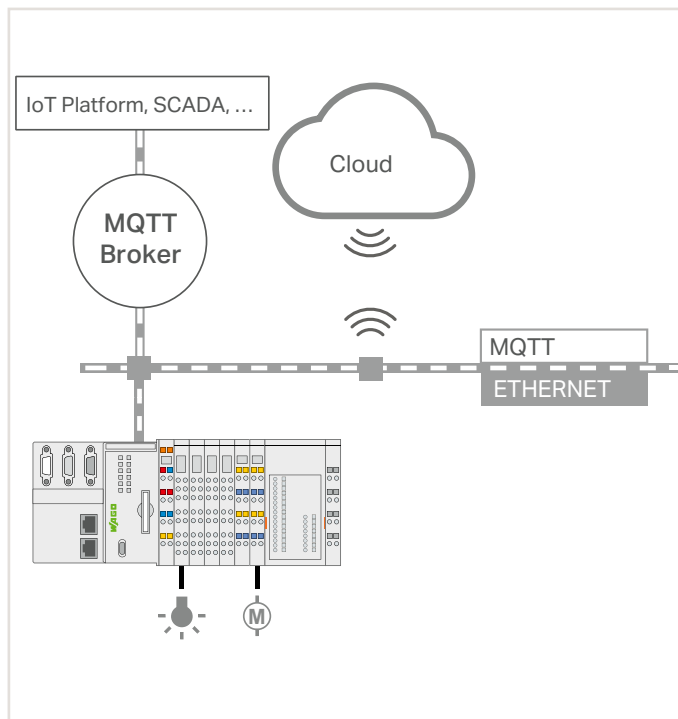
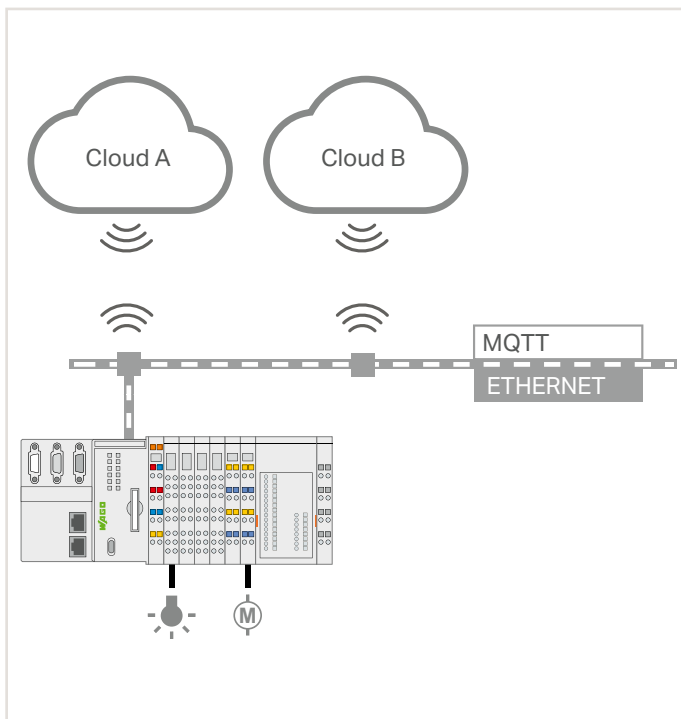
### Your Benefits:

- More options and flexibility
- Simple error analysis via configuration in WBM, programming in CODESYS
- Taking advantage of two cloud solutions/IoT platforms

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

2



| Item Description                         |                   |
|--|-------------------|
| <b>Runtime; Multi-Cloud Connectivity</b> | <b>Item No.</b>   |
| Single License; Online Activation        | 2759-248/211-1000 |
| Compatible Devices                       |                   |
| Controller PFC200; G2                    | 750-821x          |
| Compact Controller 100                   | 751-9301          |
| Touch Panel 600; Control Panel           | 762-x3xx/8000-002 |
| Edge Controller                          | 752-8303/8000-002 |

|   |  |
|---|--|
| Minimum firmware version                        | 17   |
| Delivery type                                   | License certificate by email   |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-248/211-1000">wago.com/2759-248/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS or the WAGOupload tool may be required for license activation. A single license allows installation on one device. One license per device is required.

Besides the basic controller variants listed here, the license can also be used on these controllers' variants. For details, see the product information of the corresponding controller.

For detailed information on the controllers and touch panels, go to: [www.wago.com/item-numbers](http://www.wago.com/item-numbers)

## Runtime; Sparkplug

**Function:**

MQTT is a powerful IoT protocol that has become standard in many industrial automation applications. WAGO's PFC200 Controller (Generation 2) supports the MQTT protocol and the Sparkplug specification that defines both topic and payload, allowing the controller to exchange data directly with Sparkplug-enabled systems (e.g., SCADA). This requires a license for the controller.

Configuration is performed via the controller's Web-Based Management and the variables to be transmitted or received are defined by the CODESYS Engineering Software and its library.

**Benefits:**

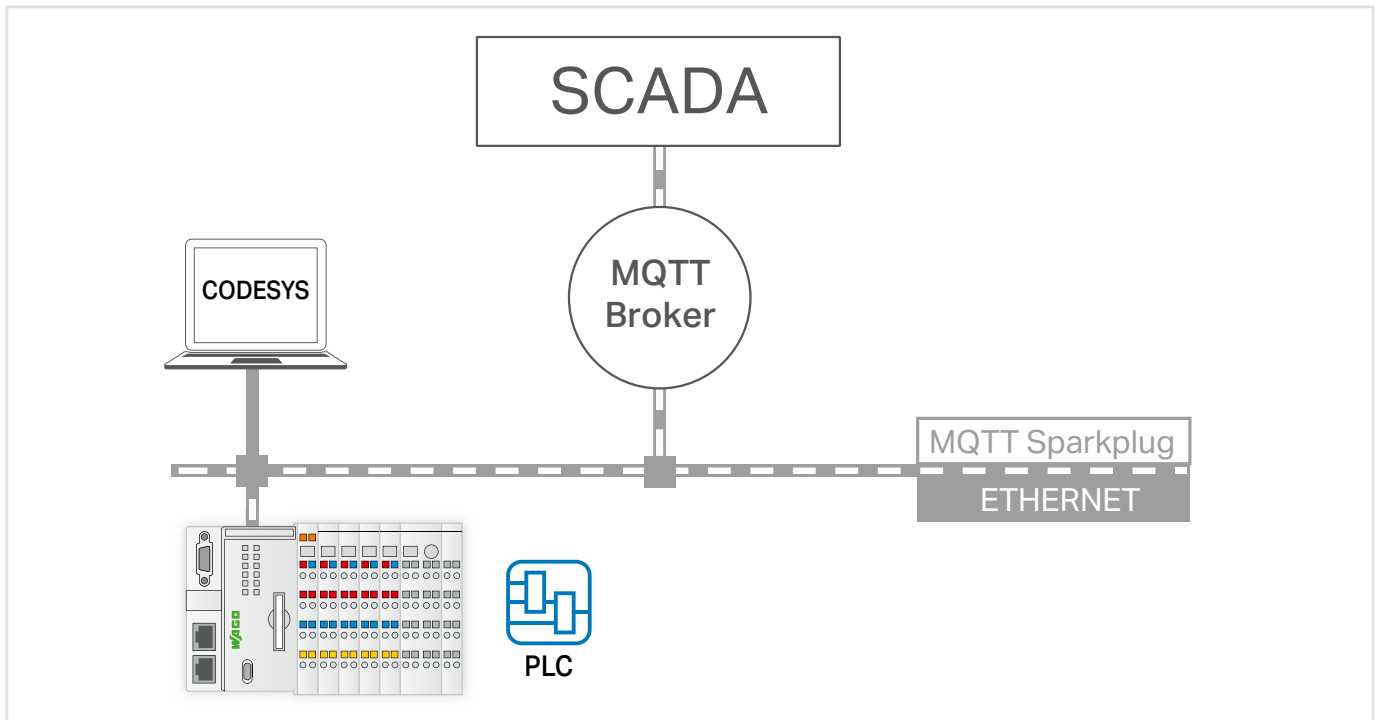
- The PFC200 communicates directly with Sparkplug-enabled systems (e.g., SCADA) without requiring any additional gateway.

**Use:**

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

**Technical Data:**

- Sparkplug B payload
- Publish data
- Subscribe to data



| Item Description                  |                   |
|-----------------------------------|-------------------|
| <b>Runtime; Sparkplug</b>         | <b>Item No.</b>   |
| Single License; Online Activation | 2759-247/211-1000 |
| Compatible Devices                |                   |
| Controller PFC200; G2             | 750-821x          |
| Compact Controller 100            | 751-9301          |
| Touch Panel 600; Control Panel    | 762-x3xx/8000-002 |
| Edge Controller                   | 752-8303/8000-002 |

|   |  |
|---|--|
| Minimum firmware version                        | 12   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-247/211-1000">wago.com/2759-247/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.  
 A single license allows installation on one device.  
 Every additional device requires its own license.

Besides the basic controller variants listed here, the license can also be used on these controllers' variants. For details, see the product information of the corresponding controller.  
 For detailed information on the controllers and touch panels, go to: [www.wago.com/item-numbers](http://www.wago.com/item-numbers)

## Runtime; MicroBrowser

### Function:

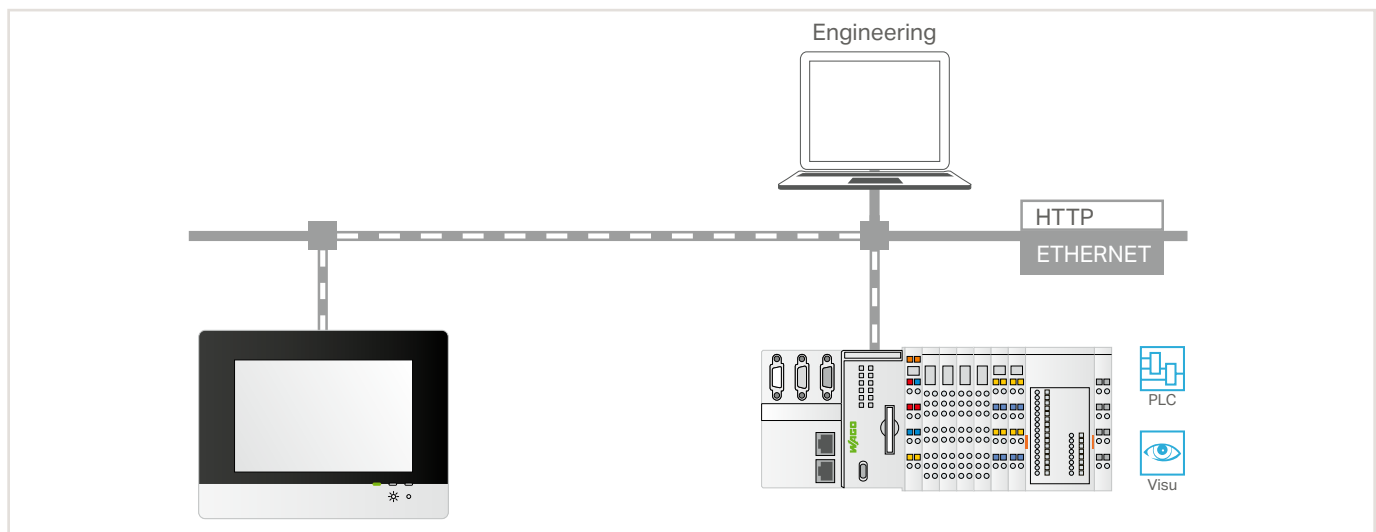
The MicroBrowser extends the application range of the Touch Panels 600. With the Runtime MicroBrowser license, each Touch Panel can also now display the Java-based visualization of CS2.3 Controllers.

### Benefits:

- MicroBrowser integration also allows the customer to use the powerful Touch Panel 600 in previous systems.

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.



| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; MicroBrowser</b>      | <b>Item No.</b>    |
| Single License; Online Activation | 2759-230/211-1000  |
| Compatible Devices                |                    |
| Touch Panel 600 Standard Line     | 762-4xxx/xxxx-xxxx |
| Touch Panel 600 Advanced Line     | 762-5xxx/xxxx-xxxx |
| Touch Panel 600 Marine Line       | 762-6xxx/xxxx-xxxx |

xx is a wildcard; the license applies to all Touch Panel sizes.

|   |   |
|---|---|
| Other required software                         | Firmware version 18 or higher (Touch Panel 600)                                   |
| Delivery type                                   | License certificate via email (the firmware already contains the software itself) |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-230/211-1000">wago.com/2759-230/211-1000</a>        |

An Internet connection to the PC that's equipped with CODESYS or the WAGOupload tool may be required for license activation. A single license allows installation on one device. One license per device is required.

# Runtime; BACnet/IP

**Function:**

"Building Automation and Control Networks" (BACnet) is a data transfer protocol for building automation that simplifies communication between products from different manufacturers. The PFC200 Controller (2nd generation) or WAGO Touch Panel can be operated as a BACnet building controller and supports the B-BC device profile with all major BACnet objects and interoperability building blocks (BIBBs). The device communicates via BACnet/IP and offers the functionality of a BACnet Client and BACnet Server.

To use BACnet/IP, it is necessary to equip the device with a license.

The BACnet network is configured using the WAGO BACnet Configurator and the Engineering Software.

**Benefits:**

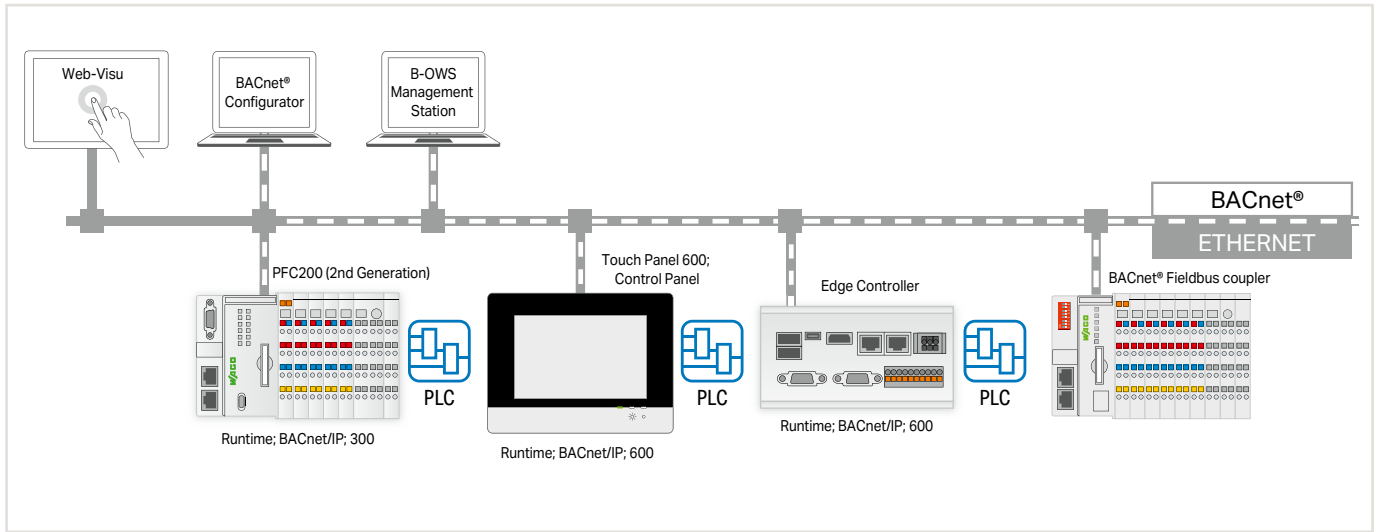
- Use the device as a BACnet Building Controller (B-BC)
- Control and detect distributed I/O signals from WAGO BACnet/IP Couplers via BACnet Fieldbus Protocol
- Data exchange with other BACnet Devices as a BACnet Client or Server

**Use:**

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

**Technical Data:**

See "Protocol Implementation Conformance Statement" (PICS)



| Item Description  |                    |
|---|--------------------|
| <b>Runtime; BACnet/IP; 300; without limitation of the BACnet objects*</b> | Item No.           |
| Single License; Online Activation   | 2759-283/211-1000  |
| <b>Runtime; BACnet/IP; 300; M; up to 256 BACnet objects</b>               |                    |
| Single License; Online Activation   | 2759-2283/211-1000 |
| <b>Runtime; BACnet/IP; 300; S; up to 48 BACnet objects</b>                |                    |
| Single License; Online Activation   | 2759-2273/211-1000 |
| <b>Compatible Controllers</b>   |                    |
| PFC200; G2; 4ETH  | 750-8210           |
| PFC200; G2; 2ETH 2SFP   | 750-8211           |
| PFC200; G2; 2ETH RS   | 750-8212           |
| PFC200; G2; 2ETH CAN  | 750-8213           |
| PFC200; G2; 2ETH RS CAN DPS   | 750-8216           |
| PFC200; G2; 2ETH RS; 4G   | 750-8217           |

| Item Description  |                    |
|---|--------------------|
| <b>Runtime; BACnet/IP; 600; without limitation of the BACnet objects*</b> | Item No.           |
| Single License; Online Activation   | 2759-286/211-1000  |
| <b>Runtime; BACnet/IP; 600; M; up to 256 BACnet objects</b>               |                    |
| Single License; Online Activation   | 2759-2286/211-1000 |
| <b>Runtime; BACnet/IP; 600; S; up to 48 BACnet objects</b>                |                    |
| Single License; Online Activation   | 2759-2276/211-1000 |
| <b>Compatible Devices</b>   |                    |
| Touch Panel 600 Standard Line   | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line   | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line   | 762-63xx/8000-002  |
| WAGO Edge Controller  | 752-8303/8000-002  |

|   |  |
|---|--|
| Minimum firmware version                        | Firmware (16), 2759-x283/211-1000, 2759-x286/211-1000<br>Firmware (18), 2759-x283/211-1000, 2759-x286/211-1000   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-0283/211-1000">wago.com/2759-0283/211-1000</a><br><a href="http://wago.com/2759-0286/211-1000">wago.com/2759-0286/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation. A single license allows installation on one device. One license per device is required.

BACnet® is a registered trademark of the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE).

\*Number of BACnet objects: without limitation – but depends on the application used

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

## Runtime; OPC UA Server Extended

### Function:

“OPC Unified Architecture” (OPC UA) is a platform-independent and service-oriented architecture. It is used to describe and transport data. Because the services are independent, devices from different manufacturers can be interconnected.

The OPC UA server can release PFC200 Series, Touch Panel 600 and Edge Controller runtime data to a product in the network when it meets the required preconditions. The device must have an ETHERNET interface that can be used for communication and have the memory capacity and processing time required by the server.

The “OPC UA Server Extended” license activates an extended range of functions for the OPC UA server.

### Extended functional range:

Mapping the “PLCopen” information model to any other information model.

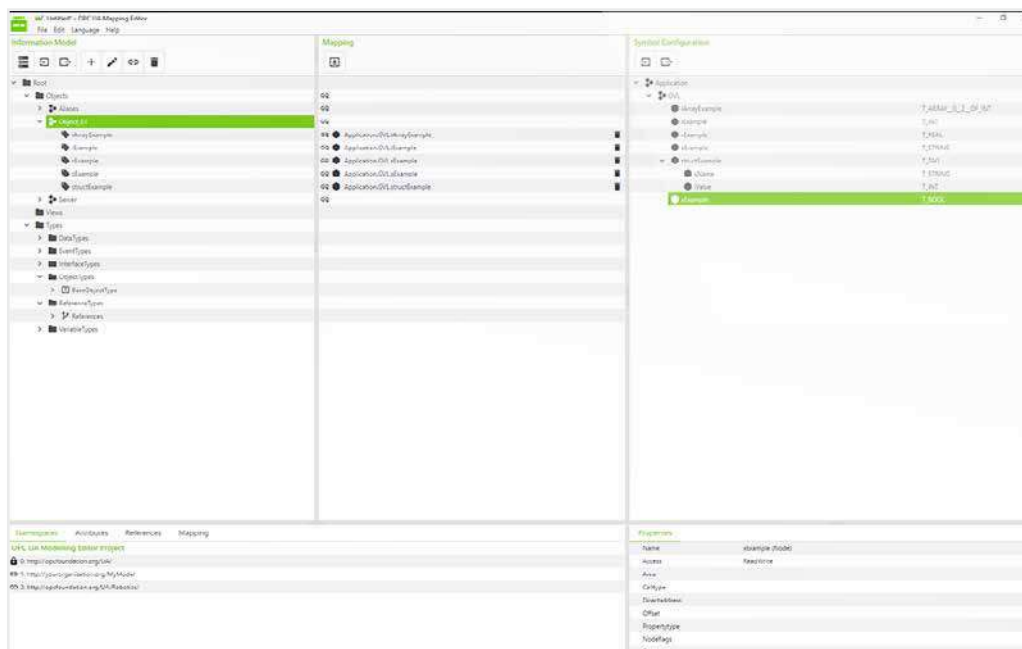
By default, WAGO controllers use the “PLCopen” information model to provide data for other applications. The OPC UA Mapping Editor can be used to map this information model to any other OPC UA model, for example, to OPC UA base models such as “Robotics” or “Euro-map77”.

To use other, arbitrary information models, it is necessary to equip the device with a license.

Mapping to other, arbitrary information models is performed via the WAGO OPC UA Mapping Editor.

### Benefits:

Mapping the “PLCopen” information model to any other information models



| Item Description                            |                    |
|---|--------------------|
| <b>Runtime; OPC UA Server Extended; 300</b> | <b>Item No.</b>    |
| Single License; Online Activation           | 2759-2233/211-1000 |
| Compatible Controllers                      |                    |
| PFC200; G2                                  | 750-821x/xxxx-xxxx |
| Item Description                            |                    |
| <b>Runtime; OPC UA Server Extended; 600</b> | <b>Item No.</b>    |
| Single License; Online Activation           | 2759-2236/211-1000 |
| Compatible Devices                          |                    |
| Touch Panel 600 Standard Line               | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line               | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line                 | 762-63xx/8000-002  |
| WAGO Edge Controller                        | 752-8303/8000-002  |

xx is a wildcard; the license applies to all Touch Panel sizes.

|   |  |
|---|--|
| Minimum firmware version                        | Firmware (18) Patch 3  |
| Delivery type                                   | License certificate per email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2233/211-1000">wago.com/2759-2233/211-1000</a><br><a href="http://wago.com/2759-2236/211-1000">wago.com/2759-2236/211-1000</a> |

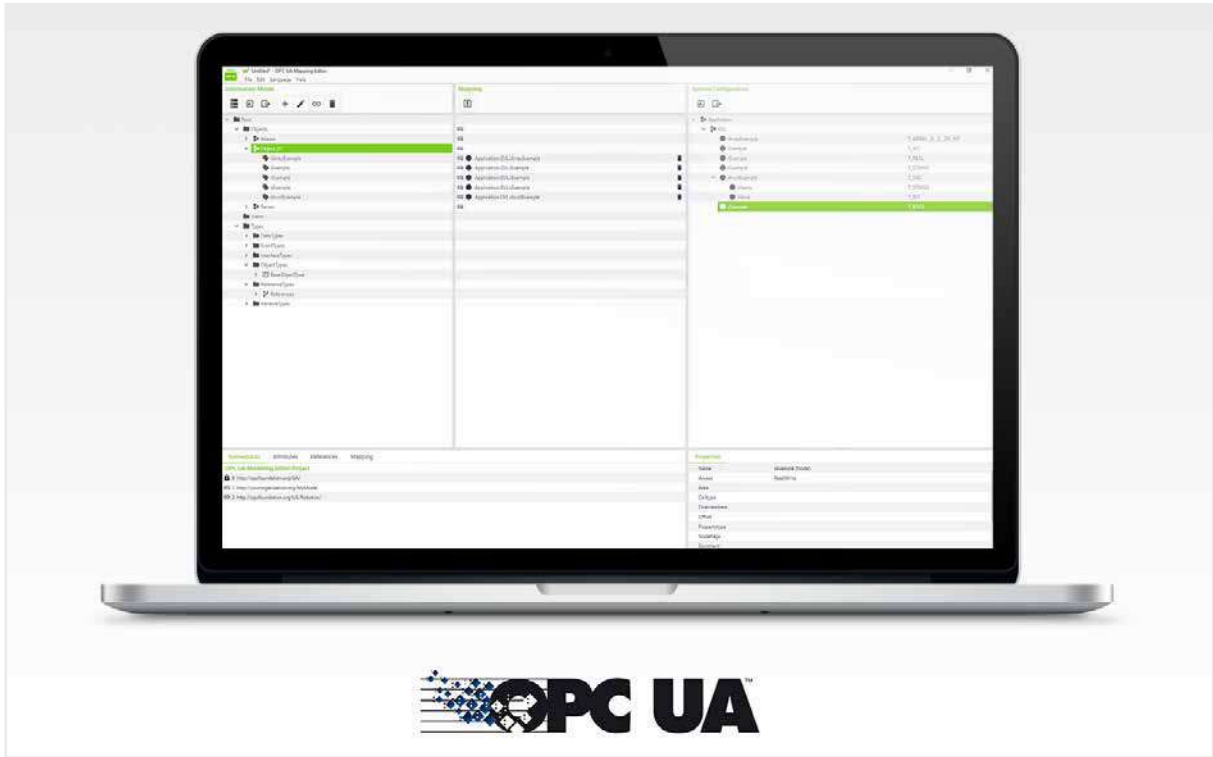
An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

A single license allows installation on one device.

Every additional device requires its own license.

OPC UA is a registered trademark of the OPC Foundation.

# OPC UA Mapping Editor



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**Functions:**

The OPC UA Mapping Editor for WAGO's Linux®-based controllers offers even greater flexibility for leveraging the benefits of OPC UA communication. These "companion specifications" have been defined to cope with the demands of different industries having similar products and machines. These specifications primarily describe information models.

The OPC UA Mapping Editor allows you to modify the information model that specifies how the WAGO OPC UA server provides the data; you can also map the data onto any information model. For this purpose, a symbol configuration is generated with CODESYS. After the symbol configuration is loaded, the variables are mapped to the newly created information model. Once the resulting mapping is loaded onto the controller, it's easy to implement OPC UA communication for different applications and performance demands. Customer-specific adaptations are also possible, even if they don't correspond to any particular specification.

Operation on the controller requires an "Extended" Runtime license for the WAGO OPC UA Server (2759-2233/211-1000 or 2759/2236/211-1000) on the device. Mapping Editor, which creates the information model, is free of charge.

**Benefits:**

- Adaptation of the information model provided by the OPC UA Server to any information model
- Flexible use of OPC UA

**Use:**

The OPC UA Mapping Editor has been developed for use on Windows 10-based systems.

| Item Description   |                   |
|--|-------------------|
| OPC UA Mapping Editor                                    |                   |
| Download: <a href="http://www.wago.com">www.wago.com</a> |                   |
| Supported Controllers                                    | Item No.          |
| 2nd Generation PCF200                                    | 750-821x          |
| TP600 Control Panels                                     | 752-430x          |
| Edge Controller  | 752-8303/8000-002 |

| System Requirements      |  |
|--------------------------|--|
| Operating system         | Windows 10   |
| Memory                   | 4 GB   |
| Free hard disk space     | 800 MB   |
| Processor                | Dual-core CPU  |
| Screen resolution        | Minimum: 1,366 x 768 pixels<br>Recommended: 1,920 x 1,080 pixels |
| Minimum firmware version | FW18 patch 3   |
| Delivery type            | Download   |

OPC UA Mapping Editor is free of charge. However, running it on a controller requires an "Extended" Runtime license for the WAGO OPC UA Server.

## Runtime; OPC UA Client

### Function:

OPC Unified Architecture allows you to exchange data securely between different devices. OPC UA is a manufacturer-independent communication protocol that defines semantic annotation in addition to data transmission. The WAGO OPC UA Client allows data from an OPC UA Server to be included in the IEC application. The interface to your application is a function block library, which is implemented according to PLCopen.

To use the OPC UA client, it is necessary to license the device.

### Benefits:

- Use the device as an OPC UA client
- Read/write OPC UA data points of an OPC UA server via the IEC application

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

### Technical Data:

The following PLCopen modules are supported:

- Connect and Disconnect
- namespaceGetIndexList
- NodeGetHandleList and NodeReleaseHandleList
- ReadList and WriteList



| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; OPC UA Client</b>     | <b>Item No.</b>    |
| Single License; Online Activation | 2759-2230/211-1000 |
| <b>Compatible Controllers</b>     |                    |
| Controller PFC200; G2             | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR        | 750-821x/0040-0000 |

|   |  |
|---|--|
| Delivery type                                   | License certificate per email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2230/211-1000">wago.com/2759-2230/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

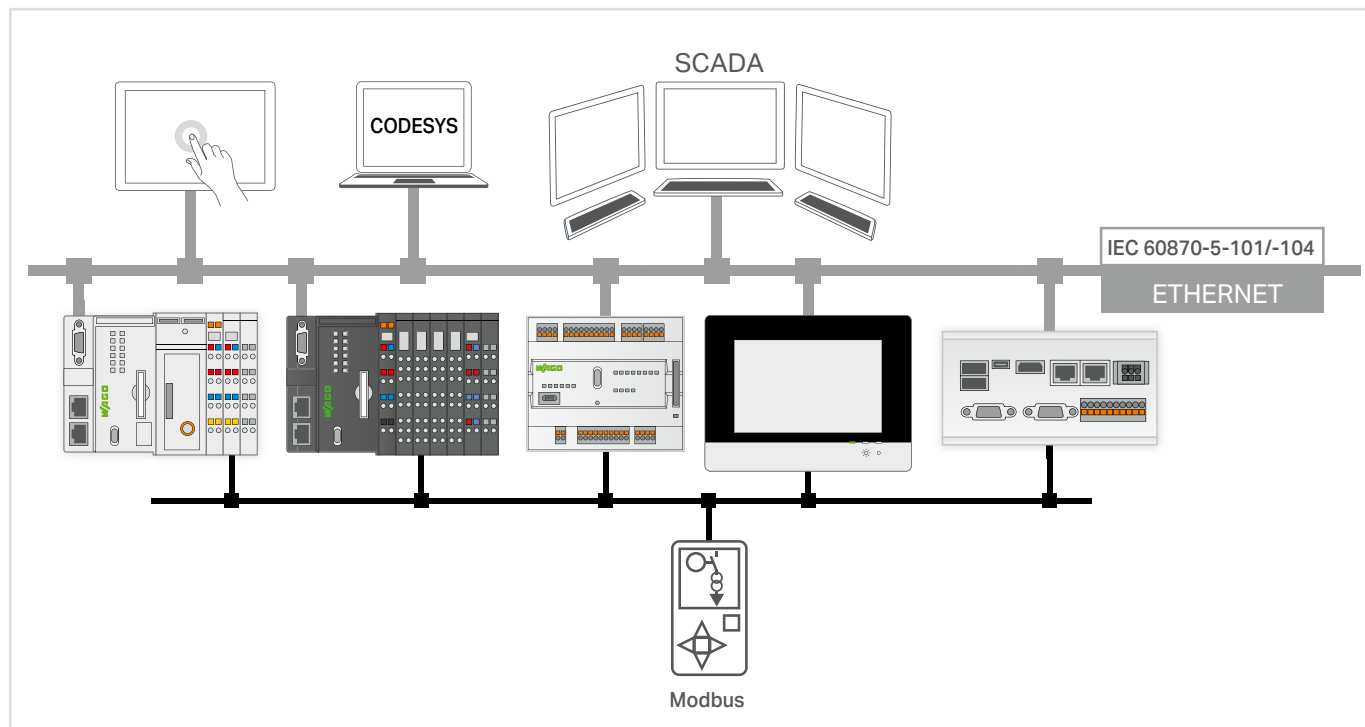
A single license allows installation on one device. Every additional device requires its own license.

OPC UA is a registered trademark of the OPC Foundation.



2

## Runtime; IEC 60870 Slave



### Function:

Communication according to the IEC 60870 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package. The configurator sets up IEC 60870 objects, while configuring data exchange to the PLC application or I/O modules. Import and export functions in CSV format allow configured data to be transmitted to other engineering tools. With this license, the IEC 60870-5-101 and -104 Protocols can be activated on the slave. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 60870-5-103 and data to be transmitted to the network control system via IEC 60870-5-104. The time on the telecontrol substation (slave) can be directly synchronized via either the IEC 60870 Protocol with object 103 or via (S)NTP. IEC 60870-5-101/-104 Information Objects can be used to monitor the direction of single, double and step messages – bit patterns, counter values, as well as normalized, scaled and floating-point measurement values can also be used. All information objects can be transmitted with or without a time stamp. This also applies to information objects in the control direction.

An IEC 60870-5-104 Slave can simultaneously maintain up to four connections to the control system (master).

### Your Benefits:

- Use the Controller as a telecontrol substation (slave) on an IEC 60870-5-101/-104 Control System (master).
- Create a gateway application to transfer data from IEC 60870-5-103 Protection Devices to an IEC 60870-5-101/-104 Control System.

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

### Technical Data:

See Section "Functionality of the WAGO Protocol Library according to IEC 60870-5-101, and -104" in Product Manual "Planning IEC 60870 with the Telecontrol Configurator"

| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; IEC 60870 Slave</b>   | <b>Item No.</b>    |
| Single License; Online Activation | 2759-290/211-1000  |
| <b>Compatible Controllers</b>     |                    |
| Controller PFC200; G2             | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR        | 750-821x/0040-000x |
| Compact Controller 100            | 751-9301           |
| Touch Panel 600 Standard Line     | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line     | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line       | 762-63xx/8000-002  |
| WAGO Edge Controller              | 752-8303/8000-002  |

|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-290/211-1000">wago.com/2759-290/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

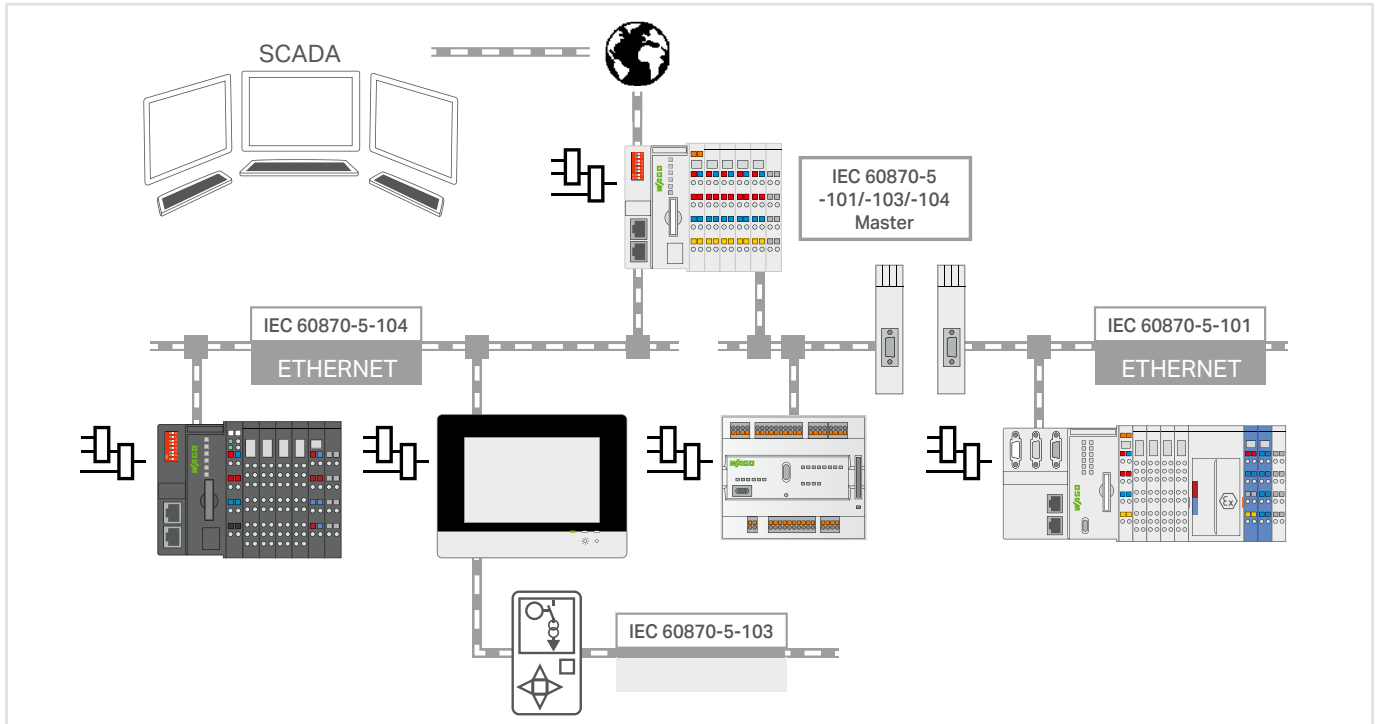
A single license allows installation on one device.

Every additional device requires its own license.

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

## Runtime; IEC 60870 Master



2

### Function:

Communication according to the IEC 60870 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package.

The configurator sets up IEC 60870 objects while configuring data exchange to the PLC application or I/O modules. Import and export functions in CSV format allow configured data to be transmitted to other engineering tools. With this license, the IEC 60870-5-101, -103 and -104 Protocols can be activated on the master. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 60870-5-103 and data to be transmitted to the network control system via IEC 60870-5-104.

IEC 60870-101/-104 Information Objects can be used to monitor the direction of single, double and step messages – bit patterns, counter values, as well as normalized, scaled and floating-point measurement values can also be used. All information objects can be received with or without a time stamp. This also applies to information objects in the control direction.

The IEC 60870-5 Master L can support connections to up to 16 IEC 60870-5 Slave Devices.

### Your Benefits:

- Use the WAGO controller as a telecontrol master to read data from IEC-60870-5-101/-104 Field Devices or IEC-60870-5-103 Protection Devices (slaves) and process it locally in the controller.
- Create a gateway application to use this master function to forward read data to a higher-level control system or cloud. This may require additional software licenses, such as the WAGO IEC 60870 Slave, DNP 3 Slave, Sparkplug or WAGO Cloud.

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

### Technical Data:

See Section "Functionality of the WAGO Protocol Library according to IEC 60870-5-101, and -104" in Product Manual "Planning the IEC 60870 Protocol with the Telecontrol Configurator"

| Item Description                   |                    |
|------------------------------------|--------------------|
| <b>Runtime; IEC 60870 Master M</b> | <b>Item No.</b>    |
| Single License; Online Activation  | 2759-293/211-1000  |
| <b>Compatible Controllers</b>      |                    |
| Controller PFC200; G2              | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR         | 750-821x/0040-000x |
| Compact Controller 100             | 751-9301           |
| Item Description                   |                    |
| <b>Runtime; IEC 60870 Master L</b> | <b>Item No.</b>    |
| Single License; Online Activation  | 2759-296/211-1000  |
| <b>Compatible Devices</b>          |                    |
| Touch Panel 600 Standard Line      | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line      | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line        | 762-63xx/8000-002  |
| WAGO Edge Controller               | 752-8303/8000-002  |

|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-296/211-1000">wago.com/2759-296/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

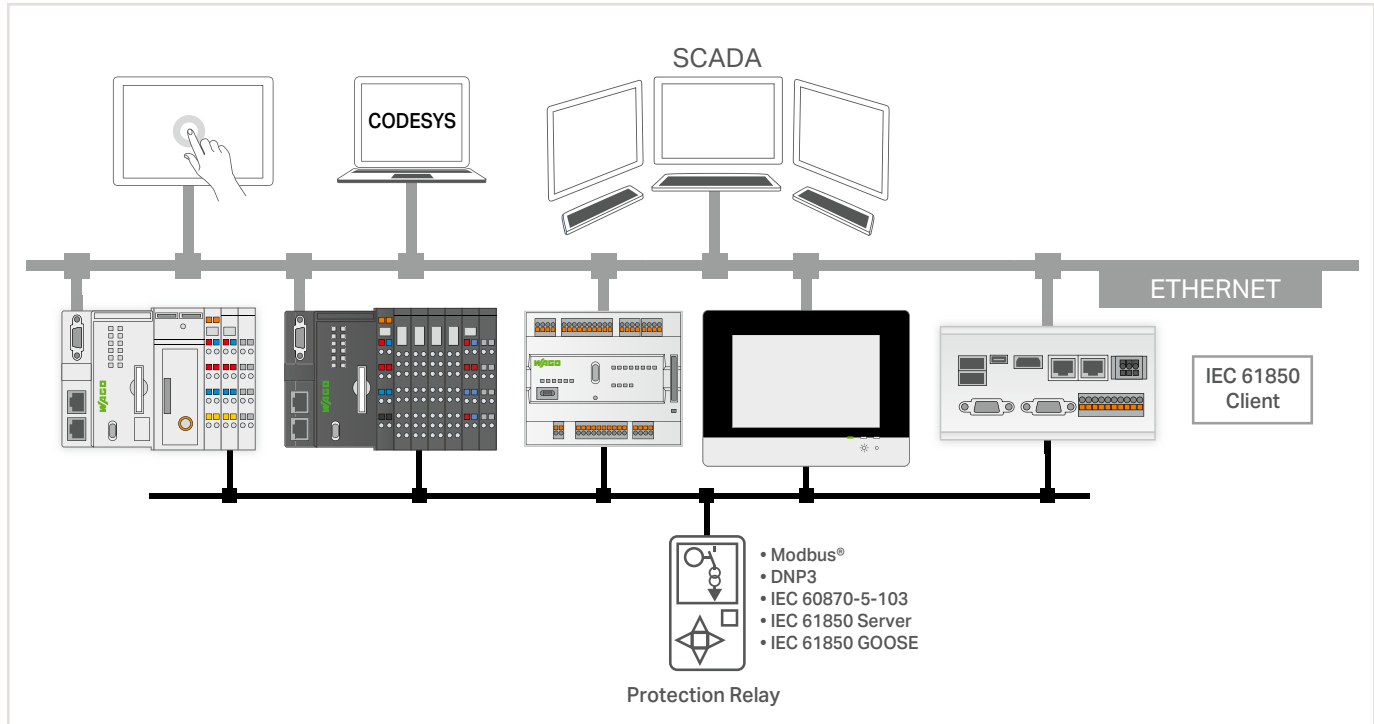
A single license allows installation on one device.

Every additional device requires its own license.

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

# Runtime; IEC 61850 Client



**Function:**

Communication according to the IEC 61850 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package.

The configurator sets up the reading of IEC 61850 object data from protection devices, for example. If the configuration of the third-party device is available in IEC-61850 SCL exchange format, it can be read in using the configurator's import functions. Alternatively, it is also possible to read the configuration from the third-party device using the configurator's online browsing function.

With this license, the IEC 61850 Protocol can be activated on the client. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 61850 and data to be transmitted to the network control system via IEC 60870-5-104.

The IEC 61850 Client processes data from up to four servers with each 10 requests.

**Your Benefits:**

- Use the controller as a telecontrol master (client) to read data from IEC 61850 Protection Devices (servers) and process it locally in the controller.
- Create a gateway application to use this client function to forward read data to a higher-level control system or cloud. This may require additional software licenses, such as the WAGO IEC 60870 Slave, DNP 3 Slave, Sparkplug or WAGO Cloud.

**Use:**

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

**Technical Data:**

See Product Manual "Planning the IEC 61850 Protocol with the Telecontrol Configurator"

| Item Description                   |                    |
|------------------------------------|--------------------|
| <b>Runtime; IEC 61850 Client M</b> | <b>Item No.</b>    |
| Single License; Online Activation  | 2759-2243/211-1000 |
| Compatible Controllers             |                    |
| Controller PFC200; G2              | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR         | 750-821x/0040-000x |
| Compact Controller 100             | 751-9301           |
| Item Description                   |                    |
| <b>Runtime; IEC 61850 Client L</b> | <b>Item No.</b>    |
| Single License; Online Activation  | 2759-2246/211-1000 |
| Compatible Devices                 |                    |
| Touch Panel 600 Standard Line      | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line      | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line        | 762-63xx/8000-002  |
| WAGO Edge Controller               | 752-8303/8000-002  |

|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2246/211-1000">wago.com/2759-2246/211-1000</a> |

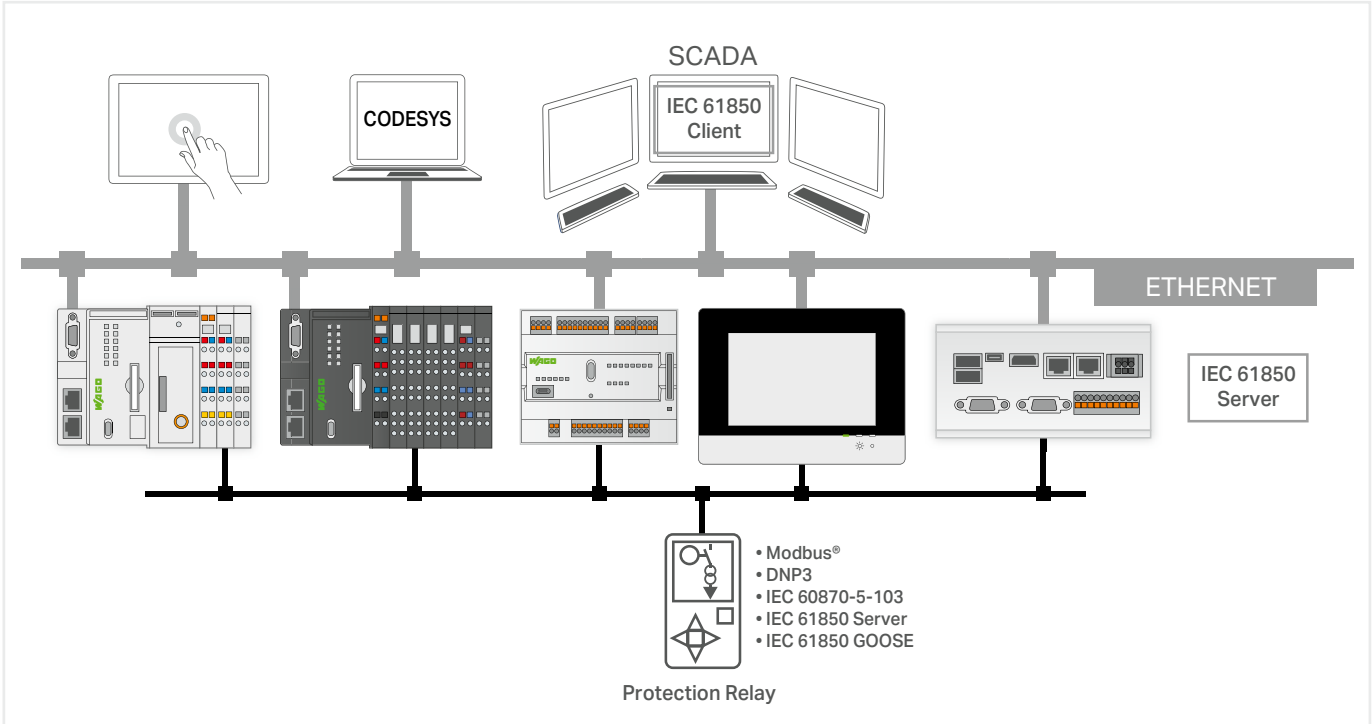
An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

A single license allows installation on one device. Every additional device requires its own license.

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

# Runtime; IEC 61850 Server



**Function:**

Communication according to the IEC 61850 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package.

The user can create the IEC 61850 object structure in the configurator or alternatively import it from a file in IEC 61850 SCL format. The created configuration can be re-exported in the SCL file format so that it can be read in the remote station of an IEC 61850 client. This saves time during engineering and avoids errors. For online communication, the IEC 61850 Server supports (un)buffered reporting in MMS\* format and GOOSE\* Publishing.

This license enables the IEC 61850 protocol on the server side. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 60870-103 and data to be transmitted to the network control system via IEC 61850.

**Your Benefits:**

- Create a gateway application to pass data from local I/Os or data read with other protocols to a higher-level IEC 61850 management system
- Transmission of the control information of a higher-level IEC 61850 control system to protective devices via GOOSE Publishing, IEC 60870-5-103 or DNP3. This may require additional software licenses, such as the WAGO IEC 60870 Master, DNP3 Master.

**Use:**

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

**Technical Data:**

See the product manual "Configuring the IEC-61850 Protocol."

\*MMS = Manufacturing Messaging Specification

\*GOOSE = Generic Object Oriented Substation Event

| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; IEC 61850 Server</b>  | <b>Item No.</b>    |
| Single License; Online Activation | 2759-2240/211-1000 |
| Compatible Devices                |                    |
| Controller PFC200; G2             | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR        | 750-821x/0040-000x |
| Compact Controller 100            | 751-9301           |
| Touch Panel 600 Standard Line     | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line     | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line       | 762-63xx/8000-002  |
| WAGO Edge Controller              | 752-8303/8000-002  |

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

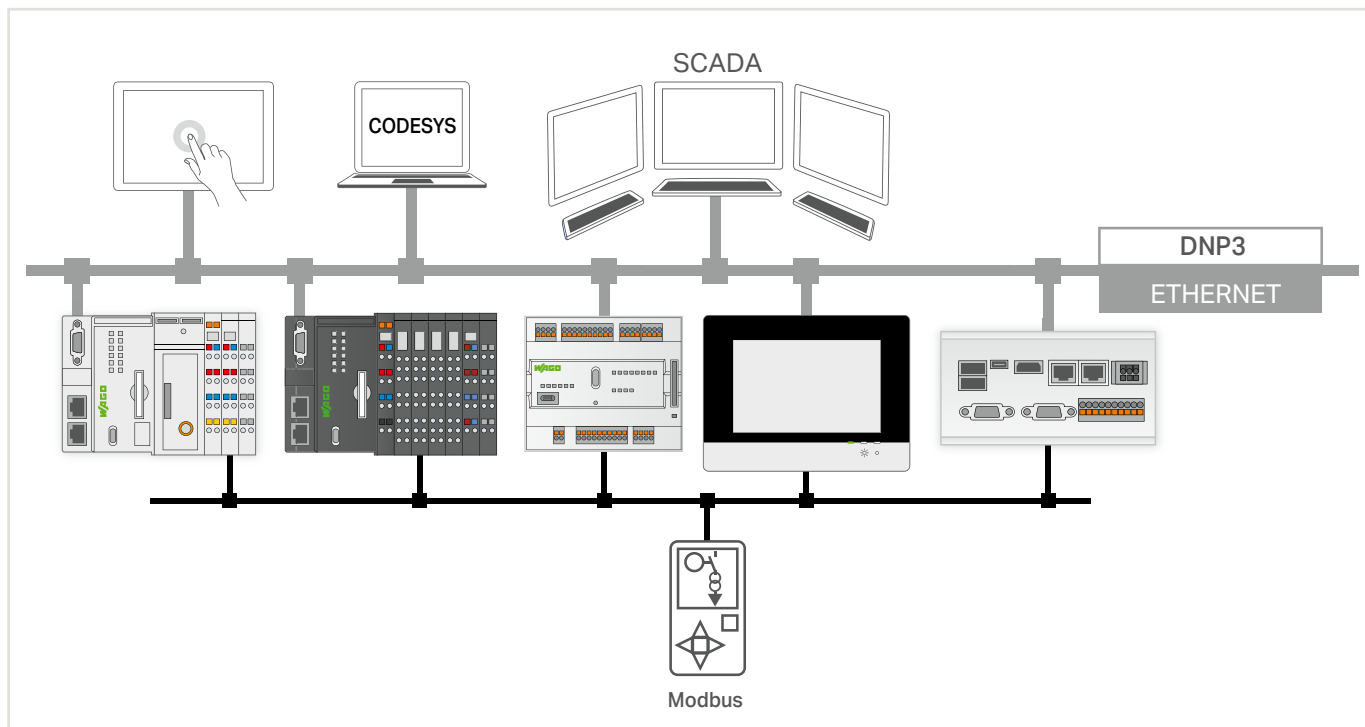
The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2240/211-1000">wago.com/2759-2240/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

A single license allows installation on one device. Every additional device requires its own license.

## Runtime; DNP3 Slave



### Function:

Communication according to the DNP3 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package.

With this license, the DNP3 Protocol can be activated on the slave. The configurator fully supports the DNP3-specific functions of all WAGO telecontrollers.

The configurator sets up DNP3 objects, while configuring data exchange to the PLC application or I/O modules. The settings can be imported and exported in DNP3 XML device profile format.

WAGO's telecontrollers can work as TCP, UDP and serial DNP3 slaves.

Cyclical time synchronization of the telecontrol substation (slave) can be performed by the master according to DNP3 Device Profile 1.7.2.

In the monitoring direction, the WAGO DNP3 Slave can send digital, analog and count values to the master. Both digital and analog values can be received in the control direction. Analog values can be processed in 16-bit, 32-bit or FLOAT format. Count values can be processed in 16-bit or 32-bit format.

### Your Benefits:

- Use the Controller as a telecontrol substation (slave) on an DNP3 Control System (master) via TCP, UDP or serially.
- Create a gateway application to transfer data, e.g., from Modbus® Field Devices to a DNP3 Control System.

### Use:

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

### Technical Data:

See the document "Runtime; DNP3 Slave Device Profile" on [www.wago.com](http://www.wago.com).

| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; DNP3 Slave</b>        | <b>Item No.</b>    |
| Single License; Online Activation | 2759-2290/211-1000 |
| <b>Compatible Devices</b>         |                    |
| Controller PFC200; G2             | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR        | 750-821x/0040-000x |
| Compact Controller 100            | 751-9301           |
| Touch Panel 600 Standard Line     | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line     | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line       | 762-63xx/8000-002  |
| WAGO Edge Controller              | 752-8303/8000-002  |

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels.

The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

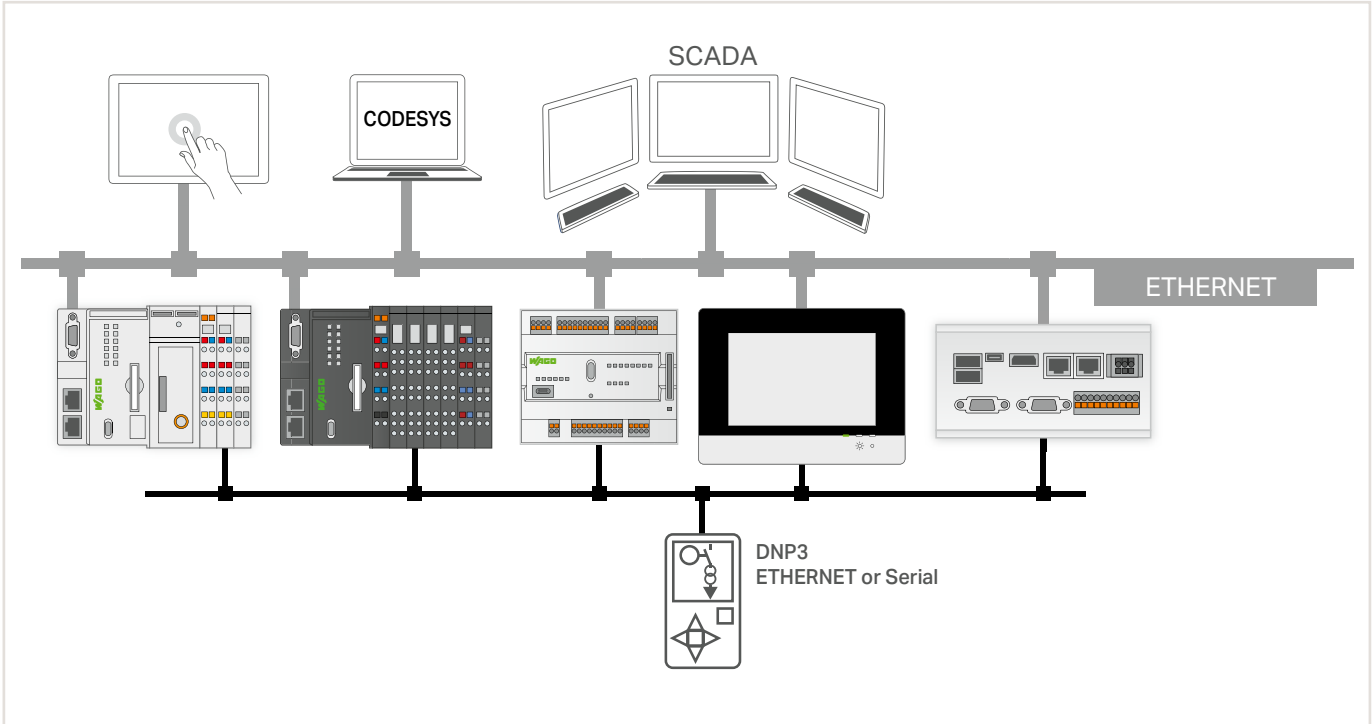
|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2290/211-1000">wago.com/2759-2290/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation.

A single license allows installation on one device.

Every additional device requires its own license.

# Runtime; DNP3 Master



**Function:**

Communication according to the DNP3 protocol can be conveniently parameterized with the configurator. For this purpose, the CODESYS development environment is extended by the WAGO Telecontrol Package. With this license, the DNP3 Protocol can be activated on the master. The configurator fully supports the DNP3-specific functions of all WAGO telecontrollers. The configurator sets up DNP3 objects while configuring data exchange to the PLC application or I/O modules. As an alternative to manually configuring connections to DNP3 Slaves, it is also possible to use a description file to import the configurations in the standard DNP3 XML device profile format.

In performance class L, the master can maintain connections for up to four DNP3 Slaves, thereby working as TCP or serial DNP3 Master. Up to 10,000 events from connected DNP3 Slaves can be saved in the controller's internal RAM or on the SD card.

In the monitoring direction, the WAGO DNP3 Master L can receive digital, analog and count values from the slave. Both digital and analog values can be sent in the control direction. Analog values can be processed in 16-bit, 32-bit or FLOAT format. Count values can be processed in 16-bit or 32-bit format.

**Your Benefits:**

- Use of the WAGO controller as a DNP3 Master to read and process data from DNP3 Slaves (field devices) via TCP, UDP or serially.
- Create a gateway application to transfer data from DNP3 Slaves (field devices) and other protocols (e.g., IEC 60870, Modbus®).

**Use:**

The license is registered in WAGO Upload and loaded onto a device. No other installation steps are required.

**Technical Data:**

See the document "Runtime DNP3 Master Device Profile" on [www.wago.com](http://www.wago.com).

| Item Description                  |                    |
|-----------------------------------|--------------------|
| <b>Runtime; DNP3 Master M</b>     | <b>Item No.</b>    |
| Single License; Online Activation | 2759-2293/211-1000 |
| <b>Compatible Controllers</b>     |                    |
| Controller PFC200; G2             | 750-821x/xxxx-xxxx |
| Controller PFC200; G2; XTR        | 750-821x/0040-000x |
| Compact Controller 100            | 751-9301           |
| Item Description                  |                    |
| <b>Runtime; DNP3 Master L</b>     | <b>Item No.</b>    |
| Single License; Online Activation | 2759-2296/211-1000 |
| <b>Compatible Devices</b>         |                    |
| Touch Panel 600 Standard Line     | 762-43xx/8000-002  |
| Touch Panel 600 Advanced Line     | 762-53xx/8000-002  |
| Touch Panel 600 Marine Line       | 762-63xx/8000-002  |
| WAGO Edge Controller              | 752-8303/8000-002  |

|   |  |
|---|--|
| Other required software                         | CODESYS V3.5 SP16 and higher   |
| Delivery type                                   | Licence certificate via email  |
| For data sheet and additional information, see: | <a href="http://wago.com/2759-2293/211-1000">wago.com/2759-2293/211-1000</a><br><a href="http://wago.com/2759-2296/211-1000">wago.com/2759-2296/211-1000</a> |

An Internet connection to the PC that's equipped with CODESYS may be required for license activation. A single license allows installation on one device. Every additional device requires its own license.

x/xxxx-xxxx or x/0040-000x is a placeholder, the license is also applicable for variants of the controllers and touch panels. The controllers 750-8212/025-001, 750-8212/025-002, 750-8212/040-001 and 750-8216/025-001 include the telecontrol licenses as delivered.

# WAGO WebVisu App

## For Mobile System Operation/Monitoring



2

With the WAGO WebVisu App, you can visualize web pages created for WAGO Controllers via CODESYS V2 or CODESYS V3. The app features both automated management and routing capabilities, allowing the website to be simply accessed via URL entry. The system or machine to be monitored can then be operated and monitored at any time on the go. You can define up to 100 controllers for direct and quick access via the URL.

The free WAGO WebVisu App is available in iOS for iPhones and iPads in the "Apple Store," and in Android for smartphones and tablets in the "Google Store."

Note: An overview of the supported WAGO Controllers, operating manuals and application notes can be found on our website.



QR Code for WebVisu App:

Simply scan the QR code with your mobile device, and you will automatically be directed to the Web-Visu app in "Apple Store" or "Google Play™."



Trademarks:

Apple, the Apple logo, iPhone, iPad and iPod touch are registered trademarks of Apple Inc. registered in the USA and other countries. "App Store" is a service mark of Apple Inc.



Google Play™ is a registered trademark of Google Inc.

**WAGO WebVisu App**  
Download: Apple Store or Google Store

|                                  |   |
|----------------------------------|---|
| <b>System Requirements</b>       |   |
| Operating system                 | iOS version 11 or later,<br>iPadOS 11.0 or later;<br>Android version 5.0 or later |
| Compatibility                    | iPhone; iPad and iPod touch;<br>Android smartphones and tablets                   |
| For additional information, see: | <a href="http://wago.com/webvisu">wago.com/webvisu</a>                            |



# WAGO I/O Field App

For Maintenance, Diagnostics, Operation and Monitoring of Installed WAGO I/O System Field Modules



I/O Field



2

The WAGO I/O Field App allows you to display product information, make settings and adjust parameters for both fieldbus modules and IO-Link hubs.

Communication is performed via the *Bluetooth®* interface of a WAGO I/O System Field Module once a Data Matrix code has been scanned to select the product.

The current measured values of a port can be displayed (temperature, voltage, current and states) and configured (e. g., operating mode, filters).

- Identification via Data Matrix codes
- Communication via *Bluetooth®*
- Download of IODDs (IODD finder)
- Access to all process and parameter data
- Simulating inputs
- Forcing outputs (DO)
- Management of datasheets, manuals etc.
- User and rights management

Trademarks:



Apple, the Apple logo, iPhone, iPad and iPod touch are registered trademarks of Apple Inc. registered in the USA and other countries. "App Store" is a service mark of Apple Inc.



Google Play™ is a registered trademark of Google Inc.

**WAGO I/O Field App**  
Download: Apple Store or Google Store

| System Requirements              |  |
|----------------------------------|--|
| Operating system                 | iOS version 11.0 or later, Android version 6.0 or later    |
| Compatibility                    | iPhone; iPad and iPad Air; Android smartphones and tablets |
| For additional information, see: | <a href="http://wago.com/IOField">wago.com/IOField</a>     |

## Accessories



| USB Communication Cable; USB-A; WAGO I/O System 750 Service Interface |                 |    |
|---|-----------------|----|
| Length  | Item No.        | PU |
| 2.5 m   | 750-923         | 1  |
| 5 m   | 750-923/000-001 | 1  |

| RS-232 Communication Cable; RS-232 (D-Sub 9-Pole); WAGO I/O System 750 Service Interface |          |    |
|--|----------|----|
| Length   | Item No. | PU |
| 1 m  | 750-920  | 1  |

2

2



# Operation and Monitoring

## Touch Panels 600 Standard Line

- High-performance Touch Panels with resistive touchscreens
- 10.9 ... 54.7 cm (4.3 ... 21.5")
- Models include Control, Visu or Web Panels for display of CODESYS visualizations

## Touch Panels 600 Advanced Line

- High-performance Touch Panels with capacitive touchscreens and glass surfaces
- 18 ... 54.7 cm (7 ... 21.5")
- Models include Control or Visu Panels

## Touch Panels 600 Marine Line

- High-performance Touch Panels with resistive touchscreens
- Ideal for marine applications
- 10.9 ... 25.7 cm (4.3 ... 10.1")
- Models include Control or Visu Panels

## Edge Computing

- Models include Edge Controllers or Edge Computers
- Perfect in-the-field data usage
- Easy cloud connection
- Equipped for high security

Section 4 ►

## Compact Controller 100

- Maximum Performance in Minimum Space:
- Controller with a real-time Linux® operating system
  - Compact controller with I/Os in a DIN-rail-mount enclosure
  - Manufacturer-independent CODESYS V3 engineering environment

Section 5 ►►





## Controllers

- Scalable controller family with various interfaces
- Microcontrollers
- Readily combines with the modules of the WAGO I/O System 750

Section 6 ►►►

# Operation and Monitoring Contents

|   |      |
|---|------|
|   | Page |
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| Functional Variants                       | 69   |
| Interfaces and Types                      | 70   |
| Application and Installation Instructions | 72   |
| Item Number Key                           | 73   |
| Standards and Rated Conditions            | 73   |
| Approvals                                 | 73   |

|  | CPU               | Web Browser     | Modbus (TCP, UDP) | EtherNet/IP | EtherCAT | CANopen | BACnet/IP | OPC UA | Telecontrol Protocols | IoT Protocols | Hardware            | Display Diagonal   | Item No.          |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|--|-------------------|-----------------|-------------------|-------------|----------|---------|-----------|--------|-----------------------|---------------|---------------------|--|-------------------|---|-------------------|----|-----|-----|---|-----|----|---|----|---|---------------------|----------------|
|  <p><b>Touch Panels 600 Standard Line</b></p> <p>Display: Resistive touch-screen</p>                        | Cortex A9         | x               | M/S               | M/S         | M        | M/S     | x*        | x      | x*                    | x             | PIO3; Control Panel | 10.9 cm (4.3")   | 762-4301/8000-002 | 74  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 14.5 cm (5.7")   | 762-4302/8000-002 | 75  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 18 cm (7.0")   | 762-4303/8000-002 | 76  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 25.7 cm (10.1")  | 762-4304/8000-002 | 77  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 39.6 cm (15.6")  | 762-4305/8000-002 | 78  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   | 54.7 cm (21.5") | 762-4306/8000-002 | 79          |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   | x               | M                 | S*          | M*       |         |           |        |                       |               |                     |  | PIO2; Visu Panel  | 10.9 cm (4.3")  | 762-4201/8000-001 | 74 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 14.5 cm (5.7")  | 762-4202/8000-001 | 75 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 18 cm (7.0")  | 762-4203/8000-001 | 76 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 25.7 cm (10.1")   | 762-4204/8000-001 | 77 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 39.6 cm (15.6")   | 762-4205/8000-001 | 78 |     |     |   |     |    |   |    |   |                     |                |
|  |                   | 54.7 cm (21.5") | 762-4206/8000-001 | 79          |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   | x               |                   |             |          |         |           |        |                       |               |                     |  | PIO1; Web Panel   | 10.9 cm (4.3")  | 762-4101          | 74 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 14.5 cm (5.7")  | 762-4102          | 75 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 18 cm (7.0")  | 762-4103          | 76 |     |     |   |     |    |   |    |   |                     |                |
| 25.7 cm (10.1")  | 762-4104          |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 77  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  <p><b>Touch Panels 600 Advanced Line</b></p> <p>Display: Capacitive touchscreen with a glass surface</p> | Cortex A9         | x               | M/S               | M/S         | M        | M/S     | x*        | x      | x*                    | x             | PIO3; Control Panel | 18 cm (7.0")   | 762-5303/8000-002 | 80  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 25.7 cm (10.1")  | 762-5304/8000-002 | 81  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 39.6 cm (15.6")  | 762-5305/8000-002 | 82  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 54.7 cm (21.5")  | 762-5306/8000-002 | 83  |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   | x               | M                 | S*          | M*       |         |           |        |                       |               |                     |  | PIO2; Visu Panel  | 18 cm (7.0")  | 762-5203/8000-001 | 80 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 25.7 cm (10.1")   | 762-5204/8000-001 | 81 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 39.6 cm (15.6")   | 762-5205/8000-001 | 82 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   | 54.7 cm (21.5")   | 762-5206/8000-001 | 83 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   |  <p><b>Touch Panels 600 Marine Line</b></p> <p>Display: Resistive touch-screen, marine version</p> | Cortex A9         | x  | M/S | M/S | M | M/S | x* | x | x* | x | PIO3; Control Panel | 10.9 cm (4.3") |
| 14.5 cm (5.7")   | 762-6302/8000-002 | 85              |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
| 18 cm (7.0")   | 762-6303/8000-002 | 86              |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
| 25.7 cm (10.1")  | 762-6304/8000-002 | 87              |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
| x  | M                 | S*              | M*                |             |          |         |           |        |                       |               | PIO2; Visu Panel    | 10.9 cm (4.3")   | 762-6201/8000-001 |   |                   | 84 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 14.5 cm (5.7")   | 762-6202/8000-001 |   |                   | 85 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 18 cm (7.0")   | 762-6203/8000-001 |   |                   | 86 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     | 25.7 cm (10.1")  | 762-6204/8000-001 |   |                   | 87 |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |
|  |                   |                 |                   |             |          |         |           |        |                       |               |                     |  <p><b>Accessories</b></p> <p>Memory Cards; Mounting Set; Flush-Mount and Wall-Mount Housings</p> |                   |   |                   |    |     |     |   |     |    |   |    |   |                     |                |

M: Master; S: Slave; \*requires an additional license

## Operation and Monitoring

### General Product Information

Operate, observe, visualize and diagnose in production and the process industry: WAGO's Touch Panels with various hardware configurations are available for small- to mid-sized control and visualization tasks. Focus on saving time with perfect usability and quickly created visualizations.

#### Adapted Versions

The right version is available for every application:

- Devices with resistive touchscreens for standard control cabinet applications
- Multi-touch devices with a glass surface for advanced requirements
- Devices for marine applications

#### Touch Panels that Merge Aesthetics with High Performance

Underneath a contemporary design, WAGO's Touch Panels pack some of the industry's most powerful equipment, allowing you to solidify the high-tech image of your machine through high-quality visualizations from both CODESYS V3 and CODESYS V2 Engineering Software. The Web-Based Management feature of WAGO's controllers may also be operated using the stylish Web Panels. When configuring with CODESYS, visualizations are created based on modern technologies such as HTML5.

#### Industry 4.0/IoT

Recording, digitizing and linking data profitably – these are the core ideas of Industry 4.0. Using a dedicated library, WAGO's Control Panels become IoT controllers that send data from the field level to the cloud. Once in the cloud, this data can be aggregated and used for analysis. This capability creates tremendous added value for your company – whether it's increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services. Existing systems also become IoT-ready, making them future-proof.

#### Quick Installation via Unique Mounting Design

WAGO's Touch Panel directly latches onto the control cabinet via mounting clips for quick and easy tool-free installation. Thanks to custom-developed clamps, the front of the display meets lofty IP65 protection standards. This design flexibility makes the display extremely versatile and suitable for a wide variety of applications. Furthermore, the VESA mount allows installation on a swivel arm or stand outside of the control cabinet.

#### Easy to Use – Directly on the Display

All WAGO's Touch Panels have status LEDs that indicate operating status and provide operational feedback. A customized configuration interface is available for customizing and commissioning the Touch Panels. All important settings are made here via Web-Based Management. For quick and easy custom settings, the display brightness can also be manually adjusted via front-mount button.

#### Energy-Saving Sensors Ensure Safety

WAGO's Touch Panels have an integrated proximity sensor, allowing the visualization to be automatically re-displayed from the energy-saving screensaver. An integrated sensor simultaneously detects ambient lighting levels for automatic brightness control.

#### Integrated PLC

In the "Control Panel" function, the devices offer an integrated PLC functionality, which is configured via CODESYS. This makes them programmable in five standardized languages. In addition to pure programming, CODESYS is also used for offline simulation, fieldbus configuration, recipe management and much more.

#### Scaled Visualization Functions

Displaying a visualization in a Web browser makes flexible options available. In addition to the Web Panels, visualizations can be displayed on nearly any device with a browser, including smartphones and tablets by using the WebVisu app.

When greater performance is required, devices are used as Visu Panels. In the process, all operating functions are evaluated within the device without a delay and can affect the visualization directly. Data to be displayed is read in via standardized bus systems (e.g., Modbus TCP).

#### Open-Source Software and Linux®

We unite what belongs together: High-performance WAGO Hardware and the future-proof Linux® Operating System. For complex tasks, you can choose between programming in IEC 61131 or directly under Linux®. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP).

If you are interested, simply contact our AUTOMATION technical support.

#### Benefits:

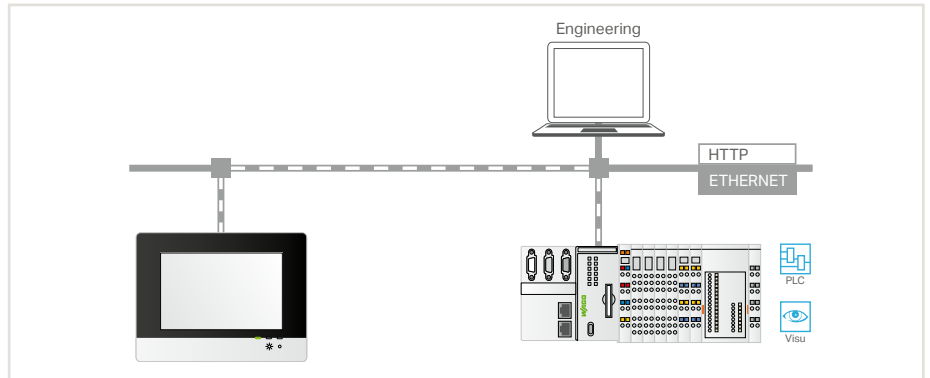
- An aesthetic design meets high performance
- Scaled portfolio in design and functionality
- Easy to use – directly on the display
- Quick installation via unique mounting design
- IoT-ready

# Operation and Monitoring

## Functional Variants

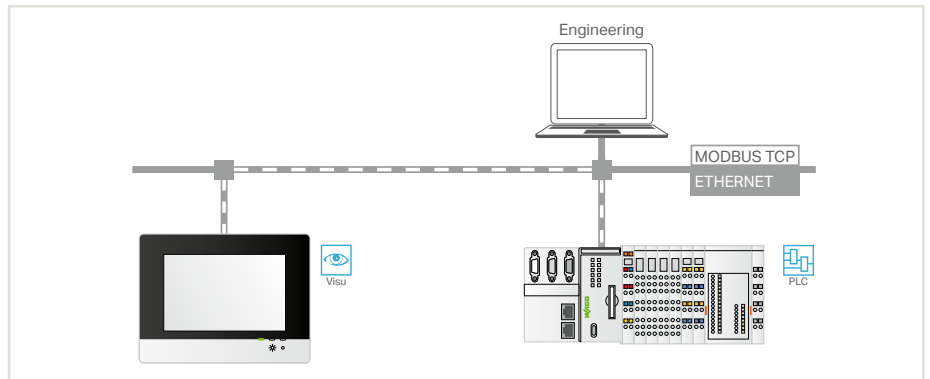
### Web Panels

The operating and display devices in the "Web Panel" software configuration are provided with a Web browser for accessing and displaying controllers with integrated Web visualization via standard Web protocols. Depending on the type of execution, Web visualizations that are created with CODESYS V3 and/or with CODESYS V2 can be displayed. Web visualizations have the advantage of being displayed not only on special Visu Panels, but also on standard commercial mobile devices.



### Visu Panels

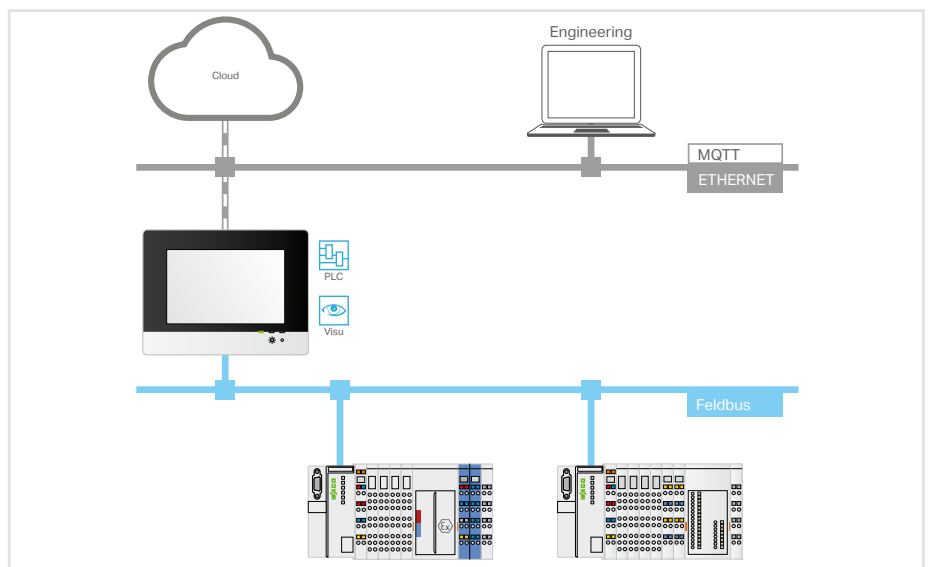
Operating and display devices in the "Visu Panel" software configuration are suitable for displaying a visualization generated with CODESYS V3 and obtaining the data referenced in it from any field devices via TCP, e.g., from PFC200 Controllers. In contrast to Web Panels, the computing power required here is divided between two devices, so the computing necessary for displaying the visualization is basically performed by the Visu Panel, off-loading the controller. The Visu Panel can also provide a Web visualization via the integrated Webserver.



### Control Panels

Operating and display devices in the "Control Panel" software configuration allow control and visualization to be performed simultaneously, providing a very compact automation solution.

WAGO's Control Panels handle all the usual tasks that would otherwise be performed by a separate controller, including establishing a connection to the cloud, for example.



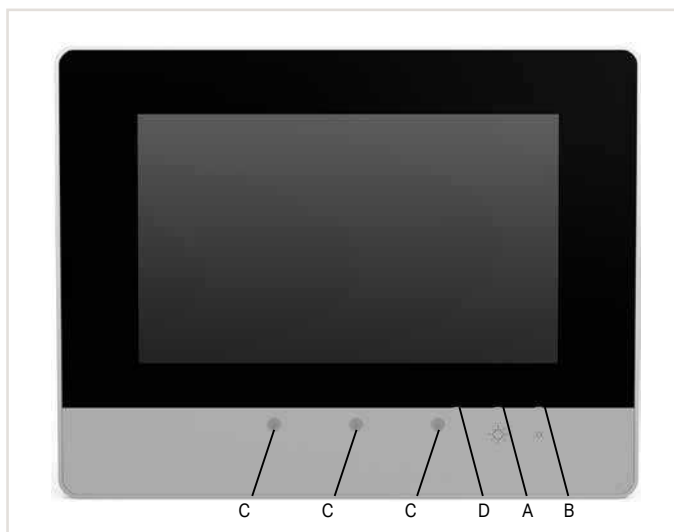
## Operation and Monitoring Interfaces and Types

### Touch Panels Standard Line

By default, WAGO's Touch Panels are equipped with resistive touchscreens. In addition, they have two capacitive buttons (A and B) for on-device brightness settings. A 3-color LED (D) indicates the device status. An integrated motion and brightness sensor (C) detects when a person is approaching and automatically turns off the screensaver. In addition, it can be used for automatic brightness change (day/night).

Available sizes:

- 10.9 cm (4.3")
- 14.5 cm (5.7")
- 18 cm (7.0")
- 25.7 cm (10.1")
- 39.6 cm (15.6")
- 54.7 cm (21.5")

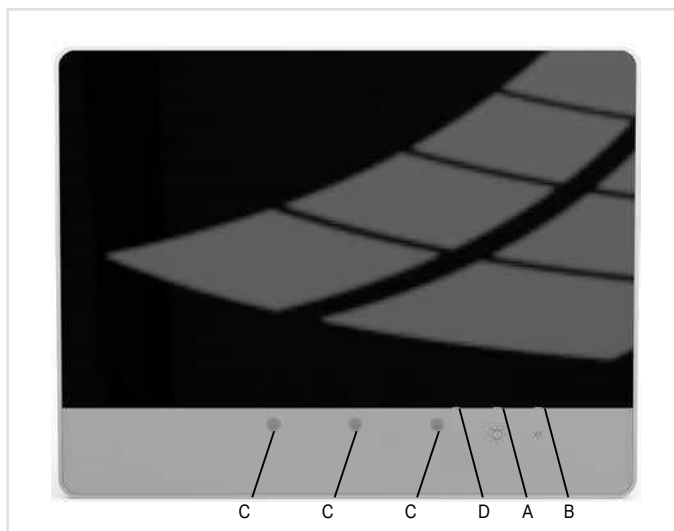


### Touch Panels Advanced Line

In contrast to the standard version, these devices are equipped with a capacitive touchscreen and a glass surface. This allows gesture recognition, e.g., swiping for turning pages or enlarging. In addition, the glass front features greater mechanical and chemical resistance. Operation while wearing gloves is also possible.

Available sizes:

- 18 cm (7.0")
- 25.7 cm (10.1")
- 39.6 cm (15.6")
- 54.7 cm (21.5")

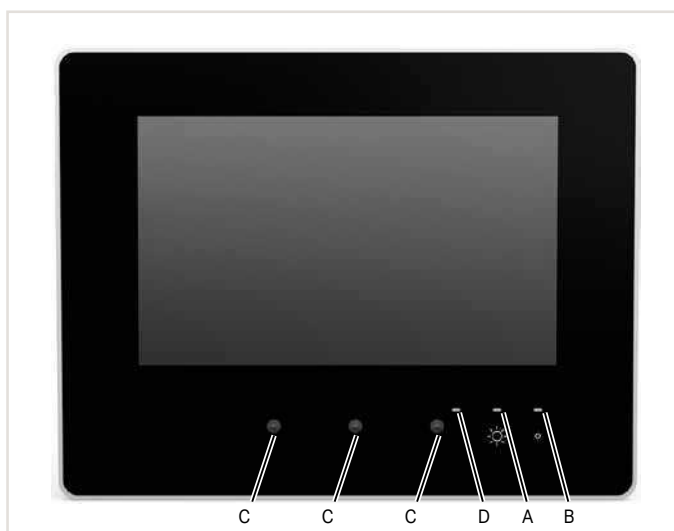


### Touch Panels Marine Line

In this version, WAGO's Touch Panels are ideal for shipbuilding applications and have special marine approvals. The matte black surface prevents disturbing reflections.

Available sizes:

- 10.9 cm (4.3")
- 14.5 cm (5.7")
- 18 cm (7.0")
- 25.7 cm (10.1")





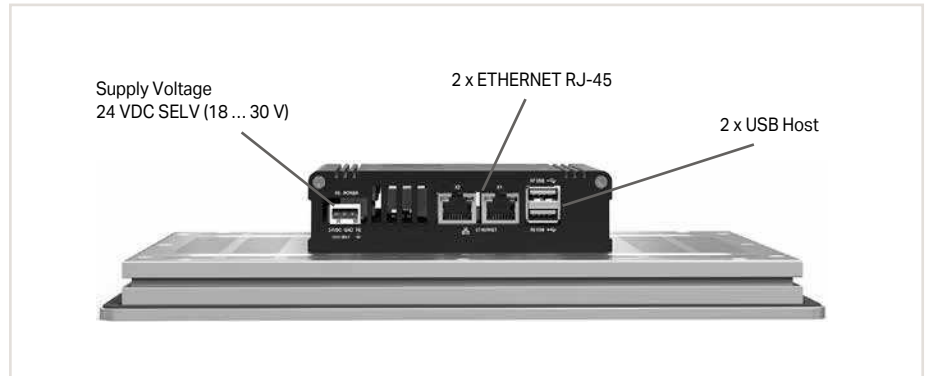
## Operation and Monitoring Interfaces and Types

### Hardware Configuration PIO1

Besides the power supply connection, devices with the PIO1 hardware configuration provide:

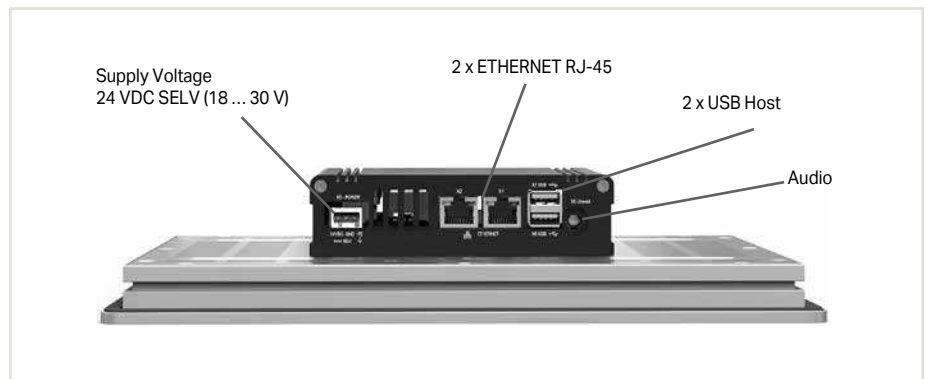
- 2 x ETHERNET port for connecting to field devices and the engineering tool
- 2 x USB port for optional connection of a USB stick, mouse or keyboard

Devices of this type are primarily used as Web Panels.



### Hardware Configuration PIO2

The PIO2 hardware configuration contains the same connections as PIO1 hardware. In addition, the devices are equipped with an audio interface for connecting headphones or a loudspeaker. Devices of this type are primarily used as Visu Panels.

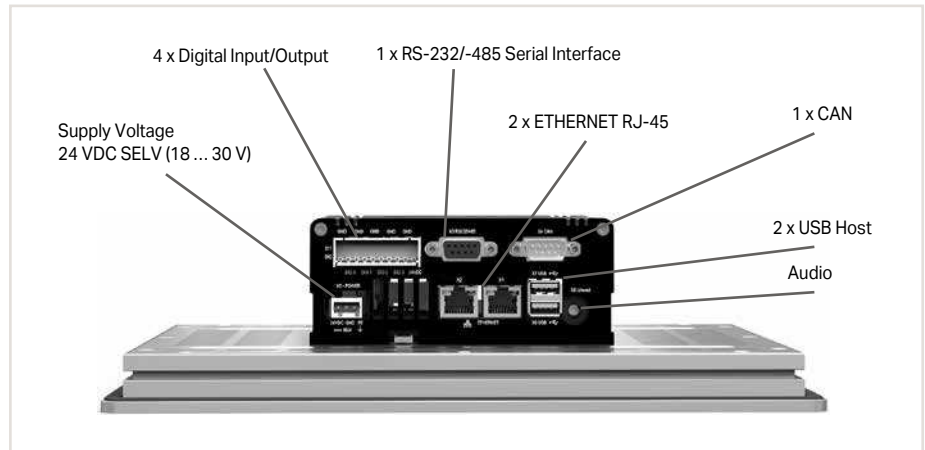


### Hardware Configuration PIO3

Devices of this type are primarily used as Control Panels. Besides the interfaces of the PIO2 configuration, they also have the following interfaces:

- 1 x CAN for controlling field devices
- 1 x RS-232/485 interface for controlling field devices with a serial interface
- 4 x digital input/output for reading/triggering digital signals

In addition, this hardware configuration has a rapid, power-failure-proof storage component that can back up retain variables of the controller without additional UPS features.



### Common Control Elements

The following control elements are provided on the side of all devices:

- Run/Stop switch (only relevant for Control Panels)
- Service Switch
- 5 x LED for signaling:
  - General device states
  - Special states of the PLC runtime environment
  - States of the fieldbus connections
- 1 x microSD card for data exchange



## Operation and Monitoring

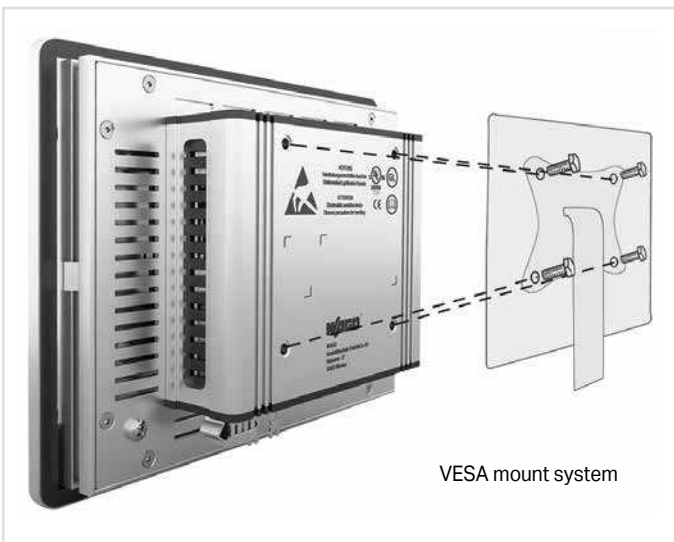
### Application and Installation Instructions



Two brightness adjustment keys are located directly on the front of the device, along with three diagnostics LEDs.

#### Mounting

WAGO's Touch Panel directly latches onto the control cabinet via mounting spring clips for quick and easy tool-free installation. IP65 levels of protection can be achieved for the front of the display via additional clamping screws. This design flexibility makes the display extremely versatile and suitable for a wide variety of applications.

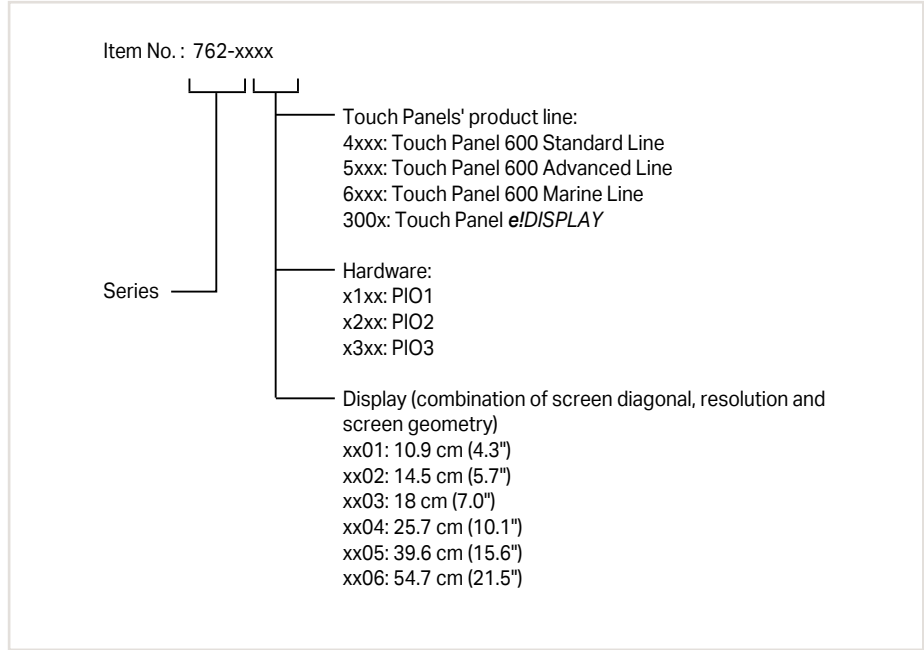


The VESA mount (VESA 75 standard, 75 mm hole spacing) allows universal mounting accessories to be conveniently used outside of the control cabinet.

# Operation and Monitoring

## Item Number Key

Explanation of an item number key's components



3

## Standards and Rated Conditions

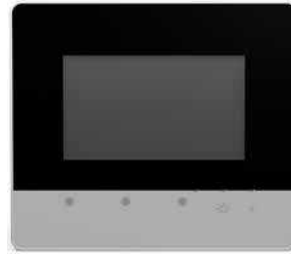
| General Technical Data                  |  |
|---|--|
| Operating system                        | Real-time Linux® (with RT-Preempt patch)                     |
| Controls                                | Resistive touch panel; 2 capacitive keys; proximity sensor   |
| Supply voltage                          | 24 VDC, SELV (-25 ... +30 %) with reverse voltage protection |
| Indicators                              | Diagnostic indication (LED)                                  |
| Surrounding air temperature (operation) | -20 ... +55 °C   |
| Surrounding air temperature (storage)   | -20 ... +80 °C   |
| Relative humidity                       | 10 ... 90 %; non-condensing                                  |
| Protection type                         | IP65 (front side); IP20 (rear side)                          |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).



## Touch Panels ▶ Standard Line ▶ 10.9 cm (4.3 inches)



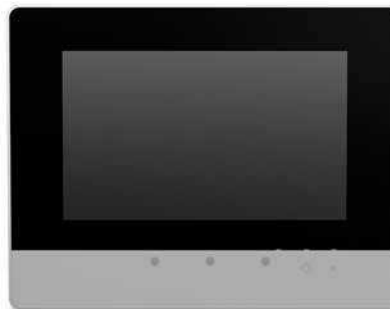
| Version   | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   | Hardware configuration PIO1; Web Panel |
|---|--|---|--|
| Item no.  | 762-4301/8000-002  | 762-4201/8000-001   | 762-4101                               |
| Order Text  | TP600; 4.3; 480x272; PIO3; CP  | TP600; 4.3; 480x272; PIO2; VP   | TP600; 4.3; 480x272; PIO1; WP          |
| Technical data  |  |   |  |
| Display   | Resistive touchscreen  |   |  |
| Display diagonal  | 10.9 cm (4.3 inches)   |   |  |
| Contrast ratio  | 600:1  |   |  |
| Aspect  | 16:9   |   |  |
| Display colors  | 16 million colors  |   |  |
| Graphics resolution                                       | (480 x 272) px   |   |  |
| Viewing angle (horizontal/vertical)                       | 80° / 80°  |   |  |
| Brightness  | 500 cd/m <sup>2</sup>  |   |  |
| Controls  | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |  |
| Communication   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) | Web browser (HTML5)                    |
| ETHERNET protocols  | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |  |
| Programming environment                                   | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  | -                                      |
| Operating system  | Real-time Linux (with RT-Preempt patch)  |   |  |
| Processor   | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |  |
| Main memory (RAM)/internal memory (flash)                 | 2 GB / 4 GB  |   |  |
| Program memory/data memory/non-volatile memory (software) | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  | -                                      |
| Type of memory card                                       | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |  |
| Interfaces (USB)  | 2 x USB host 2.0 (type A)  |   |  |
| Onboard I/Os  | Audio; 4 x DIO, configurable   | Audio   | -                                      |
| Dimensions W x H x D                                      | (155 x 135 x 78) mm  | (155 x 135 x 58) mm   |  |
| Panel cutout (W x H)                                      | (140 x 120) mm   |   |  |
| Mounting type   | Clamping elements (included) or VESA mount (4 x M4x8)  |   |  |
| Supply voltage  | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |  |
| Input current (typ.)                                      | 310 mA, without USB load;<br>575 mA, with USB load   | 290 mA, without USB load;<br>555 mA, with USB load  |  |
| Operating power   | 6.0 W, without USB load;<br>11.5 W, with USB load  | 5.8 W, without USB load;<br>11.3 W, with USB load   |  |
| Ambient temperature (operation)                           | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |  |
| Approvals   | CE; Marine; OrdLoc   |   |  |
| For data sheet and additional information, see:           | wago.com/762-4301/8000-002   | wago.com/762-4201/8000-001  | wago.com/762-4101                      |
| <b>Product Expansions</b>                                 | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Runtime; BACnet; 600; Single License; Online activation   | 2759-286/211-1000  | -   | -                                      |
| Runtime; MicroBrowser; Single License; Online activation  | 2759-230/211-1000  | 2759-230/211-1000   | 2759-230/211-1000                      |
| <b>Accessories</b>  | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Memory Card SD Micro; 2 GB                                | 758-879/000-3102   | 758-879/000-3102  | 758-879/000-3102                       |
| Memory Card SD Micro; pSLC-NAND; 8 GB                     | 758-879/000-3108   | 758-879/000-3108  | 758-879/000-3108                       |

## Touch Panels ▶ Standard Line ▶ 14.5 cm (5.7 inches)



| Version   | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   | Hardware configuration PIO1; Web Panel |
|---|--|---|--|
| Item no.  | 762-4302/8000-002  | 762-4202/8000-001   | 762-4102                               |
| Order Text  | TP600; 5.7; 640x480; PIO3; CP  | TP600; 5.7; 640x480; PIO2; VP   | TP600; 5.7; 640x480; PIO1; WP          |
| Technical data  |  |   |  |
| Display   | Resistive touchscreen  |   |  |
| Display diagonal  | 14.5 cm (5.7 inches)   |   |  |
| Contrast ratio  | 300:1  |   |  |
| Aspect  | 4:3  |   |  |
| Display colors  | 262,000 colors   |   |  |
| Graphics resolution                                       | (640 x 480) px   |   |  |
| Viewing angle (horizontal/vertical)                       | 80° / 80°  |   |  |
| Brightness  | 630 cd/m <sup>2</sup>  |   |  |
| Controls  | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |  |
| Communication   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) | Web browser (HTML5)                    |
| ETHERNET protocols  | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |  |
| Programming environment                                   | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  | -                                      |
| Operating system  | Real-time Linux (with RT-Preempt patch)  |   |  |
| Processor   | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |  |
| Main memory (RAM)/internal memory (flash)                 | 2 GB / 4 GB  |   |  |
| Program memory/data memory/non-volatile memory (software) | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  | -                                      |
| Type of memory card                                       | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |  |
| Interfaces (USB)  | 2 x USB host 2.0 (type A)  |   |  |
| Onboard I/Os  | Audio; 4 x DIO, configurable   | Audio   | -                                      |
| Dimensions W x H x D                                      | (172 x 163 x 78) mm  | (172 x 163 x 58) mm   |  |
| Panel cutout (W x H)                                      | (157 x 148) mm   |   |  |
| Mounting type   | Clamping elements (included) or VESA mount (4 x M4x8)  |   |  |
| Supply voltage  | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |  |
| Input current (typ.)                                      | 360 mA, without USB load;<br>640 mA, with USB load   | 340 mA, without USB load;<br>620 mA, with USB load  |  |
| Operating power   | 7.0 W, without USB load;<br>12.0 W, with USB load  | 6.8 W, without USB load;<br>11.8 W, with USB load   |  |
| Ambient temperature (operation)                           | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |  |
| Approvals   | CE, Marine, OrdLoc   |   |  |
| For data sheet and additional information, see:           | wago.com/762-4302/8000-002   | wago.com/762-4202/8000-001  | wago.com/762-4102                      |
| <b>Product Expansions</b>                                 | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Runtime; BACnet; 600; Single License; Online activation   | 2759-286/211-1000  | -   | -                                      |
| Runtime; MicroBrowser; Single License; Online activation  | 2759-230/211-1000  | 2759-230/211-1000   | 2759-230/211-1000                      |
| <b>Accessories</b>  | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Memory Card SD Micro; 2 GB                                | 758-879/000-3102   | 758-879/000-3102  | 758-879/000-3102                       |
| Memory Card SD Micro; pSLC-NAND; 8 GB                     | 758-879/000-3108   | 758-879/000-3108  | 758-879/000-3108                       |

## Touch Panels ▶ Standard Line ▶ 17.8 cm (7 inches)



| Version   | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   | Hardware configuration PIO1; Web Panel |
|---|--|---|--|
| Item no.  | 762-4303/8000-002  | 762-4203/8000-001   | 762-4103                               |
| Order Text  | TP600; 7.0; 800x480; PIO3; CP  | TP600; 7.0; 800x480; PIO2; VP   | TP600; 7.0; 800x480; PIO1; WP          |
| Technical data  |  |   |  |
| Display   | Resistive touchscreen  |   |  |
| Display diagonal  | 17.8 cm (7 inches)   |   |  |
| Contrast ratio  | 800:1  |   |  |
| Aspect  | 16:9   |   |  |
| Display colors  | 16 million colors  |   |  |
| Graphics resolution                                       | (800 x 480) px   |   |  |
| Viewing angle (horizontal/vertical)                       | 89° / 89°  |   |  |
| Brightness  | 450 cd/m <sup>2</sup>  |   |  |
| Controls  | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |  |
| Communication   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) | Web browser (HTML5)                    |
| ETHERNET protocols  | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |  |
| Programming environment                                   | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  | -                                      |
| Operating system  | Real-time Linux (with RT-Preempt patch)  |   |  |
| Processor   | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |  |
| Main memory (RAM)/internal memory (flash)                 | 2 GB / 4 GB  |   |  |
| Program memory/data memory/non-volatile memory (software) | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  | -                                      |
| Type of memory card                                       | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |  |
| Interfaces (USB)  | 2 x USB host 2.0 (type A)  |   |  |
| Onboard I/Os  | Audio; 4 x DIO, configurable   | Audio   | -                                      |
| Dimensions W x H x D                                      | (213 x 167 x 78) mm  | (213 x 167 x 58) mm   |  |
| Panel cutout (W x H)                                      | (198 x 152) mm   |   |  |
| Mounting type   | Clamping elements (included) or VESA mount (4 x M4x8)  |   |  |
| Supply voltage  | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |  |
| Input current (typ.)                                      | 460 mA, without USB load;<br>760 mA, with USB load   | 420 mA, without USB load;<br>720 mA, with USB load  |  |
| Operating power   | 8.8 W, without USB load;<br>13.9 W, with USB load  | 8.6 W, without USB load;<br>13.7 W, with USB load   |  |
| Ambient temperature (operation)                           | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |  |
| Approvals   | CE; Marine; OrdLoc   |   |  |
| For data sheet and additional information, see:           | wago.com/762-4303/8000-002   | wago.com/762-4203/8000-001  | wago.com/762-4103                      |
| <b>Product Expansions</b>                                 | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Runtime; BACnet; 600; Single License; Online activation   | 2759-286/211-1000  | -   | -                                      |
| Runtime; MicroBrowser; Single License; Online activation  | 2759-230/211-1000  | 2759-230/211-1000   | 2759-230/211-1000                      |
| <b>Accessories</b>  | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Memory Card SD Micro; 2 GB                                | 758-879/000-3102   | 758-879/000-3102  | 758-879/000-3102                       |
| Memory Card SD Micro; pSLC-NAND; 8 GB                     | 758-879/000-3108   | 758-879/000-3108  | 758-879/000-3108                       |

## Touch Panels ▶ Standard Line ▶ 25.7 cm (10.1 inches)



| Version   | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   | Hardware configuration PIO1; Web Panel |
|---|--|---|--|
| Item no.  | 762-4304/8000-002  | 762-4204/8000-001   | 762-4104                               |
| Order Text  | TP600; 10.1; 1280x800; PIO3; CP  | TP600; 10.1; 1280x800; PIO2; VP   | TP600; 10.1; 1280x800; PIO1; WP        |
| Technical data  |  |   |  |
| Display   | Resistive touchscreen  |   |  |
| Display diagonal  | 25.7 cm (10.1 inches)  |   |  |
| Contrast ratio  | 800:1  |   |  |
| Aspect  | 16:9   |   |  |
| Display colors  | 16 million colors  |   |  |
| Graphics resolution                                       | (1280 x 800) px  |   |  |
| Viewing angle (horizontal/vertical)                       | 85° / 85°  |   |  |
| Brightness  | 800 cd/m <sup>2</sup>  |   |  |
| Controls  | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |  |
| Communication   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) | Web browser (HTML5)                    |
| ETHERNET protocols  | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |  |
| Programming environment                                   | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  | -                                      |
| Operating system  | Real-time Linux (with RT-Preempt patch)  |   |  |
| Processor   | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |  |
| Main memory (RAM)/internal memory (flash)                 | 2 GB / 4 GB  |   |  |
| Program memory/data memory/non-volatile memory (software) | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  | -                                      |
| Type of memory card                                       | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |  |
| Interfaces (USB)  | 2 x USB host 2.0 (type A)  |   |  |
| Onboard I/Os  | Audio; 4 x DIO, configurable   | Audio   | -                                      |
| Dimensions W x H x D                                      | (293 x 223 x 78) mm  | (293 x 223 x 58) mm   |  |
| Panel cutout (W x H)                                      | (278 x 208) mm   |   |  |
| Mounting type   | Clamping elements (included) or VESA mount (4 x M4x8)  |   |  |
| Supply voltage  | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |  |
| Input current (typ.)                                      | 640 mA, without USB load;<br>940 mA, with USB load   | 620 mA, without USB load;<br>920 mA, with USB load  |  |
| Operating power   | 11.8 W, without USB load;<br>17.0 W, with USB load   | 11.6 W, without USB load;<br>16.8 W, with USB load  |  |
| Ambient temperature (operation)                           | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |  |
| Approvals   | CE, Marine, OrdLoc   |   |  |
| For data sheet and additional information, see:           | wago.com/762-4304/8000-002   | wago.com/762-4204/8000-001  | wago.com/762-4104                      |
| <b>Product Expansions</b>                                 | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Runtime; BACnet; 600; Single License; Online activation   | 2759-286/211-1000  | -   | -                                      |
| Runtime; MicroBrowser; Single License; Online activation  | 2759-230/211-1000  | 2759-230/211-1000   | 2759-230/211-1000                      |
| <b>Accessories</b>  | <b>Item no.</b>  | <b>Item no.</b>   | <b>Item no.</b>                        |
| Memory Card SD Micro; 2 GB                                | 758-879/000-3102   | 758-879/000-3102  | 758-879/000-3102                       |
| Memory Card SD Micro; pSLC-NAND; 8 GB                     | 758-879/000-3108   | 758-879/000-3108  | 758-879/000-3108                       |

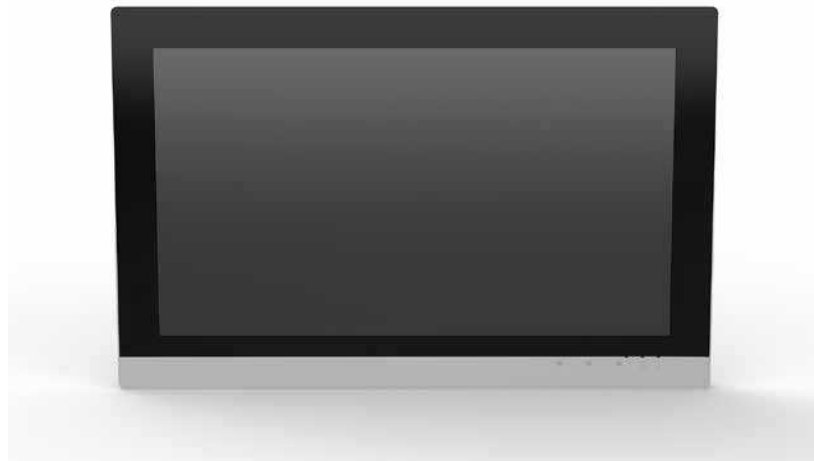
## Touch Panels ▶ Standard Line ▶ 39.6 cm (15.6 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-4305/8000-002  | 762-4205/8000-001   |
| Order Text   | TP600; 15.6; 1920x1080; PIO3; CP   | TP600; 15.6; 1920x1080; PIO2; VP  |
| Technical data   |  |   |
| Display  | Resistive touchscreen  |   |
| Display diagonal   | 39.6 cm (15.6 inches)  |   |
| Contrast ratio   | 800:1  |   |
| Display colors   | 16.7 million colors  |   |
| Graphics resolution  | (1920 x 1080) px   |   |
| Viewing angle (horizontal/vertical)  | 85° / 85°  |   |
| Brightness   | 500 cd/m <sup>2</sup>  |   |
| Controls   | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (420 x 283 x 78) mm  | (420 x 283 x 58) mm   |
| Panel cutout (W x H)   | (406 x 268) mm   |   |
| Mounting type  | Clamping elements (included)   |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 450 mA; without USB load; 679 mA; with USB load  | 430 mA; without USB load; 658 mA; with USB load   |
| Operating power  | 10.8 W, without USB load; 16.3 W, with USB load  | 10.3 W, without USB load; 15.8 W, with USB load   |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |
| Approvals  | CE; OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-4305/8000-002   | wago.com/762-4205/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

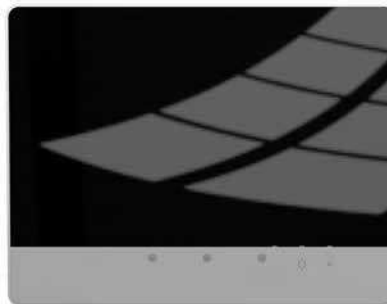


## Touch Panels ▶ Standard Line ▶ 54.7 cm (21.5 inches)



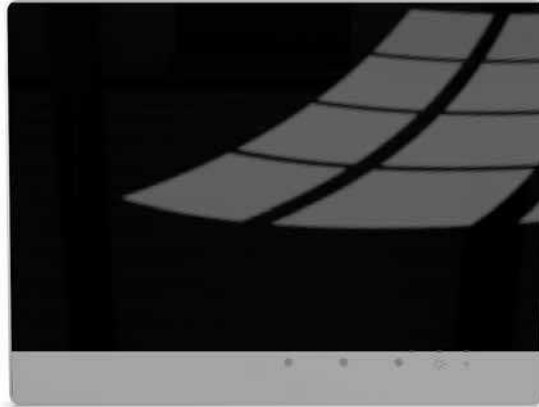
| Version   | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|---|--|---|
| Item no.  | 762-4306/8000-002  | 762-4206/8000-001   |
| Order Text  | TP600; 21.5; 1920x1080; PIO3; CP   | TP600; 21.5; 1920x1080; PIO2; VP  |
| Technical data  |  |   |
| Display   | Resistive touchscreen  |   |
| Display diagonal  | 54.7 cm (21.5 inches)  |   |
| Contrast ratio  | 1000:1   |   |
| Display colors  | 16.7 million colors  |   |
| Graphics resolution                                       | (1920 x 1080) px   |   |
| Viewing angle (horizontal/vertical)                       | 89° / 89°  |   |
| Brightness  | 350 cd/m <sup>2</sup>  |   |
| Controls  | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |
| Communication   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols  | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment                                   | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system  | Real-time Linux (with RT-Preempt patch)  |   |
| Processor   | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                 | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software) | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card                                       | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)  | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os  | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D                                      | (554 x 358 x 78) mm  | (554 x 358 x 58) mm   |
| Panel cutout (W x H)                                      | (540 x 344) mm   |   |
| Mounting type   | Clamping elements (included)   |   |
| Supply voltage  | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)                                      | 350 mA; without USB load; 579 mA; with USB load  | 330 mA; without USB load; 558 mA; with USB load   |
| Operating power   | 8.4 W, without USB load; 13.9 W, with USB load   | 7.9 W, without USB load; 13.4 W, with USB load  |
| Ambient temperature (operation)                           | 0 ... +45 °C (when mounted vertically; -0 ... +40 °C, other mounting positions)  |   |
| Approvals   | CE; OrdLoc   |   |
| For data sheet and additional information, see:           | wago.com/762-4306/8000-002   | wago.com/762-4206/8000-001  |
| <b>Product Expansions</b>                                 | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation   | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation  | 2759-230/211-1000  | 2759-230/211-1000   |
| <b>Accessories</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB                                | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB                     | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ▶ Advanced Line ▶ 17.8 cm (7 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-5303/8000-002  | 762-5203/8000-001   |
| Order Text   | TP600; 7.0; 800x480; PIO3; CP  | TP600; 7.0; 800x480; PIO2; VP   |
| Technical data   |  |   |
| Display  | Multitouch glass front; capacitive touchscreen with a glass surface  |   |
| Display diagonal   | 17.8 cm (7 inches)   |   |
| Contrast ratio   | 800:1  |   |
| Aspect   | 16:9   |   |
| Display colors   | 16 million colors  |   |
| Graphics resolution  | (800 x 480) px   |   |
| Viewing angle (horizontal/vertical)  | 89° / 89°  |   |
| Brightness   | 450 cd/m <sup>2</sup>  |   |
| Controls   | capacitive (glass), 2 capacitive keys, proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (213 x 167 x 78) mm  | (213 x 167 x 58) mm   |
| Panel cutout (W x H)   | (198 x 152) mm   |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)  |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 460 mA, without USB load; 760 mA, with USB load  | 420 mA, without USB load; 720 mA, with USB load   |
| Operating power  | 8.8 W, without USB load; 13.9 W, with USB load   | 8.6 W, without USB load; 13.7 W, with USB load  |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically); -20 ... +50 °C, other mounting positions)  |   |
| Approvals  | CE; Marine; OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-5303/8000-002   | wago.com/762-5203/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ▶ Advanced Line ▶ 25.7 cm (10.1 inches)



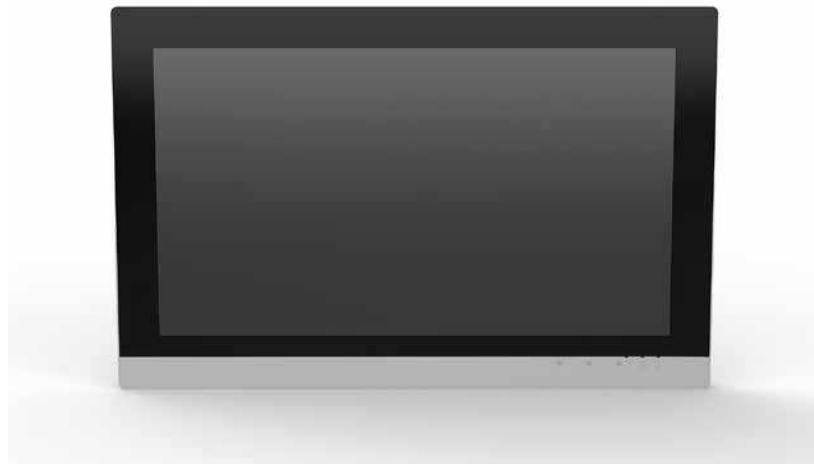
| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-5304/8000-002  | 762-5204/8000-001   |
| Order Text   | TP600; 10.1; 1280x800; PIO3; CP  | TP600; 10.1; 1280x800; PIO2; VP   |
| Technical data   |  |   |
| Display  | Multitouch glass front; capacitive touchscreen with a glass surface  |   |
| Display diagonal   | 25.7 cm (10.1 inches)  |   |
| Contrast ratio   | 800:1  |   |
| Aspect   | 16:9   |   |
| Display colors   | 16 million colors  |   |
| Graphics resolution  | (1280 x 800) px  |   |
| Viewing angle (horizontal/vertical)  | 85° / 85°  |   |
| Brightness   | 800 cd/m <sup>2</sup>  |   |
| Controls   | capacitive (glass), 2 capacitive keys, proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (293 x 223 x 78) mm  | (293 x 223 x 58) mm   |
| Panel cutout (W x H)   | (278 x 208) mm   |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)  |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 640 mA, without USB load; 940 mA, with USB load  | 620 mA, without USB load; 920 mA, with USB load   |
| Operating power  | 11.8 W, without USB load; 17.0 W, with USB load  | 11.6 W, without USB load; 16.8 W, with USB load   |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |
| Approvals  | CE, Marine, OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-5304/8000-002   | wago.com/762-5204/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ▶ Advanced Line ▶ 39.6 cm (15.6 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-5305/8000-002  | 762-5205/8000-001   |
| Order Text   | TP600; 15.6; 1920x1080; PIO3; CP   | TP600; 15.6; 1920x1080; PIO2; VP  |
| Technical data   |  |   |
| Display  | Multitouch glass front; capacitive touchscreen with a glass surface  |   |
| Display diagonal   | 39.6 cm (15.6 inches)  |   |
| Contrast ratio   | 800:1  |   |
| Display colors   | 16.7 million colors  |   |
| Graphics resolution  | (1920 x 1080) px   |   |
| Viewing angle (horizontal/vertical)  | 85° / 85°  |   |
| Brightness   | 500 cd/m <sup>2</sup>  |   |
| Controls   | capacitive (glass), 2 capacitive keys, proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (420 x 283 x 78) mm  | (420 x 283 x 58) mm   |
| Panel cutout (W x H)   | (406 x 268) mm   |   |
| Mounting type  | Clamping elements (included)   |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 450 mA; without USB load; 679 mA; with USB load  | 430 mA; without USB load; 658 mA; with USB load   |
| Operating power  | 10.8 W, without USB load; 16.3 W, with USB load  | 10.3 W, without USB load; 15.8 W, with USB load   |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |
| Approvals  | CE; OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-5305/8000-002   | wago.com/762-5205/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ▶ Advanced Line ▶ 54.7 cm (21.5 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-5306/8000-002  | 762-5206/8000-001   |
| Order Text   | TP600; 21.5; 1920x1080; PIO3; CP   | TP600; 21.5; 1920x1080; PIO2; VP  |
| Technical data   |  |   |
| Display  | Multitouch glass front; capacitive touchscreen with a glass surface  |   |
| Display diagonal   | 54.7 cm (21.5 inches)  |   |
| Contrast ratio   | 1000:1   |   |
| Display colors   | 16.7 million colors  |   |
| Graphics resolution  | (1920 x 1080) px   |   |
| Viewing angle (horizontal/vertical)  | 89° / 89°  |   |
| Brightness   | 350 cd/m <sup>2</sup>  |   |
| Controls   | capacitive (glass), 2 capacitive keys, proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (554 x 358 x 78) mm  | (554 x 358 x 58) mm   |
| Panel cutout (W x H)   | (540 x 344) mm   |   |
| Mounting type  | Clamping elements (included)   |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 350 mA; without USB load; 579 mA; with USB load  | 330 mA; without USB load; 558 mA; with USB load   |
| Operating power  | 8.4 W, without USB load; 13.9 W, with USB load   | 7.9 W, without USB load; 13.4 W, with USB load  |
| Ambient temperature (operation)  | 0 ... +45 °C (when mounted vertically; -0 ... +40 °C, other mounting positions)  |   |
| Approvals  | CE; OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-5306/8000-002   | wago.com/762-5206/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ▶ Marine Line ▶ 10.9 cm (4.3 inches)



| Version  | Hardware configuration PIO3; Control Panel  | Hardware configuration PIO2; Visu Panel   |
|--|---|---|
| Item no.   | 762-6301/8000-002   | 762-6201/8000-001   |
| Order Text   | TP600; 4.3; 480x272; PIO3; CP   | TP600; 4.3; 480x272; PIO2; VP   |
| Technical data   |   |   |
| Display  | Resistive touchscreen (black front)   |   |
| Display diagonal   | 10.9 cm (4.3 inches)  |   |
| Contrast ratio   | 600:1   |   |
| Aspect   | 16:9  |   |
| Display colors   | 16 million colors   |   |
| Graphics resolution  | (480 x 272) px  |   |
| Viewing angle (horizontal/vertical)  | 80° / 80°   |   |
| Brightness   | 500 cd/m <sup>2</sup>   |   |
| Controls   | Resistive touch panel; 2 capacitive keys; proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH  |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22   | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)   |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz  |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB   |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB   | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)   |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)   |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable  | Audio   |
| Dimensions W x H x D   | (155 x 135 x 78) mm   | (155 x 135 x 58) mm   |
| Panel cutout (W x H)   | (140 x 120) mm  |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)   |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection  |   |
| Input current (typ.)   | 310 mA; without USB load; 575 mA; with USB load   | 290 mA, without USB load; 555 mA, with USB load   |
| Operating power  | 6.0 W, without USB load; 11.5 W, with USB load  | 5.8 W, without USB load; 11.3 W, with USB load  |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)  |   |
| Approvals  | CE; Marine; OrdLoc  |   |
| For data sheet and additional information, see:                                | wago.com/762-6301/8000-002  | wago.com/762-6201/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>   | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000   | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000   | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -   | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -   | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>   | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102  | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108  | 758-879/000-3108  |

## Touch Panels ▶ Marine Line ▶ 14.5 cm (5.7 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-6302/8000-002  | 762-6202/8000-001   |
| Order Text   | TP600; 5.7; 640x480; PIO3; CP  | TP600; 5.7; 640x480; PIO2; VP   |
| Technical data   |  |   |
| Display  | Resistive touchscreen (black front)  |   |
| Display diagonal   | 14.5 cm (5.7 inches)   |   |
| Contrast ratio   | 300:1  |   |
| Aspect   | 4:3  |   |
| Display colors   | 262,000 colors   |   |
| Graphics resolution  | (640 x 480) px   |   |
| Viewing angle (horizontal/vertical)  | 80° / 80°  |   |
| Brightness   | 630 cd/m <sup>2</sup>  |   |
| Controls   | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / 128 KB  | 32 MB / 128 MB / -  |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (172 x 163 x 78) mm  | (172 x 163 x 58) mm   |
| Panel cutout (W x H)   | (157 x 148) mm   |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)  |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 360 mA; without USB load; 640 mA; with USB load  | 340 mA, without USB load; 620 mA, with USB load   |
| Operating power  | 7.0 W, without USB load; 12.0 W, with USB load   | 6.8 W, without USB load; 11.8 W, with USB load  |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |
| Approvals  | CE, Marine, OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-6302/8000-002   | wago.com/762-6202/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Touch Panels ► Marine Line ► 17.8 cm (7 inches)



| Version  | Hardware configuration PIO3; Control Panel  | Hardware configuration PIO2; Visu Panel   |
|--|---|---|
| Item no.   | 762-6303/8000-002   | 762-6203/8000-001   |
| Order Text   | TP600; 7.0; 800x480; PIO3; CP   | TP600; 7.0; 800x480; PIO2; VP   |
| Technical data   |   |   |
| Display  | Resistive touchscreen (black front)   |   |
| Display diagonal   | 17.8 cm (7 inches)  |   |
| Contrast ratio   | 800:1   |   |
| Aspect   | 16:9  |   |
| Display colors   | 16 million colors   |   |
| Graphics resolution  | (800 x 480) px  |   |
| Viewing angle (horizontal/vertical)  | 89° / 89°   |   |
| Brightness   | 450 cd/m <sup>2</sup>   |   |
| Controls   | Resistive touch panel; 2 capacitive keys; proximity sensor  |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH  |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22   | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)   |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz  |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB   |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / -  |   |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)   |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)   |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable  | Audio   |
| Dimensions W x H x D   | (213 x 167 x 78) mm   | (213 x 167 x 58) mm   |
| Panel cutout (W x H)   | (198 x 152) mm  |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)   |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection  |   |
| Input current (typ.)   | 460 mA; without USB load; 760 mA; with USB load   | 420 mA, without USB load; 720 mA, with USB load   |
| Operating power  | 8.8 W, without USB load; 13.9 W, with USB load  | 8.6 W, without USB load; 13.7 W, with USB load  |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)  |   |
| Approvals  | CE; Marine; OrdLoc  |   |
| For data sheet and additional information, see:                                | wago.com/762-6303/8000-002  | wago.com/762-6203/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>   | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000   | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000   | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -   | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -   | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>   | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102  | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108  | 758-879/000-3108  |



## Touch Panels ▶ Marine Line ▶ 25.7 cm (10.1 inches)



| Version  | Hardware configuration PIO3; Control Panel   | Hardware configuration PIO2; Visu Panel   |
|--|--|---|
| Item no.   | 762-6304/8000-002  | 762-6204/8000-001   |
| Order Text   | TP600; 10.1; 1280x800; PIO3; CP  | TP600; 10.1; 1280x800; PIO2; VP   |
| Technical data   |  |   |
| Display  | Resistive touchscreen (black front)  |   |
| Display diagonal   | 25.7 cm (10.1 inches)  |   |
| Contrast ratio   | 800:1  |   |
| Aspect   | 16:9   |   |
| Display colors   | 16 million colors  |   |
| Graphics resolution  | (1280 x 800) px  |   |
| Viewing angle (horizontal/vertical)  | 85° / 85°  |   |
| Brightness   | 800 cd/m <sup>2</sup>  |   |
| Controls   | Resistive touch panel; 2 capacitive keys; proximity sensor   |   |
| Communication  | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> ; MicroBrowser (Visualization of CODESYS V2.3), requires an additional license | EtherNet/IP™ adapter (slave), library for <b>e!RUNTIME</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); Modbus TCP master/slave (prerequisite: <b>e!RUNTIME</b> PLC 600 license); EtherCAT master, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license); BACnet/IP, <b>requires an additional license</b> (prerequisite: <b>e!RUNTIME</b> PLC 600 license) |
| ETHERNET protocols   | DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH   |   |
| Programming environment  | CODESYS V3.5, from firmware release 24; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  | <b>e!COCKPIT</b> (based on CODESYS V3)  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |   |
| Processor  | ARM® Cortex® A9 Quadcore 1.0 GHz   |   |
| Main memory (RAM)/internal memory (flash)                                      | 2 GB / 4 GB  |   |
| Program memory/data memory/non-volatile memory (software)                      | 32 MB / 128 MB / -   |   |
| Type of memory card  | microSD (max. 2 GB); microSDHC (max. 32 GB)  |   |
| Interfaces (USB)   | 2 x USB host 2.0 (type A)  |   |
| Onboard I/Os   | Audio; 4 x DIO, configurable   | Audio   |
| Dimensions W x H x D   | (293 x 223 x 78) mm  | (293 x 223 x 58) mm   |
| Panel cutout (W x H)   | (278 x 208) mm   |   |
| Mounting type  | Clamping elements (included) or VESA mount (4 x M4x8)  |   |
| Supply voltage   | 24 VSELV DC (18 ... 31.2 V); with reverse voltage protection   |   |
| Input current (typ.)   | 640 mA; without USB load; 940 mA; with USB load  | 620 mA, without USB load; 920 mA, with USB load   |
| Operating power  | 11.8 W, without USB load; 17.0 W, with USB load  | 11.6 W, without USB load; 16.8 W, with USB load   |
| Ambient temperature (operation)  | -20 ... +55 °C (when mounted vertically; -20 ... +50 °C, other mounting positions)   |   |
| Approvals  | CE, Marine, OrdLoc   |   |
| For data sheet and additional information, see:                                | wago.com/762-6304/8000-002   | wago.com/762-6204/8000-001  |
| <b>Product Expansions</b>  | <b>Item no.</b>  | <b>Item no.</b>   |
| Runtime; BACnet; 600; Single License; Online activation                        | 2759-286/211-1000  | -   |
| Runtime; MicroBrowser; Single License; Online activation                       | 2759-230/211-1000  | 2759-230/211-1000   |
| Runtime; EtherCAT Master; 600; Single License; Online activation               | -  | 2759-266/211-1000   |
| Runtime; IEC 61131 runtime environment; 600; Single License; Online activation | -  | 2759-216/211-1000   |
| <b>Accessories</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Memory Card SD Micro; 2 GB   | 758-879/000-3102   | 758-879/000-3102  |
| Memory Card SD Micro; pSLC-NAND; 8 GB  | 758-879/000-3108   | 758-879/000-3108  |

## Accessories



| Item Description                        | microSD Memory Card;<br>Temperature range: -40 ... +90 °C | microSD Memory Card;<br>Temperature range: -40 ... +90 °C |
|---|---|---|
| Version                                 | SLC-NAND; 2 GB  | pSLC-NAND; 8 GB   |
| Item No.                                | 758-879/000-3102  | 758-879/000-3108  |
| <b>Technical Data</b>                   |   |   |
| Memory                                  | 2 GB (SLC)  | 8 GB (pSLC)   |
| Read/write cycles (max.)                | 20 MB/s / 17 MB/s   | 48 MB/s / 45 MB/s   |
| MTBF                                    | 4,000,000 h   | 2,000,000 h   |
| Service life                            | 100,000 write cycles (per cell)                           | 20,000 write cycles (per cell)                            |
| Data storage                            | 10 years  | 10 years  |
| Surrounding air temperature (operation) | -40 ... +90 °C  | -40 ... +90 °C  |
| Surrounding air temperature (storage)   | -40 ... +90 °C  | -40 ... +90 °C  |
| Relative humidity                       | 95 %, non-condensing                                      | 95 %, non-condensing                                      |
| Dimensions W x H x D                    | 15 x 11 x 1 mm  | 15 x 11 x 1 mm  |
| Vibration resistance                    | 15g   | 15g   |
| Shock resistance                        | 50g   | 50g   |



| Connection Cable |                 |    |
|------------------|-----------------|----|
| USB A-B          | Item No.        | PU |
| 3 m              | 758-879/000-101 | 1  |

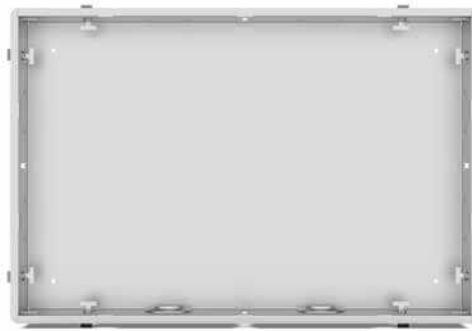
| Clamping Element; for Touch Panels |          |    |
|------------------------------------|----------|----|
|                                    | Item No. | PU |
| 4 pcs                              | 762-9001 | 1  |

## Flush-Mount Housing for Touch Panels 600



|                         |  |
|-------------------------|--|
| <b>Item Description</b> | <b>WAGO Flush-Mount Housing for Touch Panels 600</b> |
| <b>Version</b>          | <b>25.7 cm (10.1") 80.0 mm</b>                       |
| <b>Item No.</b>         | <b>762-9324</b>                                      |

|   |                |
|---|----------------|
| <b>Technical Data</b>                   |                |
| Dimensions W x H x D (mm)               | 293 x 223 x 80 |
| Panel cutout W x H (mm)                 | 281 x 211      |
| Weight                                  | 1330 g         |
| Surrounding air temperature (operation) | -20 ... +40 °C |

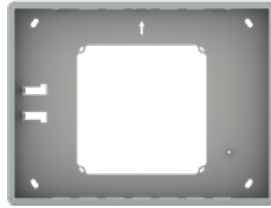
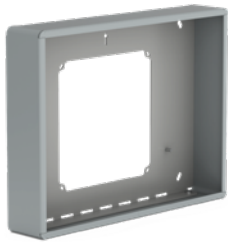


|                         |  |
|-------------------------|--|
| <b>Item Description</b> | <b>WAGO Flush-Mount Housing for Touch Panels 600</b> |
| <b>Version</b>          | <b>39.6 cm (15.6") 80.0 mm</b>                       |
| <b>Item No.</b>         | <b>762-9325</b>                                      |

|   |                |
|---|----------------|
| <b>Technical Data</b>                   |                |
| Dimensions W x H x D (mm)               | 420 x 282 x 80 |
| Panel cutout W x H (mm)                 | 409 x 271      |
| Weight                                  | 2120 g         |
| Surrounding air temperature (operation) | -20 ... +40 °C |

3

## Surface-Mounted Housing for Touch Panel 600; Visu Panel



**Item Description**

Surface-Mounted Housing for Touch Panel 600; 25.7 cm (10.1"); 52.5 mm; Visu Panel

**Item No.**

762-9214

**Technical Data**

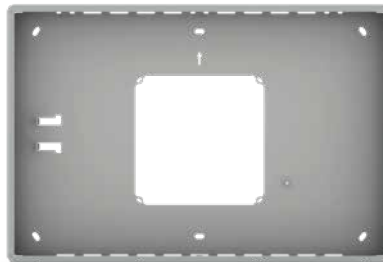
Dimensions W x H x D (mm)

292.8 x 222.6 x 52.5

Weight

1300 g

3



**Item Description**

Surface-Mounted Housing for Touch Panel 600; 39.6 cm (15.6"); 52.5 mm; Visu Panel

**Item No.**

762-9215

**Technical Data**

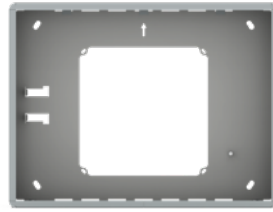
Dimensions W x H x D (mm)

420 x 282 x 52.5

Weight

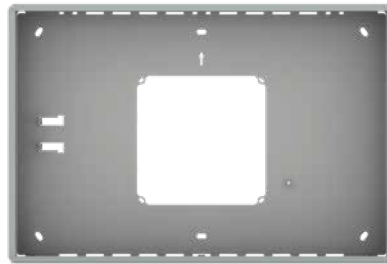
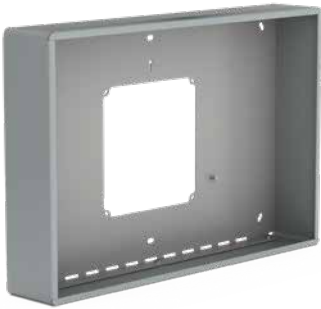
2500 g

## Surface-Mounted Housing for Touch Panel 600; Control Panel



|                           |  |
|---------------------------|--|
| <b>Item Description</b>   | Surface-Mounted Housing for Touch Panel 600; 25.7 cm (10.1"); 72.0 mm; Control Panel |
| <b>Item No.</b>           | 762-9314   |
| <b>Technical Data</b>     |  |
| Dimensions W x H x D (mm) | 292.8 x 222.6 x 72   |
| Weight                    | 1600 g   |

3



|                           |  |
|---------------------------|--|
| <b>Item Description</b>   | Surface-Mounted Housing for Touch Panel 600; 39.6 cm (15.6"); 72.0 mm; Control Panel |
| <b>Item No.</b>           | 762-9315   |
| <b>Technical Data</b>     |  |
| Dimensions W x H x D (mm) | 420 x 282 x 72   |
| Weight                    | 3000 g   |



# Edge Computing

## Touch Panels 600; Control Panel Hardware Configuration

- Merging of control and visualization
- 10.9 ... 54.7 cm (4.3 ... 21.5")

◀ Section 3

## Compact Controller 100

Maximum Performance in Minimum Space:

- Controller with a real-time Linux® operating system
- Compact controller with I/Os in a DIN-rail-mount enclosure
- Manufacturer-independent CODESYS V3 engineering environment

Section 5 ▶

## Edge Computing




- Models include Edge Controllers or Edge Computers
- Perfect in-the-field data usage
- Easy cloud connection
- Equipped for high security

## Controllers

- Scalable controller family with various interfaces
- Microcontrollers
- Readily combines with the modules of the WAGO I/O System 750

Section 6 ▶▶

# Edge Computing Contents

|   |                   |             |          |         |           |                       |               |   | Page              |    |
|---|-------------------|-------------|----------|---------|-----------|-----------------------|---------------|---|-------------------|----|
| <b>General Product Information</b>  |                   |             |          |         |           |                       |               |   | 94                |    |
| <b>Edge Devices, General Product Information</b>  |                   |             |          |         |           |                       |               |   | 95                |    |
| CPU   | Modbus (TCP, UDP) | EtherNet/IP | EtherCAT | CANopen | BACnet/IP | Telecontrol Protocols | IoT Protocols | Description   | Item No.          |    |
| <br>ARM® Cortex A9; 1 GHz                | M/S               | M/S         | x        | x       | x*        | x*                    | x             | Edge Controller; 2 x ETHERNET, 2 x USB, 1 x USB-C, HDMI, CAN, DI/DO, RS-232/485, Audio; Control | 752-8303/8000-002 | 96 |
|   |                   |             |          |         |           |                       | x             | Edge Computer; 2 x ETHERNET, 4 x USB, HDMI, DP; 4GB RAM; 64GB FLASH                             | 752-9400          | 98 |
| <br>Intel® Atom Quad Core E3845 1.91 GHz |                   |             |          |         |           |                       | x             | Edge Computer; 2 x ETHERNET, 4 x USB, HDMI, DP; 8GB RAM; 64GB FLASH                             | 752-9401          | 98 |
|   |                   |             |          |         |           |                       | x             | Edge Computer; 4 x ETHERNET, 4 x USB, HDMI, DP; 16 GB RAM, 256 GB Flash                         | 752-9800          | 99 |
| <br>Intel® i7-7600U 2.8 GHz            |                   |             |          |         |           |                       | x             | Edge Computer; 4 x ETHERNET, 4 x USB, HDMI, DP; 16 GB RAM, 256 GB Flash                         | 752-9800          | 99 |

M: Master, S: Slave; \*requires an additional license

## Edge Computing

### General Product Information

#### Edge Computing

In many cases, transferring data from machines and systems directly to a cloud solution is resource-intensive and infeasible due to the low latency required in industrial environments. Edge computing has established itself because it combines the advantages of decentralized cloud architectures with those of a local network architecture.

#### Perfectly Use Data in the Field

Intelligent processes are requiring more and more computing power, and this places corresponding demands on databases directly in the field. WAGO offers the right hardware for any edge application.

Where real-time data is involved, data processing is becoming increasingly important. More and more computing power is needed, and this places corresponding demands on databases, as well as analysis and optimization algorithms, directly in the field. WAGO offers solutions in the form of the Edge Controller and Edge Computer. These devices process applications right on the machine, offloading the controllers so they can focus on their actual control duties with low latency and a high level of determinism.

#### Easy Cloud Connection

Collected data can be evaluated directly, displayed graphically and made available to WAGO Cloud, for example. Transfer may be appropriate for especially critical data, for instance. Both of the devices have additional advantages when data needs to be buffered temporarily, for instance in mobile applications. They are based on cabinet-compatible hardware and can be powered with 24 V, making them a perfect fit for the automation environment.

#### Equipped for High Security

With a large share of open source software, the devices are well equipped for cybersecurity because the large open-source community continually reviews the source code and provides bug fixes. Besides the standard VPN applications, the devices are open for special security solutions such as Tosibox and Hooc. Thus, in addition to WAGO's own VPN solution, users can also access other remote maintenance solutions with a high degree of security, in line with the #openandeasy principle. The Edge Computer also offers a TPM 2.0 chip, which provides encryption generators as well as a safe haven for certificates and keys.





## WAGO Edge Devices General Product Information



### WAGO Edge Controller

The Edge Controller features an ARM Cortex-A9 quad-core processor and offers an extensive selection of interfaces, including two ETHERNET ports, one CANopen port and two USB ports. It also has a serial interface and four digital inputs/outputs for connecting local devices or sensors.

#### Your Benefits:

- Easy integration into existing systems
- Space-saving installation
- Can be configured in the familiar CODESYS environment



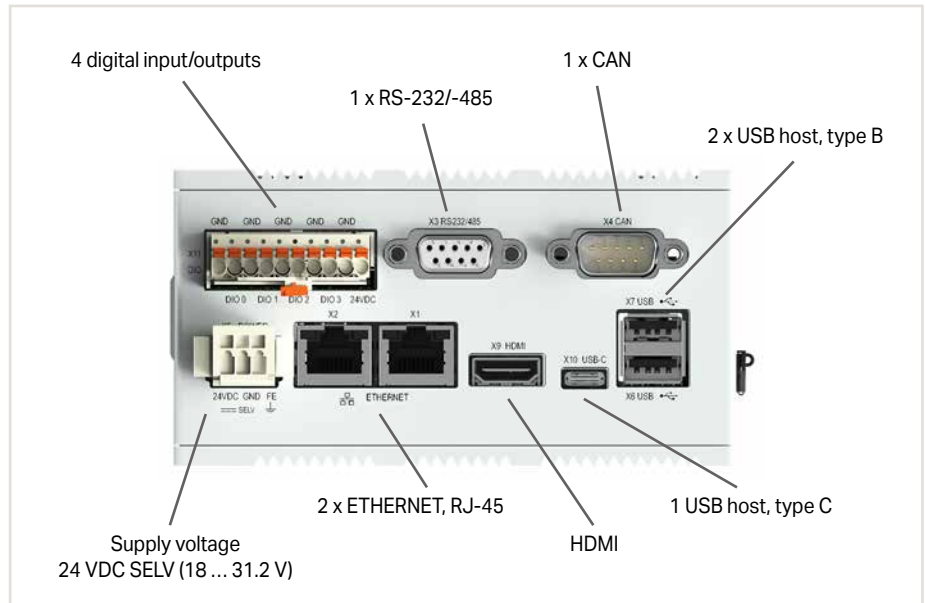
### WAGO Edge Computer

Where demands on computing power and memory are high, WAGO offers the perfect solution with the Edge Computer. It features a 1.91 GHz quad-core Atom processor or Intel® i7-7600U with 2.8 GHz and is equipped with standard Debian Linux. Users can draw on abundant resources and model entire automation processes on them.

#### Your Benefits:

- Features high computing power and scalable storage
- Compact and low-maintenance
- Allows use of standard software

# Edge Controller; 2 x ETHERNET, 2 x USB, 1 x USB-C, HDMI, CAN, DI/DO, RS-232/485, Audio; Control



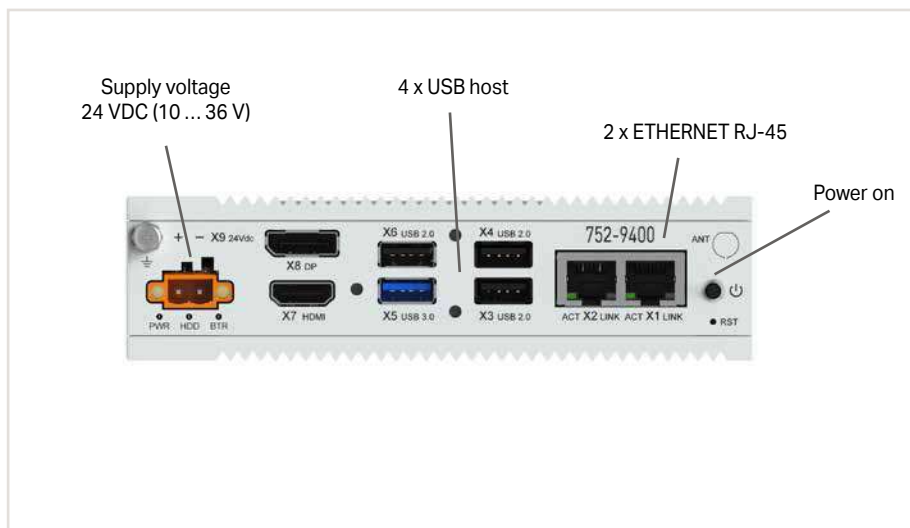
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|                  |   |
|------------------|---|
| Item Description | Edge Controller; 2 x ETHERNET, 2 x USB, 1 x USB-C, HDMI, CAN, DI/DO, RS-232/485, Audio; Control |
| Item No.         | 752-8303/8000-002   |
| Order Text       | Edge Controller   |

|   |  |
|---|--|
| Technical Data                                  |  |
| Communication                                   | Web browser; Web browser (HTML5); Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; CANopen; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, requires an additional license; Telecontrol protocols, requires an additional license |
| Visualization                                   | Web Visu; Target Visu  |
| ETHERNET protocols                              | DHCP, DNS, FTP, FTPS, HTTP, HTTPS, SSH   |
| Operating system                                | Real-time Linux (with RT-Preempt patch)  |
| Processor                                       | ARM®Cortex® A9   |
| Main memory (RAM)                               | 2 GB, DDR3 SDRAM   |
| Internal memory (flash)                         | 4 GB, eMMC   |
| Non-volatile memory (hardware)                  | 128 kB   |
| Memory expansion                                | microSD (max. 2 GB), microSDHC (max. 32 GB)  |
| RTC (Real-Time Clock)                           | Maintenance-free, buffering: min. 6 weeks  |
| Connection technology: communication/fieldbus   | ETHERNET: 2 x RJ-45 socket;<br>CAN: D-sub 9 plug;<br>RS-232/-485: D-sub 9 socket   |
| Baud rate                                       | ETHERNET: 10/100 Mbit/s;<br>CAN: 1 Mbaud   |
| Interfaces                                      | 2 x USB 2.0 socket, type A;<br>1 x USB OTG socket, type C;<br>HDMI; Audio  |
| Onboard I/Os                                    | 4 x DIO, configurable  |
| Indicators                                      | 3-color LED – red, green, blue; 4 x red/green LED  |
| Supply voltage                                  | SELV 24 VDC (–25 ... +30 %), LPS; with reverse voltage protection  |
| Input current (24 V)                            | 120 mA; without USB load;<br>390 mA; with USB load   |
| Operating power                                 | 2.9 W; without USB load;<br>9.4 W; with USB load   |
| Dimensions (W x H x D)                          | 65 x 123 x 115 mm  |
| Weight  | 815 g  |
| Housing material                                | Aluminum, powder-coated  |
| Mounting type                                   | DIN-35-rail mount  |
| Surrounding air temperature (operation)         | –20 ... +60 °C   |
| Surrounding air temperature (storage)           | –20 ... +80 °C   |
| Protection type                                 | IP20   |
| Relative humidity (without condensation)        | 90 %   |
| Approvals                                       | CE   |
| For data sheet and additional information, see: | wago.com/752-8303/8000-002   |

4

## Edge Computer; 2 x ETHERNET, 4 x USB, HDMI, DP; 4 or 8 GB RAM, 64 GB Flash



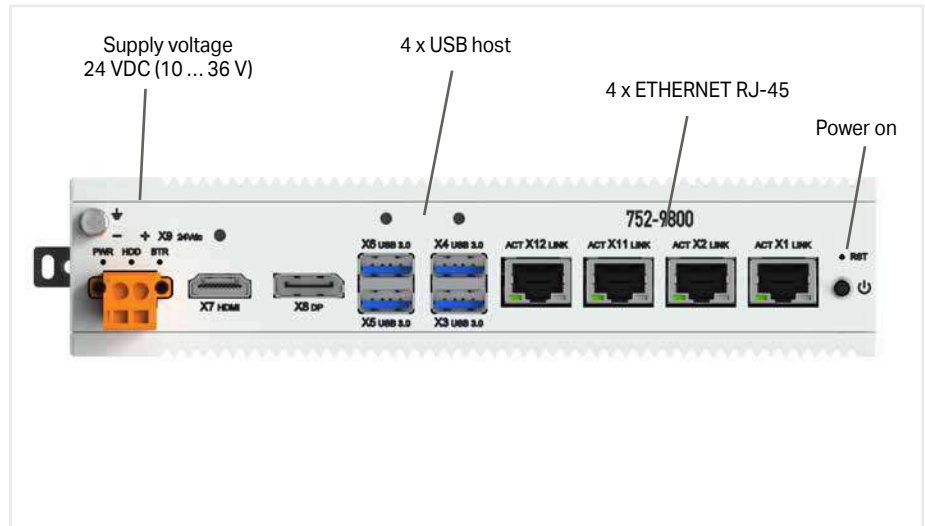
- 2 x ETHERNET interface for connecting to field devices and IT networks
- 4 x USB interface for optional connection of a USB stick, mouse or keyboard
- HDMI and display port interfaces for connecting a display

4

| Item Description | Edge Computer; 2 x ETHERNET, 4 x USB, HDMI, DP |   |
|------------------|--|---|
| Version          | 4 GB RAM, 64 GB Flash                          | 8 GB RAM, 64 GB Flash                         |
| Item No.         | 752-9400                                       | 752-9401                                      |
| Order Text       | EC; 2ETH, 4USB, HDMI, DP; 4GB RAM, 64GB Flash  | EC; 2ETH, 4USB, HDMI, DP; 8GB RAM, 64GB Flash |

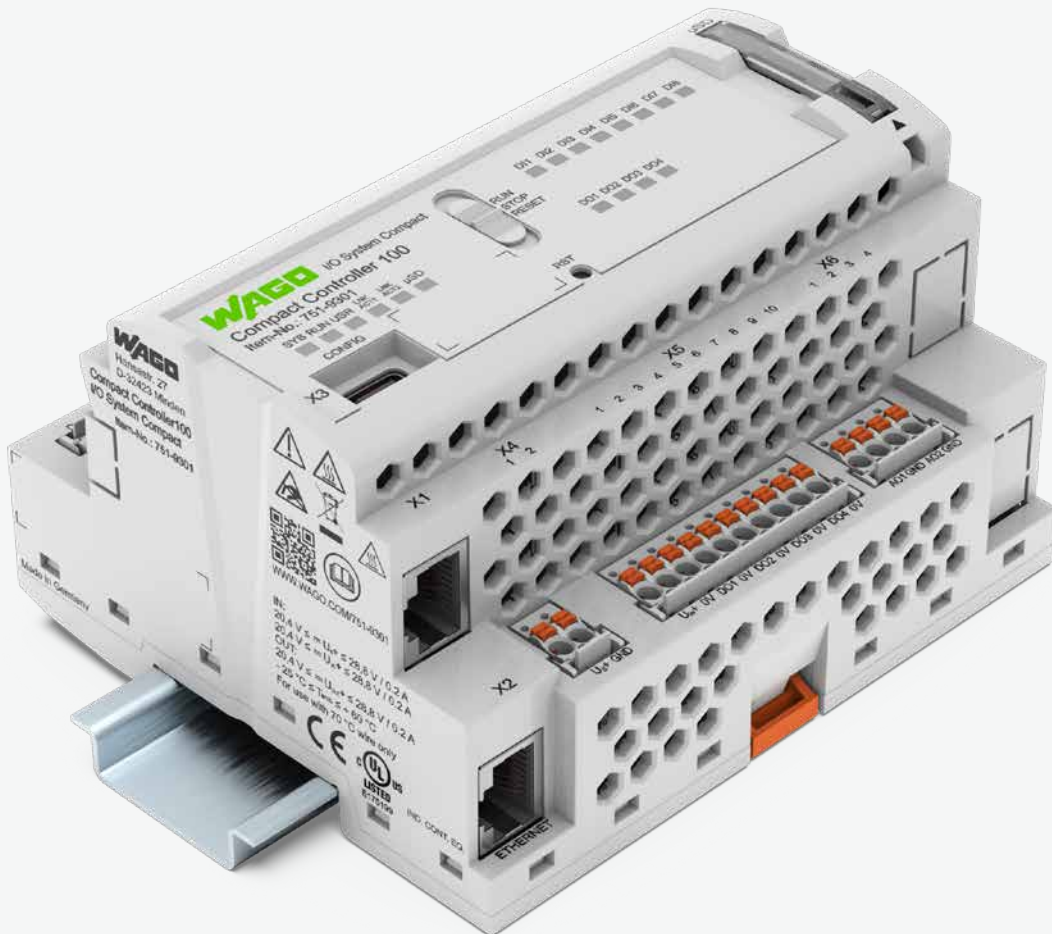
|   |   |
|---|---|
| Technical Data                                  |   |
| Communication                                   | Web browser   |
| Visualization                                   | Web server  |
| ETHERNET protocols                              | DHCP; DNS; HTTP; HTTPS; SSH; SCP; SFTP  |
| Operating system                                | Debian Linux 10.9   |
| Processor                                       | Intel® Atom Quadcore E3845 1.91 GHz   |
| Main memory (RAM)                               | 4 GB; DDR3L 1333 MHz   8 GB; DDR3L 1333 MHz   |
| Internal memory (flash)                         | 64 GB; mSATA SSD  |
| Memory expansion                                | Full-size mPCIe slot;<br>Drive mount for a 2.5" SSD HDD memory card (height: 9.5 mm)  |
| RTC (Real-Time Clock)                           | Battery type BR2032; 3 VDC  |
| Connection technology: communication/fieldbus   | ETHERNET: 2 x RJ-45 socket  |
| Baud rate                                       | ETHERNET: 10/100/1000 Mbit/s  |
| Interfaces                                      | 1 x USB 3.0 socket, Type A; 3 x USB 2.0 socket, Type A;<br>1 x HDMI v1.4, 1920 x 1080p @60Hz;<br>1 x DisplayPort 1.2, 2560 x 440p |
| Indicators                                      | 3 x LED   |
| Supply voltage                                  | 24 VDC (10 ... 36 V)  |
| Input current (24 V)                            | 1250 mA (typ.); 1750 mA (max.)  |
| Operating power                                 | 30 W (typ.); 42 W (max.)  |
| Dimensions (W x H x D)                          | 40 x 150 x 105 mm   |
| Weight  | 809 g   |
| Housing material                                | Aluminum, powder-coated   |
| Mounting type                                   | DIN-35-rail mount   |
| Surrounding air temperature (operation)         | -20 ... +60 °C  |
| Surrounding air temperature (storage)           | -40 ... +85 °C  |
| Protection type                                 | IP40  |
| Relative humidity (without condensation)        | 95 %  |
| Approvals                                       | Ⓢ E482462 Ordinary Locations, UL62368   |
| For data sheet and additional information, see: | wago.com/752-9400   wago.com/752-9401   |

## Edge Computer; 4 x ETHERNET, 4 x USB, HDMI, DP; 16 GB RAM, 256 GB Flash



- 4 ETHERNET interfaces for connecting to field devices and IT network
- 4 USB ports for the optional connection of a USB stick, mouse or keyboard
- HDMI and display port interfaces for connecting a display

|   |   |
|---|---|
| Item Description                                | Edge Computer; 4 x ETHERNET, 4 x USB, HDMI, DP; 16 GB RAM, 256 GB Flash                         |
| Item No.  | 752-9800  |
| Order Text                                      | EPC; 4ETH, 4USB, HDMI, DP; 16GB RAM, 256GB Flash  |
| Technical Data                                  |   |
| Communication                                   | Web browser   |
| Visualization                                   | Web server  |
| ETHERNET protocols                              | DHCP; DNS; HTTP; HTTPS; SSH; SCP; SFTP  |
| Operating system                                | Debian Linux 10.9   |
| Processor                                       | Intel® i7-7600U 2.8 GHz (max. 3.90 GHz)   |
| Main memory (RAM)                               | 16 GB; DDR4 2133 MHz  |
| Internal memory (flash)                         | 256 GB; SATA 2.5" SSD   |
| Memory expansion                                | Full-size mPCIe slot;<br>Drive slot for one 2.5" SSD HDD memory card (height 9.5 mm)            |
| RTC (Real-Time Clock)                           | Battery type BR2032; 3 VDC  |
| Connection technology: communication/fieldbus   | ETHERNET: 4 x RJ-45 1000BASE-T  |
| Baud rate                                       | ETHERNET: 10/100/1000 Mbit/s  |
| Interfaces                                      | 4 x USB 3.0 (Type A);<br>1 x HDMI v1.4, 1920 x 1080p @60Hz;<br>1 x DisplayPort 1.2, 2560 x 440p |
| Indicators                                      | 3 LEDs  |
| Supply voltage                                  | 24 VDC (10 ... 36 V)  |
| Input current (24 V)                            | 2292 mA typ.; 3967 mA max.  |
| Operating power                                 | 55 W typ.; 95.2 W max.  |
| Dimensions (W x H x D)                          | 45 x 200 x 140 mm   |
| Weight  | 1810 g  |
| Housing material                                | Aluminum, powder-coated   |
| Mounting type                                   | DIN-35-rail mount   |
| Surrounding air temperature (operation)         | -20 ... +60 °C  |
| Surrounding air temperature (storage)           | -40 ... +85 °C  |
| Protection type                                 | IP40  |
| Relative humidity (without condensation)        | 95 %  |
| Approvals                                       | CE*, FCC*, UL*; *pending  |
| For data sheet and additional information, see: | wago.com/752-9800   |



# Compact Controller 100

## Touch Panels 600; Control Panel Hardware Configuration

- Merging of control and visualization
- 10.9 ... 54.7 cm (4.3 ... 21.5")

◀ Section 3

## Compact Controller 100

Maximum Performance in Minimum Space:

- Controller with a real-time Linux® operating system
- Compact controller with I/Os in a DIN-rail-mount enclosure
- Manufacturer-independent CODESYS V3 engineering environment

## Edge Computing

- Models include Edge Controllers or Edge Computers
- Perfect in-the-field data usage
- Easy cloud connection
- Equipped for high security

◀ Section 4

## Controllers

- Scalable controller family with various interfaces
- Microcontrollers
- Readily combines with the modules of the WAGO I/O System 750

Section 6 ▶

# Compact Controller 100

## Contents

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| Standards and Rated Conditions | 105  |
| Approvals                      | 105  |



| CPU                   | Modbus (TCP, UDP) | EtherNet/IP™ | EtherCAT | Modbus RTU | Telecontrol Protocols | IoT Protocols | Description  | Item No. |     |
|-----------------------|-------------------|--------------|----------|------------|-----------------------|---------------|--|----------|-----|
| Cortex A7;<br>650 MHz | M/S               | M/S          | M        | x          | x*                    | x             | Compact Controller 100; 2 x ETHERNET, RS-485; 8DI, 4DO, 2Ai, 2AO, 2NI1K/PT1K | 751-9301 | 106 |

M: Master, S: Slave; \*requires an additional license

## Compact Controller 100

### General Product Information

#### Compact Controller 100: Maximum Performance in Minimum Space

The new WAGO Compact Controller 100 with integrated I/Os offers maximum performance in minimum space.

WAGO's Compact Controller 100 (751-9301) is an attractive solution for various applications that can adapt rapidly to users' needs. The new controller also allows WAGO to solidify its automation portfolio downstream of the proven PFC200. Typical of the WAGO controller family, this Compact Controller runs a real-time Linux operating system and supports standard fieldbus protocols – a clear commitment to openness and interoperability.

#### Quick and Easy Implementation of IoT Applications

This compact device is freely programmable with CODESYS V3, but can also be used with IEC 61131-independent software, for example, Node-RED, Python or C++. Subsequent installation of Docker® as a virtualization environment is also straightforward. This addition makes the Compact Controller 100 a full-fledged IIoT device with gateway functionality. In this way, WAGO perfectly combines the requirements of two different domains into one device, bringing its expertise to bear where "automation meets IT."

#### Embedded Linux

Embedded Linux is available for users who prefer to use a lean, secure operating system directly. This real-time Linux® provides a wide range of advantages, including the flexibility of being able to adapt open-source code to your specific needs at any time. Furthermore, this robust operating system ensures a high level of stability and is subject to continuous optimization by the active open-source community. This keeps users both up to date and ready to adapt to what's next – especially when it comes to security.

#### Engineering with CODESYS V3

The future of automation lies in strong partnerships and co-creation of products and solutions. That's why WAGO offers the Compact Controller 100 with the manufacturer-independent CODESYS V3 automation software. It offers the functions and technologies used in modern automation today, has an active community that keeps it completely up to date and offers users many new options thanks to its manufacturer-independence and interoperability.

#### Compact Design

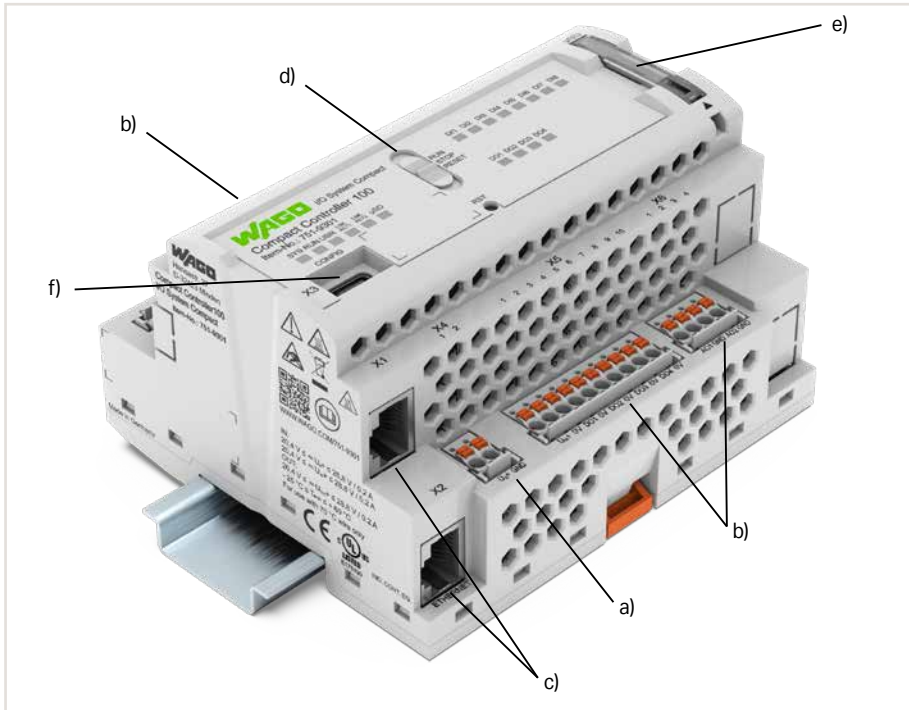
Thanks to its design as a DIN-rail built-in installation device (per DIN 43880), the new controller can also be mounted on small distribution boards. The I/O unit is housed in a compact enclosure along with the controller, so no additional space is required for extra control components. The removable wiring interface makes installation and device replacement easier.

#### Advantages:

- Compact controller with I/Os in a DIN-rail mountable device housing
- Controller with real-time Linux® operating system
- Manufacturer-independent CODESYS V3 engineering environment



## Compact Controller 100 Interfaces and Types

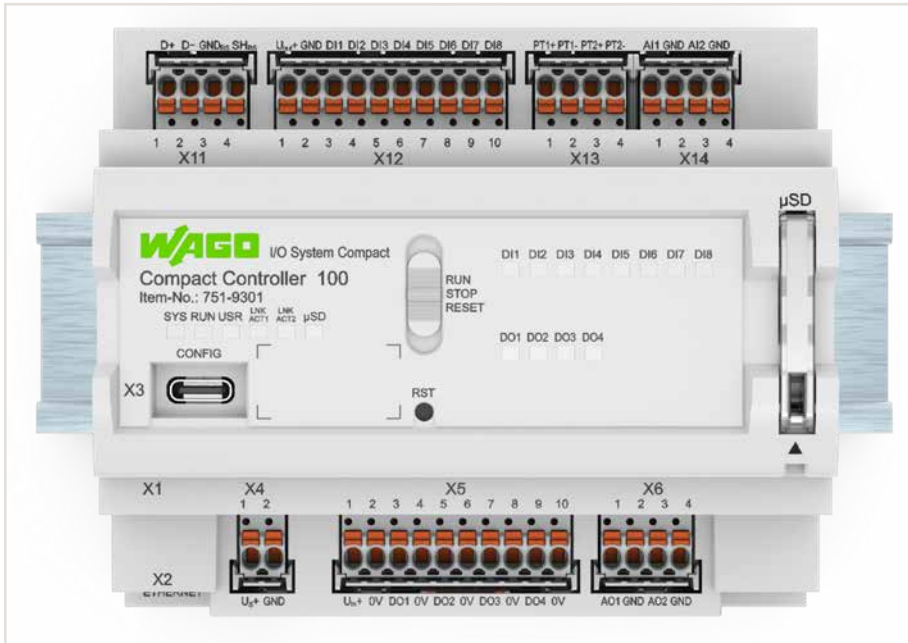


### DIN-rail mountable device housing

- Supply voltage (system) (a), Inputs/Outputs and Serial interface (b); Connection technology: picoMAX® 3.5; Push-in CAGE CLAMP®; Conductor range: 0.2 ... 1.5 mm<sup>2</sup> / 24 ... 14 AWG
- ETHERNET 2 x RJ-45 (c)
- Operating mode switch (d)
- microSD card slot for external storage media (e)
- Service interface USB-C (f)

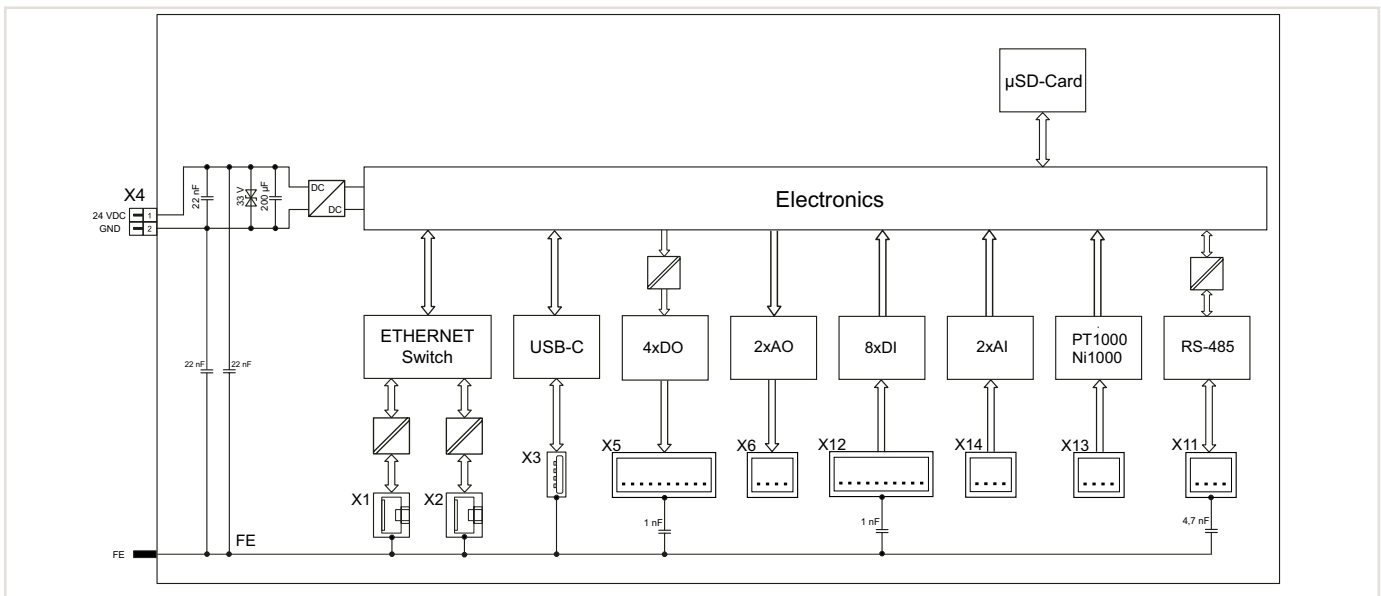
# Compact Controller 100

## General Product Information



- Communication interface RS-485 – “X11”
- Supply voltage (field) U<sub>OUT</sub> GND; Digital inputs DI1 ... DI8 – “X12”
- Analog temperature sensors PT1 ... PT2 – “X13”
- Analog inputs AI1 ... AI2 – “X14”

- Network connections ETHERNET – “X1”, “X2”
- Service interface – “X3”
- Supply voltage system – “X4”
- Supply voltage (field) U<sub>IN</sub> 0 V; Digital outputs DO1 ... DO4 – “X5”
- Analog outputs AO1 ... AO2 – “X6”



5

## Compact Controller 100

### Standards and Rated Conditions

#### General Specifications

|  |  |
|--|--|
| Programming languages per IEC 61131-3        | Instruction List (IL); Ladder Diagram (LD); Function Block Diagram (FBD); Continuous Function Chart (CFC); Structured Text (ST); Sequential Function Chart (SFC)   |
| Programming environment                      | CODESYS V3.5; Node RED   |
| Configuration options                        | CODESYS V3.5; ETHERNET Settings; Web-Based Management; WAGO-Upload; WAGO Solution Builder  |
| Baud rate                                    | ETHERNET: 10/100 Mbit/s  |
| Transmission medium (communication/fieldbus) | ETHERNET: Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length  |
| Type of memory card                          | microSD up to 32 GB (all guaranteed properties only valid with WAGO's memory card)   |
| Memory card slot                             | Push-push mechanism  |
| Indicators                                   | LED (SYS, RUN), red/green: Status of system; LED (USR) red/green: User programmable status (can be used via CODESYS library); LED (SD) orange: Status of μSD; LED (LNK/ACT) green: Network connection via ports 1 ... 2; LED (DI1 ... 8) green: Status of inputs; LED (DO1 ... 4) green: Status of outputs |
| Controls                                     | Operating mode switch (RUN, STOP, RESET); reset button   |
| Isolation                                    | 1250 V (DC 1 min., between system and field level)   |

#### Physical Data

|                                   |                     |
|-----------------------------------|---------------------|
| Width                             | 108 mm / 4.252 inch |
| Height                            | 90 mm / 3.543 inch  |
| Depth from upper-edge of DIN-rail | 55 mm / 2.165 inch  |

#### Mechanical Data

|                  |                         |
|------------------|-------------------------|
| Weight           | 348 g                   |
| Housing material | Polycarbonate, polyamid |

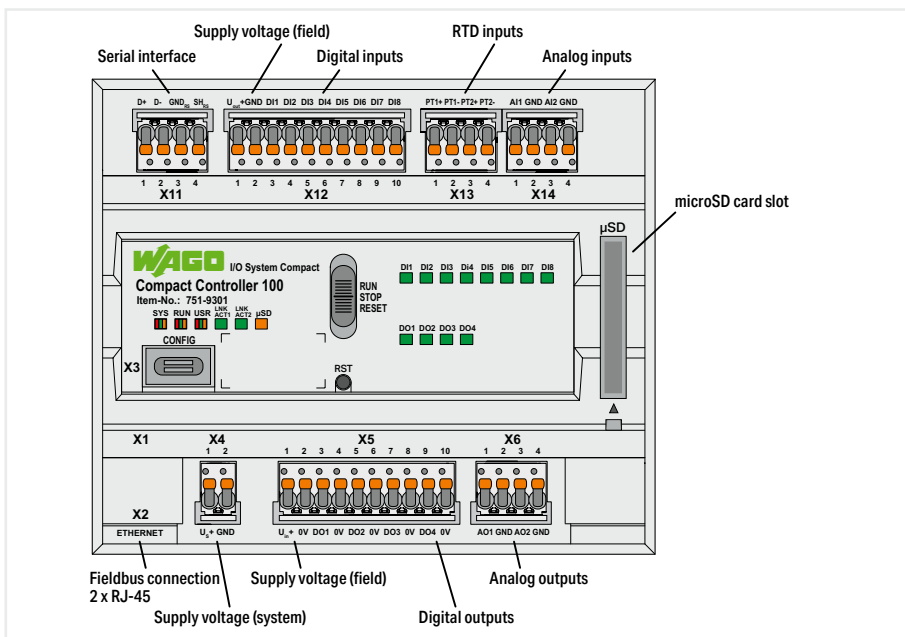
#### Environmental Requirements

|  |                              |
|--|------------------------------|
| Ambient temperature (operation)          | -25 ... +60 °C               |
| Ambient temperature (storage)            | -40 ... +85 °C               |
| Protection type                          | IP20                         |
| Pollution degree                         | 2 per IEC 61131-2            |
| Operating altitude                       | 0 ... 2000 m / 0 ... 6562 ft |
| Relative humidity (without condensation) | 95 %                         |
| Mounting position                        | any                          |
| Mounting type                            | DIN-35 rail                  |
| Vibration resistance                     | 1g per IEC 60068-2-6         |
| Shock resistance                         | 15g per IEC 60068-2-27       |
| EMC immunity to interference             | per EN 61000-6-2             |
| EMC emission of interference             | per EN 61000-6-3             |

## Compact controller ▶ 2 x ETHERNET, RS-485; 8DI, 4DO, 2Ai, 2AO, 2NI1K/PT1K



751-9301



|   |  |
|---|--|
| Version   | Standard   |
| Item no.  | 751-9301   |
| Order Text                                      | Compact Controller 100   |
| Technical data                                  |  |
| Communication                                   | Modbus (TCP, UDP); EtherCAT® Master; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; Modbus® RTU; RS-485 interface; MQTT; Telecontrol protocols, <b>requires an additional license</b><br>DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH<br>Web-Visu<br>CODESYS V3.5; Node RED<br>Cortex A7; 650 MHz<br>Real-time Linux (with RT-Preempt patch) |
| ETHERNET protocols                              |  |
| Visualization                                   |  |
| Programming environment                         |  |
| CPU   |  |
| Operating system                                |  |
| Main memory (RAM)                               | 512 MB   |
| Internal memory (flash)                         | 4096 MB  |
| Non-volatile hardware memory                    | 128 KB   |
| Data memory                                     | 128 MB   |
| Program memory                                  | 32 MB  |
| Non-volatile software memory                    | 128 KB   |
| Supply voltage (system)                         | 24 VDC (-15 ... +20 %); via pluggable connector ( <i>picoMAX</i> ® 3.5; Push-in CAGE CLAMP® connection)  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via pluggable connector ( <i>picoMAX</i> ® 3.5; Push-in CAGE CLAMP® connection)  |
| Current consumption (system) max.               | 500 mA   |
| Current consumption (field) max.                | 2000 mA  |
| Signal type                                     | Voltage; Resistance measurement  |
| Number of digital inputs                        | 8  |
| Input characteristic                            | Type 3 (per EN 61131-2)  |
| Number of digital outputs                       | 4  |
| Output current (per channel)                    | 500 mA (DC)  |
| Output current                                  | short-circuit-protected  |
| Signal type (voltage)                           | 0 ... 10 VDC   |
| Number of analog inputs                         | 2  |
| Resolution of analog inputs                     | 16 bits  |
| Number of analog outputs                        | 2  |
| Resolution of analog outputs                    | 12 bits  |
| Load impedance (voltage output)                 | ≥ 5 kΩ   |
| Number of measurement inputs                    | 2  |
| Temperature range                               | -60 °C ... 350 °C, PT1000, Ni1000  |
| Ambient temperature (operation)                 | -25 ... +60 °C   |
| Approvals                                       | C E; UKCA; Ⓢ- OrdLoc   |
| For data sheet and additional information, see: | wago.com/751-9301  |
| Accessories                                     |  |
| Memory Card SD Micro; 2 GB                      | 758-879/000-3102   |
| Memory Card SD Micro; pSLC-NAND; 8 GB           | 758-879/000-3108   |

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# Controllers

## Touch Panels 600; Control Panel Hardware Configuration

- Merging of control and visualization
- 10.9 ... 54.7 cm (4.3 ... 21.5")

◀◀◀ Section 3

## Edge Computing

- Models include Edge Controllers or Edge Computers
- Perfect in-the-field data usage
- Easy cloud connection
- Equipped for high security

◀◀ Section 4

## Compact Controller 100

Maximum Performance in Minimum Space:

- Controller with a real-time Linux® operating system
- Compact controller with I/Os in a DIN-rail-mount enclosure
- Manufacturer-independent CODESYS V3 engineering environment

◀ Section 5

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

Section 6.1 ▶

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

Section 6.2 ▶▶

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

Section 6.3 ▶▶▶

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

Section 6.4 ▶▶▶▶

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 6.5 ▶▶▶▶▶

## Starter Kits


For the entry into the most diverse application possibilities

## IoT Boxes

Integrating machines and plants into the Internet of Things

Section 6.6 ▶▶▶▶▶▶

## Controllers Overview

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|    | <b>Edge Computing</b><br>Edge Controller  | <b>4</b><br>93    |
|    | <b>Compact Controller 100</b><br>Compact controller with I/Os in a DIN-rail-mount enclosure                             | <b>5</b><br>101   |
|    | <b>Controllers PFC100 and PFC200</b><br>Scalable IP20 controller family with various interfaces                         | <b>6.1</b><br>111 |
|   | <b>Controllers PFC200 XTR</b><br>Scalable IP20 controllers with various interfaces for eXTReme environmental conditions | <b>6.2</b><br>131 |
|  | <b>Basic Controllers 100</b><br>IP20 microcontrollers; programmable with CODESYS V3                                     | <b>6.3</b><br>143 |
|  | <b>Controllers 750</b><br>IP20 microcontrollers   | <b>6.4</b><br>151 |
|  | <b>Controllers 750 XTR</b><br>IP20 microcontrollers for eXTReme environments  | <b>6.5</b><br>173 |
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|   | <b>IoT Boxes</b><br>Integrating machines and plants into the Internet of Things   |                   |

### Benefits:

- Fieldbus-independent – compatible with all prominent fieldbus protocols and ETH-ERNET standards
- Scalable performance – Controllers, Control Panels, PFC100 and PFC200
- Programming per IEC 61131-3
- Flexible platform adapts to diverse applications and environments
- Combinable with the WAGO I/O System 750 – modular, compact, versatile



# Controllers PFC100/PFC200

**Controllers PFC100/PFC200**

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

**Controllers PFC200 XTR**

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

**Basic Controllers 100**

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

Section 6.2 ▶

Section 6.3 ▶▶

**Controllers 750**

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

**Controllers 750 XTR**

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

**Starter Kits**

For the entry into the most diverse application possibilities

**IoT Boxes**

Integrating machines and plants into the Internet of Things

Section 6.4 ▶▶▶

Section 6.5 ▶▶▶▶












Section 6.6 ▶▶▶▶▶



# Controllers PFC100/PFC200

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| CPU  | Modbus (TCP, UDP) | EtherNet/IP™ | EtherCAT | PROFINET | PROFIBUS | CANopen | BACnet/IP | OPC UA | Modbus RTU | Telecontrol Protocols | IoT Protocols | Description | Item No.   |                      |                                      |     |
|--|-------------------|--------------|----------|----------|----------|---------|-----------|--------|------------|-----------------------|---------------|-------------|--|----------------------|--------------------------------------|-----|
|  |                   |              |          |          |          |         |           |        |            |                       |               |             | Standard   | Extended Temperature |                                      |     |
|  Cortex A8; 600 MHz   | M/S               | S            |          |          |          |         |           |        |            |                       |               | x           | Controller PFC100; 2 x ETHERNET; Eco   | 750-8100             |                                      | 116 |
|  Cortex A8; 600 MHz   | M/S               | S            |          |          |          |         |           |        |            |                       |               | x           | Controller PFC100; 2 x ETHERNET  | 750-8101             | 750-8101/025-000                     | 117 |
|  | M/S               | S            |          |          |          |         |           |        | x          |                       | x             |             | Controller PFC100; 2 x ETHERNET, RS-232/-485   | 750-8102             | 750-8102/025-000                     | 118 |
|  Cortex A8; 1 GHz    | M/S               | M/S          | M        |          |          |         | x*        | x      | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 4 x ETHERNET  | 750-8210             | 750-8210/025-000                     | 119 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        |          |          |         | x*        | x      | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, 2 x SFP-Ports                             | 750-8211             |                                      | 120 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        |          |          |         | x*        | x      | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485                               | 750-8212             | 750-8212/025-000                     | 121 |
|  | M/S               | M/S          | M        |          |          |         | x*        | x      | x          | x                     | x             |             | Telecontrol Technology   |                      | 750-8212/025-001<br>750-8212/025-002 | 121 |
|  | M/S               | M/S          | M        |          |          |         | x         | x      | x          | x*                    | x             |             | BACnet/IP  | 750-8212/000-100     |                                      | 122 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        |          | M/S      |         | x*        | x      |            | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, CAN, CANopen                              | 750-8213             |                                      | 123 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        |          | M/S      |         |           | x      | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen                 | 750-8214             |                                      | 124 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        | S        | M/S      |         |           | x      |            | x*                    | x             |             | Controller PFC200; 2nd Generation; 4 x ETHERNET, CAN, CANopen, USB                         | 750-8215             |                                      | 125 |
|  Cortex A8; 1 GHz   | M/S               | M/S          | M        | S        | M/S      |         | x*        | x      | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave | 750-8216             | 750-8216/025-000                     | 126 |
|  | M/S               | M/S          | M        | S        | M/S      |         | x*        | x      | x          | x                     | x             |             | Telecontrol Technology   |                      | 750-8216/025-001                     | 126 |
|  Cortex A8; 1 GHz   | M/S               | S            | M*       |          |          |         | x*        |        | x          | x*                    | x             |             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, Mobile Radio Module 4G       | 750-8217             | 750-8217/025-000                     | 127 |
|  |                   |              |          |          |          |         |           |        |            |                       |               |             | Global Variant   | 750-8217/600-000     | 750-8217/625-000                     | 128 |
|  Cortex A8; 600 MHz | M/S               | S            |          | M        |          |         |           |        | x          |                       | x             |             | Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master                | 750-8208             | 750-8208/025-000                     | 129 |
|  | M/S               | S            |          | M        |          |         |           |        | x          | x                     | x             |             | Telecontrol Technology   |                      | 750-8208/025-001                     | 129 |

M: Master, S: Slave; \*requires an additional license

## Controllers PFC100/PFC200

### General Product Information

#### PFC100/PFC200:

##### Maximum Performance in a Minimum Space

As a member of the WAGO control family, the PFC100/PFC200 Controllers with CODESYS V3 excel with high processing speed and multiple interfaces for parallel communication. All variants feature at least two ETHERNET ports and – depending on the model – additional interfaces. The CANopen, PROFIBUS DP, Modbus TCP/UPD/RTU, PROFINET, EtherNet/IP and EtherCAT protocols provide a flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in the development environment.

The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC100/PFC200 Controllers offer ample memory for your applications provided by the internal flash memory and an integrated interface for memory cards.

##### Industry 4.0 / IoT

Recording, digitizing and linking data profitably – these are the core ideas of Industry 4.0. Using a dedicated library, WAGO's PFC100/PFC200 Controllers become IoT controllers that send data from the field level to the cloud. Once in the cloud, data can be aggregated and used for analysis. This capability creates tremendous added value for your company – whether it's increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services. Existing systems also become IoT-ready, making them future-proof. The WAGO PFC family of controllers thus forms the basis for a sustainable corporate world.

##### Telecontrol Technology

Standardized telecontrol protocols according to IEC 60870-5, IEC 61850, IEC 61400-25 or DNP3 ensure use of the PFC Controllers in telecontrol technology.

##### Starter Kits

For a quick start, WAGO offers every customer the unique opportunity to purchase a starter kit that already contains all the components needed to begin programming and getting to know the controllers. For starter kits, see Section 6.6.

##### Link between Process Data and IT Application

The PFC100/PFC200 Controllers ideally combine real-time requirements with IT functionality. They support both Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS, Telnet, SSH and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

##### Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as VPN, integrated firewall, HTTPS, FTPS, SSH and SSL/TLS are standard.

##### Demand-Oriented Extensibility

Some controllers offer the option of activating functions that go beyond the standard via runtime licenses, making it possible to price as needed. This also offers the advantage that with the same exact controller, different functions can be realized and also combined, which otherwise would only be replicated via additional variants. The licenses are simply loaded into the controller together with the project. The additional licenses available for each controller are specified by the controller and described in detail in the "Software" section.

##### Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use – even under harsh operating conditions. These recognitions include: ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous marine certifications.

##### Modular and Expandable

With the WAGO I/O System 750, the PFC100/PFC200 Controllers can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools. The straightforward design prevents installation errors. Additionally, proven CAGE CLAMP® technology ensures that all connections made in the field are quick, vibration-proof and maintenance-free. Depending on the I/O modules' granularity, the field level can be directly wired using 1-, 2-, 3- or 4-conductor technology.

##### Maximum Reliability and Ruggedness

The PFC100/PFC200 Controllers are engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100% function testing ensure consistent quality.

##### Open-Source Software and Linux®

We unite what belongs together: High-performance WAGO Hardware and future-ready Linux® Operating System. For complex tasks, you can choose between programming in IEC 61131 or directly under Linux®. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP). If you are interested, simply contact our AUTOMATION technical support.



##### Benefits:

- Programming per IEC 61131-3
- Applications with higher-level languages
- Linux® real-time operating system
- Rugged and maintenance-free
- Integrated cybersecurity packages
- IoT ready

# Controllers PFC100/PFC200 Variants

## Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, there are applications like telecontrol technology that require an extended temperature range. Select controllers are available in an extended temperature range of -20°C to +60°C.



## Eco

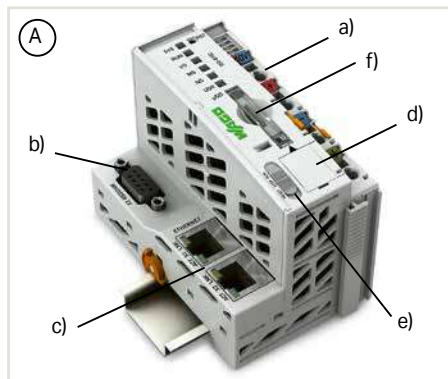
The Eco version of the PFC200 limits the number of I/O modules to four.

## Telecontrol Technology

The PFC200 models for telecontrol technology integrate the following standardized telecontrol protocols:

- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

## Interfaces and Types



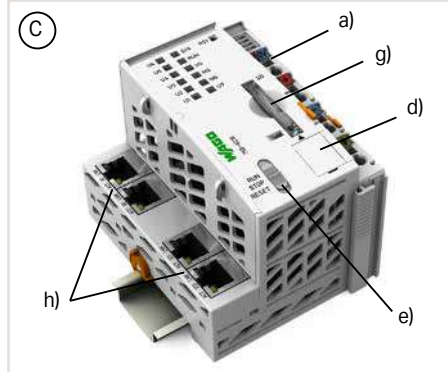
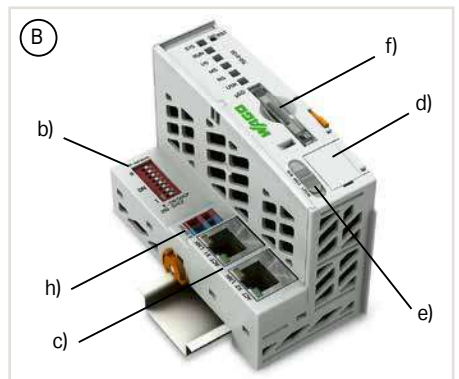
- Includes a supply module (a) to power downstream I/O modules; Connection technology (system/field supply): CAGE CLAMP®; Conductor range: 0.08 ... 2.5 mm²/28 ... 14 AWG
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)
- Start/stop switch (e)

### Housing Design PFC100 (A, B)

- microSD card slot for external storage media (f)

### Housing Design PFC200 (C, D, E, F, G, H)

- SD card slot for external storage media (g)



### Housing Design (A)

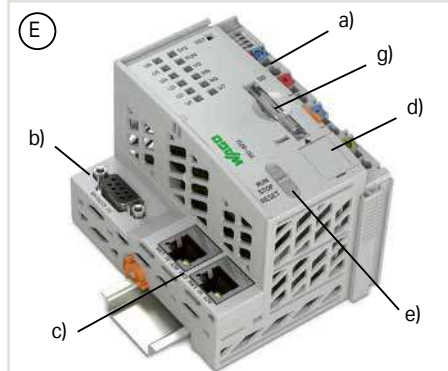
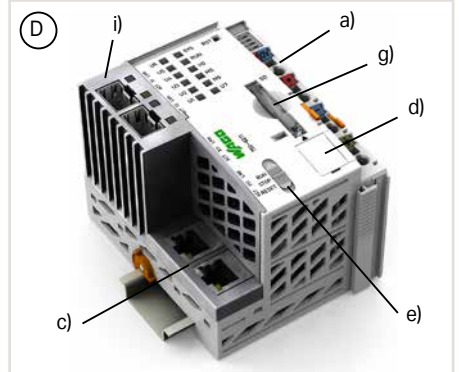
- W x H x D (mm): 61.5 x 100 x 71.9

### Housing Design (B)

- W x H x D (mm): 49.5 x 96.8 x 71.9
- Supply system connection technology (h): CAGE CLAMP®; Conductor range: 0.08 ... 1.5 mm²/28 ... 16 AWG

### Housing Design (C)

- ETHERNET 4 x RJ-45 (h)
- W x H x D (mm): 78.6 x 100 x 71.9



### Housing Design (D)

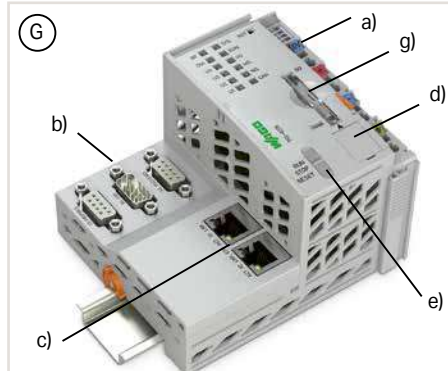
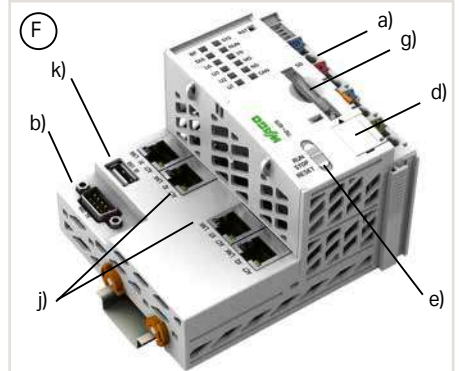
- 2 x SFP port; 100BASE-FX, LC, fiber optic (SFP type) (i)
- W x H x D (mm): 78.6 x 100 x 71.9

### Housing Design (E)

- W x H x D (mm): 78.6 x 100 x 71.9

### Housing Design (F)

- ETHERNET 4 x RJ-45 (j)
- USB interface (k)
- W x H x D (mm): 112 x 100 x 71.9

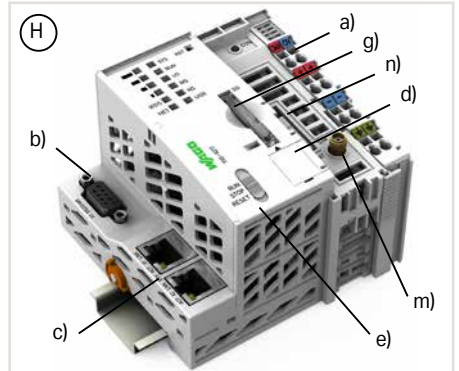


### Housing Design (G)

- W x H x D (mm): 112 x 100 x 71.9

### Housing Design (H)

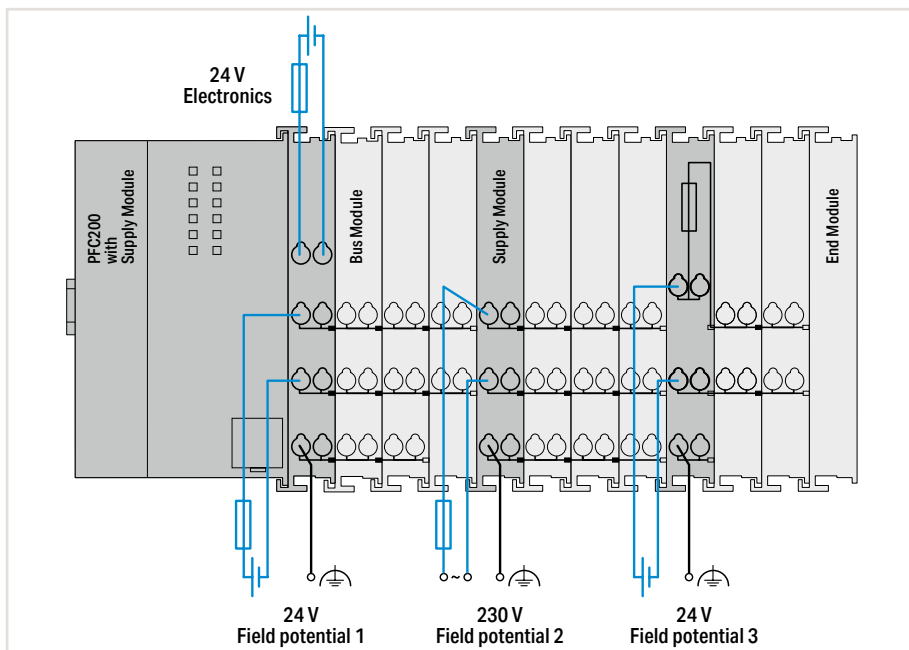
- GSM antenna connection (m)
- SIM card slot (n)
- W x H x D (mm): 102.5 x 100 x 71.9



## Controllers PFC100/PFC200 Installation Instructions

### Power Supply

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node. Power supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.



### Notes

Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.

A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.

Additionally, both a supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

When operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. Furthermore, specific power and field-side power supply filters (750-626) must be provided.

Please refer to the manual for details about the power supply's design.

## Item Number Key

Explanation of an item number key's components

### 6.1

#### Item No. : 750-81xx = PFC100

- 00: 2 x ETHERNET, Eco
- 01: 2 x ETHERNET
- 02: 2 x ETHERNET, RS-232/-485

#### Item No. : 750-82xy = PFC200

- 0y: Generation 1
- 1y: Generation 2
- x0: 4 x ETHERNET
- x1: 2 x ETHERNET, 2 x SFP Port
- x2: 2 x ETHERNET, RS-232/-485
- x3: 2 x ETHERNET, CAN
- x4: 2 x ETHERNET, RS-232/-485, CAN
- x5: 4 x ETHERNET, CAN, CANopen, USB
- x6: 2 x ETHERNET, RS-232/-485, CAN, PROFIBUS DP Slave
- x7: 2 x ETHERNET, RS-232/-485, Mobile Radio Module
- x8: 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master

.../025-yyy: Extended Temperature Range (-20 ... +60 °C)

- 000: Standard
- 001: Telecontrol Technology
- 002: Telecontrol Eco

## Standards and Rated Conditions

| General technical data   |   |
|--|---|
| Isolation  | 500 V system/field  |
| Relative humidity (without condensation)   | 95 %  |
| Operating altitude   | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.) |
| Pollution degree   | 2 per IEC 61131-2   |
| Shock resistance   | 15g per IEC 60068-2-27  |
| EMC immunity to interference   | per EN 61000-6-2, marine applications   |
| Protection type  | IP20  |
| Mounting position  | any   |
| Mounting type  | DIN-35 rail   |
| Housing material   | Polycarbonate; polyamide 6.6  |
| Exposure to pollutants   | per IEC 60068-2-42 and IEC 60068-2-43   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm  |
| Connection technology: system supply   | 2 x CAGE CLAMP®   |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).

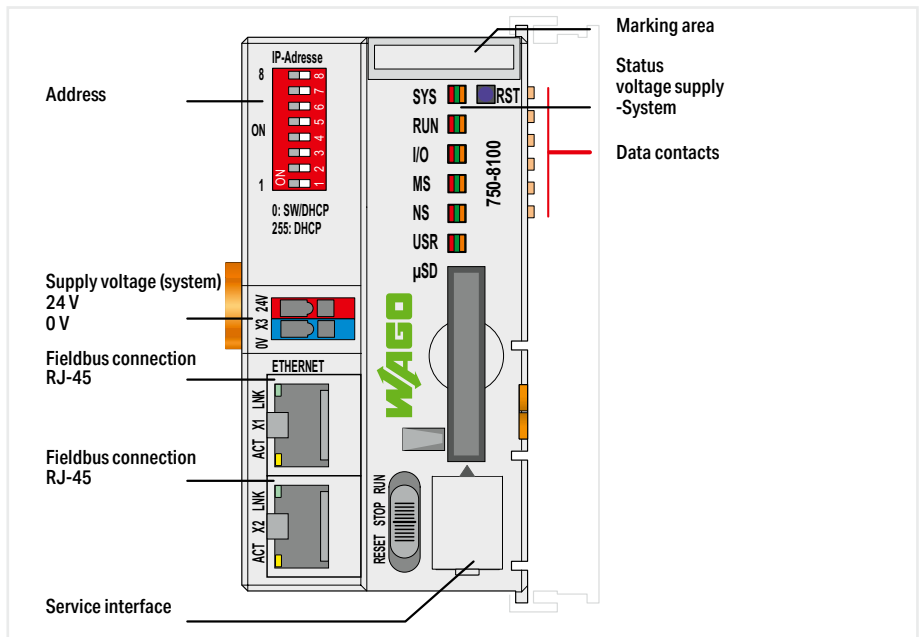


|                       |          |
|-----------------------|----------|
| Antenna               | Page 630 |
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Shield termination    | Page 708 |
| Software              | Page 51  |
| System enclosure      | Page 693 |

# Controller PFC100 ▶ 2 x ETHERNET; ECO



750-8100



|            |                   |
|------------|-------------------|
| Version    | Standard          |
| Item no.   | 750-8100          |
| Order Text | PFC100; 2ETH; ECO |

|  |  |
|--|--|
| Technical data   |  |
| Communication  | Modbus (TCP, UDP); ETHERNET; EtherNet/IP™ Adapter (slave), library for e!RUNTIME; MQTT |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH                                      |
| Visualization  | Web-Visu   |
| Programming environment  | e!COCKPIT (based on CODESYS V3)  |
| CPU  | Cortex A8; 600 MHz   |
| Operating system   | Real-time Linux 3.18 (with RT-Preempt patch)   |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 256 MB / 256 MB / 64 KB  |
| Program memory/data memory/non-volatile memory (software)                | 10 MB / 10 MB / 64 KB (Program and data memory (dynamically distributed))              |
| Number of modules per node (max.)  | 250  |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |
| Input and output process image (Modbus®) max.                            | CODESYS V3: 32000 words/32000 words  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector  |
| Input current (typ.) at nominal load (24 V)                              | 300 mA   |
| Total current (system supply)  | 700 mA   |
| Ambient temperature (operation)  | 0 ... +55 °C   |
| Dimensions W x H x D   | (49.5 x 96.8 x 71.9) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see:                          | wago.com/750-8100  |

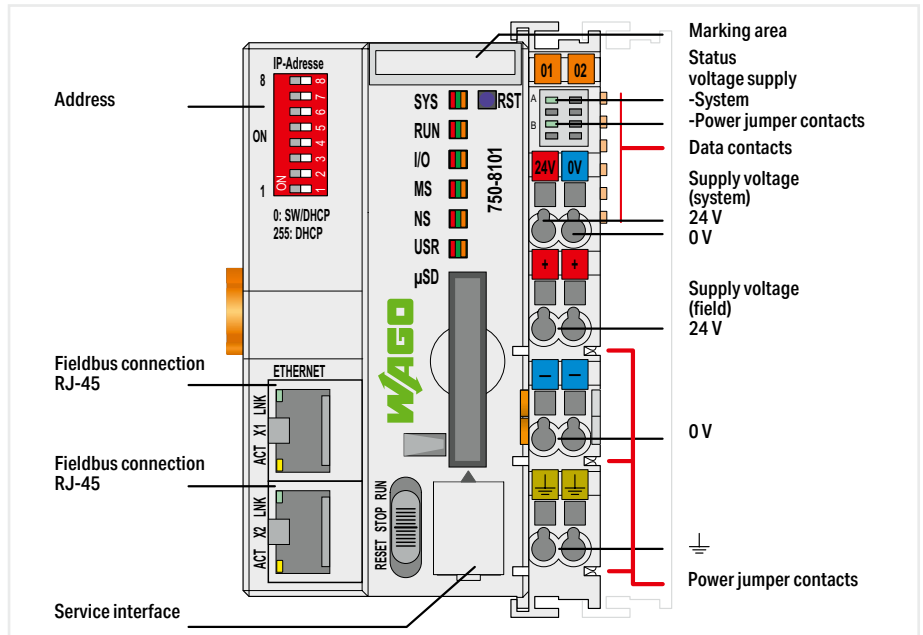
|   |                  |
|---|------------------|
| Accessories   | Item no.         |
| Memory Card SD Micro; 2 GByte   | 758-879/000-3102 |
| Memory Card SD Micro; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C | 758-879/000-3108 |

6.1

# Controller PFC100 ▶ 2 x ETHERNET



750-8101



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|              |                  |
|--------------|------------------|
| Standard     | ext. temperature |
| 750-8101     | 750-8101/025-000 |
| PFC100; 2ETH | PFC100; 2ETH; T  |

|  |
|--|
| Technical data   |
| Communication  |
| ETHERNET protocols   |
| Visualization  |
| Programming environment  |
| CPU  |
| Operating system   |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) |
| Program memory/data memory/non-volatile memory (software)                |
| Number of modules per node (max.)  |
| Input and output process image (internal) max.                           |
| Input and output process image (Modbus®) max.                            |
| Supply voltage (system)  |
| Supply voltage (field)   |
| Input current (typ.) at nominal load (24 V)                              |
| Total current (system supply)  |
| Ambient temperature (operation)  |
| Dimensions W x H x D   |
| Approvals  |
| For data sheet and additional information, see:                          |

|  |                |
|--|----------------|
| Modbus (TCP, UDP); ETHERNET; EtherNet/IP™ Adapter (slave), library for e!RUNTIME, MQTT |                |
| DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH                                      |                |
| Web-Visu   |                |
| e!COCKPIT (based on CODESYS V3)  |                |
| Cortex A8; 600 MHz   |                |
| Real-time Linux 3.18 (with RT-Preempt patch)   |                |
| 256 MB / 256 MB / 64 KB  |                |
| 12 MB / 12 MB / 64 KB (Program and data memory (dynamically distributed))              |                |
| 250  |                |
| 1000 words/1000 words  |                |
| CODESYS V3: 32000 words/32000 words  |                |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)               |                |
| 24 VDC (-25 ... +30 %); via power jumper contacts                                      |                |
| 550 mA   |                |
| 1700 mA  |                |
| 0 ... +55 °C   | -20 ... +60 °C |
| (61.5 x 100 x 71.9) mm   |                |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |                |
| wago.com/750-8101  |                |

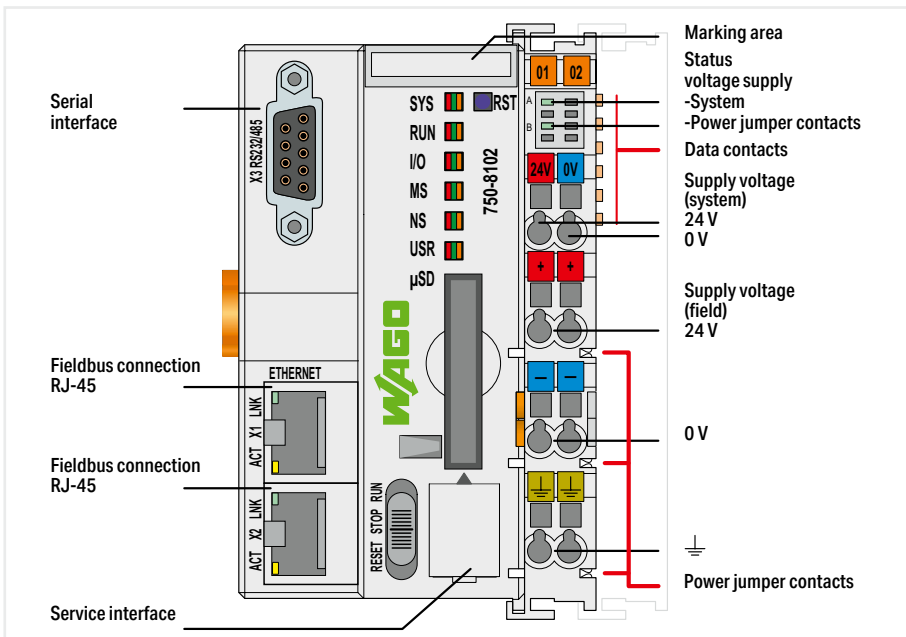
|   |
|---|
| Accessories   |
| Memory Card SD Micro; 2 GByte   |
| Memory Card SD Micro; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C |

|                  |                  |
|------------------|------------------|
| Item no.         | Item no.         |
| 758-879/000-3102 | 758-879/000-3102 |
| 758-879/000-3108 | 758-879/000-3108 |

# Controller PFC100 ▶ 2 x ETHERNET, RS-232/-485



750-8102



|            |                 |                    |
|------------|-----------------|--------------------|
| Version    | Standard        | ext. temperature   |
| Item no.   | 750-8102        | 750-8102/025-000   |
| Order Text | PFC100; 2ETH RS | PFC100; 2ETH RS; T |

|  |  |                |
|--|--|----------------|
| Technical data   |  |                |
| Communication  | Modbus (TCP, UDP); ETHERNET; EtherNet/IP™ Adapter (slave), library for e!RUNTIME; Modbus® RTU; RS-232 serial interface; RS-485 interface; MQTT |                |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  |                |
| Visualization  | Web-Visu   |                |
| Programming environment  | e!COCKPIT (based on CODESYS V3)  |                |
| CPU  | Cortex A8; 600 MHz   |                |
| Operating system   | Real-time Linux 3.18 (with RT-Preempt patch)   |                |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 256 MB / 256 MB / 128 KB   |                |
| Program memory/data memory/non-volatile memory (software)                | 12 MB / 12 MB / 128 KB (Program and data memory (dynamically distributed))   |                |
| Number of modules per node (max.)  | 250  |                |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |                |
| Input and output process image (Modbus®) max.                            | CODESYS V3: 32000 words/32000 words  |                |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |                |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts  |                |
| Input current (typ.) at nominal load (24 V)                              | 550 mA   |                |
| Total current (system supply)  | 1700 mA  |                |
| Ambient temperature (operation)  | 0 ... +55 °C   | -20 ... +60 °C |
| Dimensions W x H x D   | (61.5 x 100 x 71.9) mm   |                |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |                |
| For data sheet and additional information, see:                          | wago.com/750-8102  |                |

## 6.1

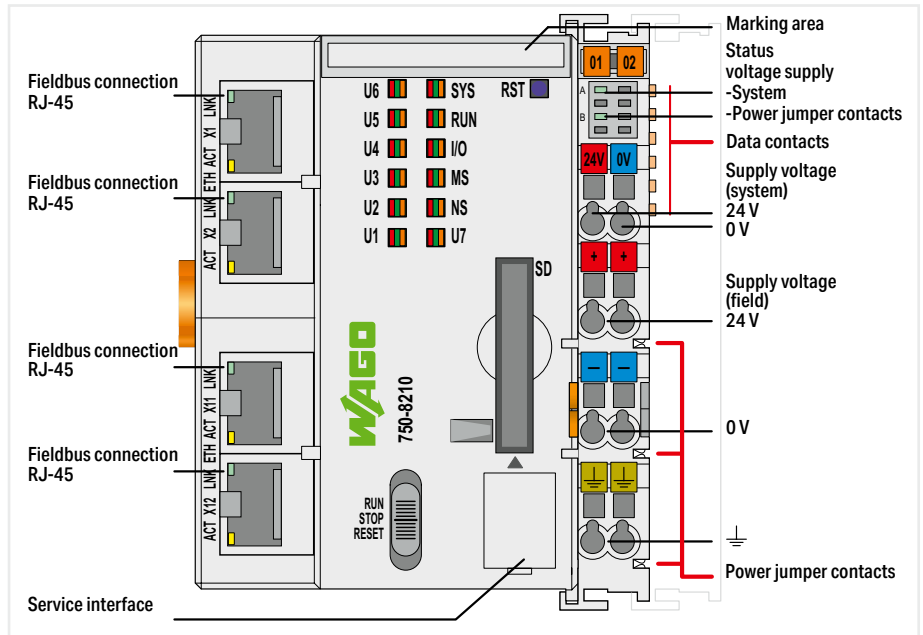
|   |                  |                  |
|---|------------------|------------------|
| Accessories   | Item no.         | Item no.         |
| Memory Card SD Micro; 2 GByte   | 758-879/000-3102 | 758-879/000-3102 |
| Memory Card SD Micro; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C | 758-879/000-3108 | 758-879/000-3108 |



# Controller PFC200 ▶ 4 x ETHERNET



750-8210



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                  |                     |
|------------------|---------------------|
| Standard         | ext. temperature    |
| 750-8210         | 750-8210/025-000    |
| PFC200; G2; 4ETH | PFC200; G2; 4ETH; T |

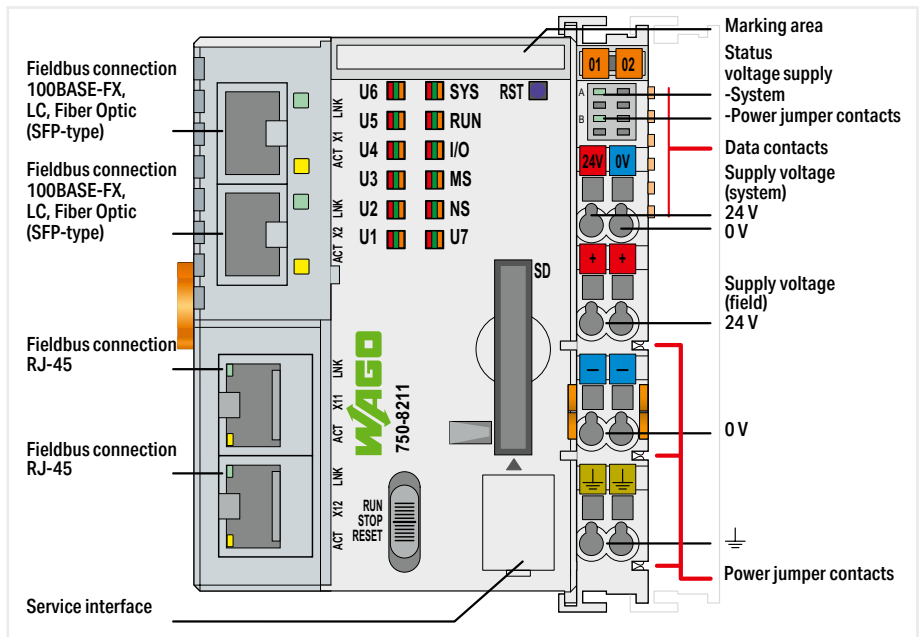
|  |   |
|--|---|
| Technical data   |   |
| Communication  | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |
| Telecontrol protocols  | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)   |
| Visualization  | Web-Visu  |
| Programming environment  | CODESYS V3.5, from firmware release 23; <b>e!</b> COCKPIT (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22  |
| CPU  | Cortex A8; 1 GHz  |
| Operating system   | Real-time Linux (with RT-Preempt patch)   |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB   |
| Number of modules per node (max.)  | 250   |
| Input and output process image (internal) max.                           | 1000 words/1000 words   |
| Input and output process image (Modbus®) max.                            | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts   |
| Input current (typ.) at nominal load (24 V)                              | 550 mA  |
| Total current (system supply)  | 1700 mA   |
| Ambient temperature (operation)  | 0 ... +55 °C  |
| Dimensions W x H x D   | (78.6 x 100 x 71.9) mm  |
| Approvals  | CE; Marine; OrdLoc  |
| For data sheet and additional information, see:                          | wago.com/750-8210   |
| <b>Product Expansions</b>  |   |
| Runtime; BACnet; 300; Single License; Online activation                  | 2759-283/211-1000   |
| Runtime; DNP3 Master; M; Single License; Online activation               | 2759-2293/211-1000  |
| Runtime; IEC60870 Slave; Single License; Online activation               | 2759-290/211-1000   |
| Runtime; DNP3 Slave; Single License; Online activation                   | 2759-2290/211-1000  |
| Runtime; IEC60870 Master; M; Single License; Online activation           | 2759-293/211-1000   |
| Runtime; IEC61850 Client; M; Single License; Online activation           | 2759-2243/211-1000  |
| Runtime; IEC61850 Server; Single License; Online activation              | 2759-2240/211-1000  |
| <b>Accessories</b>   |   |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C         | 758-879/000-001   |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C         | 758-879/000-2108  |

|                    |                    |
|--------------------|--------------------|
| <b>Item no.</b>    | <b>Item no.</b>    |
| 2759-283/211-1000  | 2759-283/211-1000  |
| 2759-2293/211-1000 | 2759-2293/211-1000 |
| 2759-290/211-1000  | 2759-290/211-1000  |
| 2759-2290/211-1000 | 2759-2290/211-1000 |
| 2759-293/211-1000  | 2759-293/211-1000  |
| 2759-2243/211-1000 | 2759-2243/211-1000 |
| 2759-2240/211-1000 | 2759-2240/211-1000 |
| <b>Item no.</b>    | <b>Item no.</b>    |
| 758-879/000-001    | 758-879/000-001    |
| 758-879/000-2108   | 758-879/000-2108   |

## Controller PFC200 ▶ 2 x ETHERNET, 2 x SFP port



750-8211



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                       |  |
|-----------------------|--|
| Standard              |  |
| 750-8211              |  |
| PFC200; G2; 2ETH 2SFP |  |

|                |  |
|----------------|--|
| Technical data |  |
| Communication  |  |

|   |
|---|
| Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> |
| DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |

|                       |  |
|-----------------------|--|
| ETHERNET protocols    |  |
| Telecontrol protocols |  |

|   |
|---|
| IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master) |
|---|

|                         |  |
|-------------------------|--|
| Visualization           |  |
| Programming environment |  |

|   |
|---|
| Web-Visu  |
| CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |

|                  |  |
|------------------|--|
| CPU              |  |
| Operating system |  |

|   |
|---|
| Cortex A8; 1 GHz                        |
| Real-time Linux (with RT-Preempt patch) |

|  |  |
|--|--|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) |  |
|--|--|

|                        |
|------------------------|
| 512 MB / 4 GB / 128 KB |
|------------------------|

|   |  |
|---|--|
| Program memory/data memory/non-volatile memory (software) |  |
|---|--|

|   |
|---|
| CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB |
|---|

|  |  |
|--|--|
| Number of modules per node (max.)              |  |
| Input and output process image (internal) max. |  |

|                       |
|-----------------------|
| 250                   |
| 1000 words/1000 words |

|   |  |
|---|--|
| Input and output process image (Modbus®) max. |  |
| Supply voltage (system)                       |  |

|  |
|--|
| CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words   |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |

|   |  |
|---|--|
| Supply voltage (field)                      |  |
| Input current (typ.) at nominal load (24 V) |  |

|   |
|---|
| 24 VDC (-25 ... +30 %); via power jumper contacts |
| 550 mA  |

|                                 |  |
|---------------------------------|--|
| Total current (system supply)   |  |
| Ambient temperature (operation) |  |

|              |
|--------------|
| 1700 mA      |
| 0 ... +55 °C |

|                      |  |
|----------------------|--|
| Dimensions W x H x D |  |
| Approvals            |  |

|                        |
|------------------------|
| (78.6 x 100 x 71.9) mm |
| CE; Marine; OrdLoc     |

|   |  |
|---|--|
| For data sheet and additional information, see: |  |
| <b>Product Expansions</b>                       |  |

|                   |  |
|-------------------|--|
| wago.com/750-8211 |  |
| <b>Item no.</b>   |  |

|   |  |
|---|--|
| Runtime; BACnet; 300; Single License        |  |
| Runtime; DNP3 Master; M; Single License     |  |
| Runtime; IEC60870 Slave; Single License     |  |
| Runtime; DNP3 Slave; Single License         |  |
| Runtime; IEC60870 Master; M; Single License |  |
| Runtime; IEC61850 Client; M; Single License |  |
| Runtime; IEC61850 Server; Single License    |  |

|                    |
|--------------------|
| 2759-283/211-1000  |
| 2759-2293/211-1000 |
| 2759-290/211-1000  |
| 2759-2290/211-1000 |
| 2759-293/211-1000  |
| 2759-2243/211-1000 |
| 2759-2240/211-1000 |

|  |  |
|--|--|
| <b>Accessories</b>   |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C |  |

|                 |  |
|-----------------|--|
| <b>Item no.</b> |  |
| 758-879/000-001 |  |

|   |  |
|---|--|
| SFP Module 100BASE-FX Multi-Mode 1310 nm LC; 2 km; DDM; Extreme; silver-colored |  |
|---|--|

|         |
|---------|
| 852-202 |
|---------|

|   |  |
|---|--|
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C |  |
|---|--|

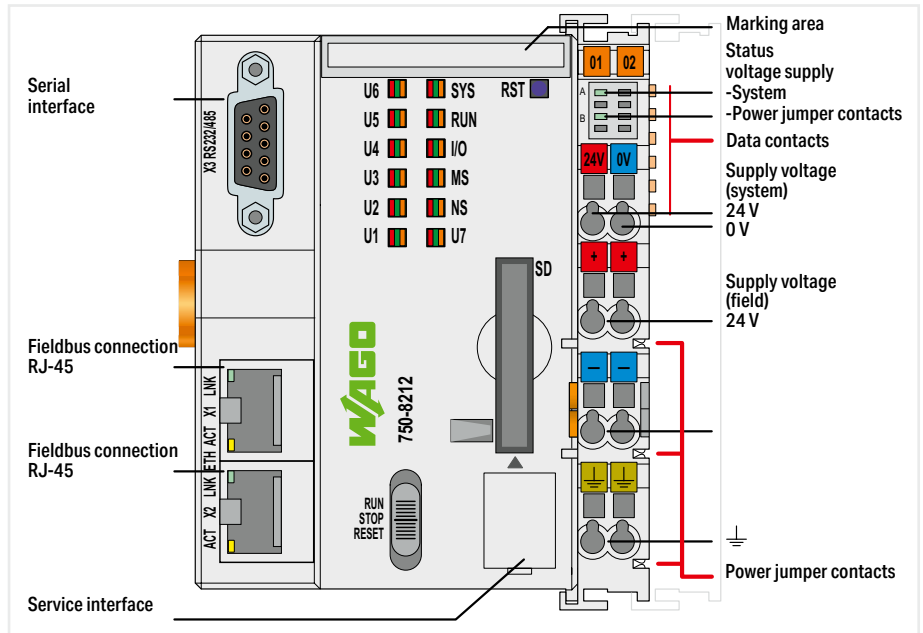
|                  |
|------------------|
| 758-879/000-2108 |
|------------------|

6.1

# Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485



750-8212



|            |                     |
|------------|---------------------|
| Version    |                     |
| Item no.   | 750-8212            |
| Order Text | PFC200; G2; 2ETH RS |

| Standard            | ext. temperature       | Telecontrol technology; ext. temperature | Telecontrol technology; ext. temperature; ECO |
|---------------------|------------------------|--|---|
| 750-8212            | 750-8212/025-000       | 750-8212/025-001                         | 750-8212/025-002                              |
| PFC200; G2; 2ETH RS | PFC200; G2; 2ETH RS; T | PFC200; G2; 2ETH RS; Tele; T             | PFC200; G2; 2ETH RS; Tele; T; ECO             |

**Technical data**  
Communication

|  |  |
|--|--|
| Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; Telecontrol protocols; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> |
|--|--|

ETHERNET protocols  
Telecontrol protocols

|   |                            |
|---|----------------------------|
| DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |                            |
| IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master) | IEC 60870; IEC 61850; DNP3 |

Visualization  
Programming environment

|   |  |
|---|--|
| Web-Visu  |  |
| CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |  |

CPU  
Operating system

|   |  |
|---|--|
| Cortex A8; 1 GHz                        |  |
| Real-time Linux (with RT-Preempt patch) |  |

Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)

|                        |  |
|------------------------|--|
| 512 MB / 4 GB / 128 KB |  |
|------------------------|--|

Program memory/data memory/non-volatile memory (software)

|   |  |
|---|--|
| CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB |  |
|---|--|

Number of modules per node (max.)

|     |   |
|-----|---|
| 250 | 6 |
|-----|---|

Input and output process image (internal) max.  
Input and output process image (Modbus®) max.

|  |  |
|--|--|
| 1000 words/1000 words  |  |
| CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words |  |

Supply voltage (system)  
Supply voltage (field)

|  |  |
|--|--|
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |  |
| 24 VDC (-25 ... +30 %); via power jumper contacts                        |  |

Input current (typ.) at nominal load (24 V)  
Total current (system supply)

|         |  |
|---------|--|
| 550 mA  |  |
| 1700 mA |  |

Ambient temperature (operation)  
Dimensions W x H x D

|                        |                |
|------------------------|----------------|
| 0 ... +55 °C           | -20 ... +60 °C |
| (78.6 x 100 x 71.9) mm |                |

Approvals

|                                       |  |
|---------------------------------------|--|
| CE, Marine, OrdLoc/HazLoc, ATEX/IECEx |  |
| wago.com/750-8212                     |  |

For data sheet and additional information, see:

**Product Expansions**

| Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|
|----------|----------|----------|----------|

Runtime; BACnet; 300; Single License

|                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|
| 2759-283/211-1000 | 2759-283/211-1000 | 2759-283/211-1000 | 2759-283/211-1000 |
|-------------------|-------------------|-------------------|-------------------|

Runtime; DNP3 Master; M; Single License

|                    |                    |   |   |
|--------------------|--------------------|---|---|
| 2759-2293/211-1000 | 2759-2293/211-1000 | - | - |
|--------------------|--------------------|---|---|

Runtime; IEC60870 Slave; Single License

|                   |                   |   |   |
|-------------------|-------------------|---|---|
| 2759-290/211-1000 | 2759-290/211-1000 | - | - |
|-------------------|-------------------|---|---|

Runtime; DNP3 Slave; Single License

|                    |                    |   |   |
|--------------------|--------------------|---|---|
| 2759-2290/211-1000 | 2759-2290/211-1000 | - | - |
|--------------------|--------------------|---|---|

Runtime; IEC60870 Master; M; Single License

|                   |                   |   |   |
|-------------------|-------------------|---|---|
| 2759-293/211-1000 | 2759-293/211-1000 | - | - |
|-------------------|-------------------|---|---|

Runtime; IEC61850 Client; M; Single License

|                    |                    |   |   |
|--------------------|--------------------|---|---|
| 2759-2243/211-1000 | 2759-2243/211-1000 | - | - |
|--------------------|--------------------|---|---|

Runtime; IEC61850 Server; Single License

|                    |                    |   |   |
|--------------------|--------------------|---|---|
| 2759-2240/211-1000 | 2759-2240/211-1000 | - | - |
|--------------------|--------------------|---|---|

**Accessories**

| Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|
|----------|----------|----------|----------|

Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| 758-879/000-001 | 758-879/000-001 | 758-879/000-001 | 758-879/000-001 |
|-----------------|-----------------|-----------------|-----------------|

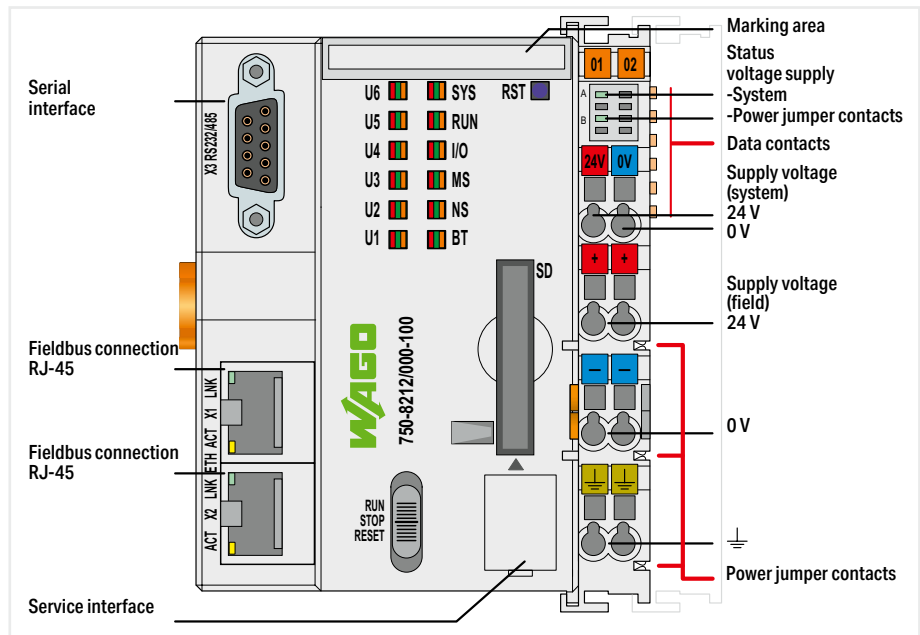
Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| 758-879/000-2108 | 758-879/000-2108 | 758-879/000-2108 | 758-879/000-2108 |
|------------------|------------------|------------------|------------------|

## Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485, BACnet/IP



750-8212/000-100

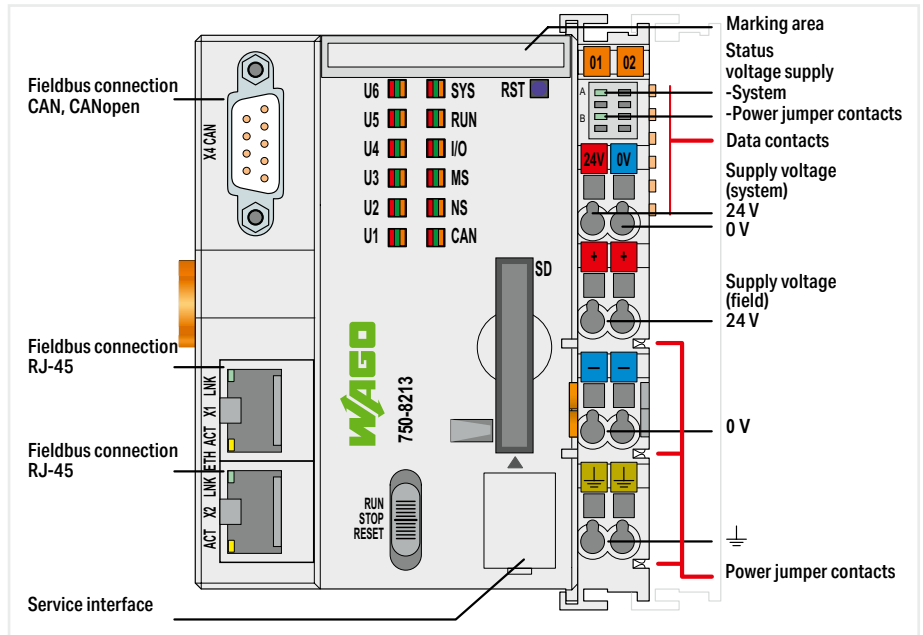


|  |  |
|--|--|
| Version  | BACnet/IP  |
| Item no.   | 750-8212/000-100   |
| Order Text   | PFC200; G2; 2ETH RS; BACnet/IP   |
| Technical data   |  |
| Communication  | BACnet/IP; Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; Telecontrol protocols, <b>requires an additional license</b> |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  |
| Telecontrol protocols  | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)  |
| Device-specific  | BACnet/IP protocol: ISO 16484-5; BACnet device profiles: B-BC (BACnet Building Controller); BACnet revision: 14  |
| Visualization  | Web-Visu   |
| Programming environment  | CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22  |
| CPU  | Cortex A8; 1 GHz   |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB   |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V3: 32 MB / 128 MB / 128 KB  |
| Number of modules per node (max.)  | 250  |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |
| Input and output process image (Modbus®) max.                            | CODESYS V3: 32000 words/32000 words  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts  |
| Input current (typ.) at nominal load (24 V)                              | 550 mA   |
| Total current (system supply)  | 1700 mA  |
| Ambient temperature (operation)  | 0 ... +55 °C   |
| Dimensions W x H x D   | (78.6 x 100 x 71.9) mm   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |
| Approvals (pending)  | BACnet approvals: WSPCert certification; BTL listing   |
| For data sheet and additional information, see:                          | wago.com/750-8212/000-100  |
| <b>Product Expansions</b>  |  |
| Runtime; DNP3 Master; M; Single License; Online activation               | 2759-2293/211-1000   |
| Runtime; IEC60870 Slave; Single License; Online activation               | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License; Online activation                   | 2759-2290/211-1000   |
| Runtime; IEC60870 Master; M; Single License; Online activation           | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License; Online activation           | 2759-2243/211-1000   |
| Runtime; IEC61850 Server; Single License; Online activation              | 2759-2240/211-1000   |
| <b>Accessories</b>   |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C         | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C          | 758-879/000-2108   |

# Controller PFC200 ▶ 2 x ETHERNET, CAN, CANopen



750-8213



|            |                      |
|------------|----------------------|
| Version    | Standard             |
| Item no.   | 750-8213             |
| Order Text | PFC200; G2; 2ETH CAN |

|                |  |
|----------------|--|
| Technical data |  |
| Communication  |  |

CANopen; Modbus TCP master/slave; Modbus (UDP); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, **requires an additional license**; Telecontrol protocols, **requires an additional license**

|                       |   |
|-----------------------|---|
| ETHERNET protocols    | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |
| Telecontrol protocols | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master) |

|                         |  |
|-------------------------|--|
| Visualization           | Web-Visu   |
| Programming environment | CODESYS V3.5, from firmware release 23; <b>e!</b> COCKPIT (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |

|                  |   |
|------------------|---|
| CPU              | Cortex A8; 1 GHz                        |
| Operating system | Real-time Linux (with RT-Preempt patch) |

|  |   |
|--|---|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB |

|  |  |
|--|--|
| Number of modules per node (max.)              | 250  |
| Input and output process image (internal) max. | 1000 words/1000 words  |
| Input and output process image (Modbus®) max.  | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words |
| Input and output process image (CAN) max.      | 2000 words/2000 words  |

|                         |  |
|-------------------------|--|
| Supply voltage (system) | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts                        |

|   |         |
|---|---------|
| Input current (typ.) at nominal load (24 V) | 550 mA  |
| Total current (system supply)               | 1700 mA |

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature (operation) | 0 ... +55 °C           |
| Dimensions W x H x D            | (78.6 x 100 x 71.9) mm |

|   |                                       |
|---|---------------------------------------|
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx |
| For data sheet and additional information, see: | wago.com/750-8213                     |

|  |                    |
|--|--------------------|
| Product Expansions   |                    |
| Runtime; BACnet; 300; Single License; Online activation        | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License; Online activation     | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License; Online activation     | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License; Online activation         | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License; Online activation | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License; Online activation | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License; Online activation    | 2759-2240/211-1000 |

|  |                  |
|--|------------------|
| Accessories  |                  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C  | 758-879/000-2108 |

|          |  |
|----------|--|
| Item no. |  |
|----------|--|

|  |                    |
|--|--------------------|
|  | 2759-283/211-1000  |
|  | 2759-2293/211-1000 |
|  | 2759-290/211-1000  |
|  | 2759-2290/211-1000 |
|  | 2759-293/211-1000  |
|  | 2759-2243/211-1000 |
|  | 2759-2240/211-1000 |

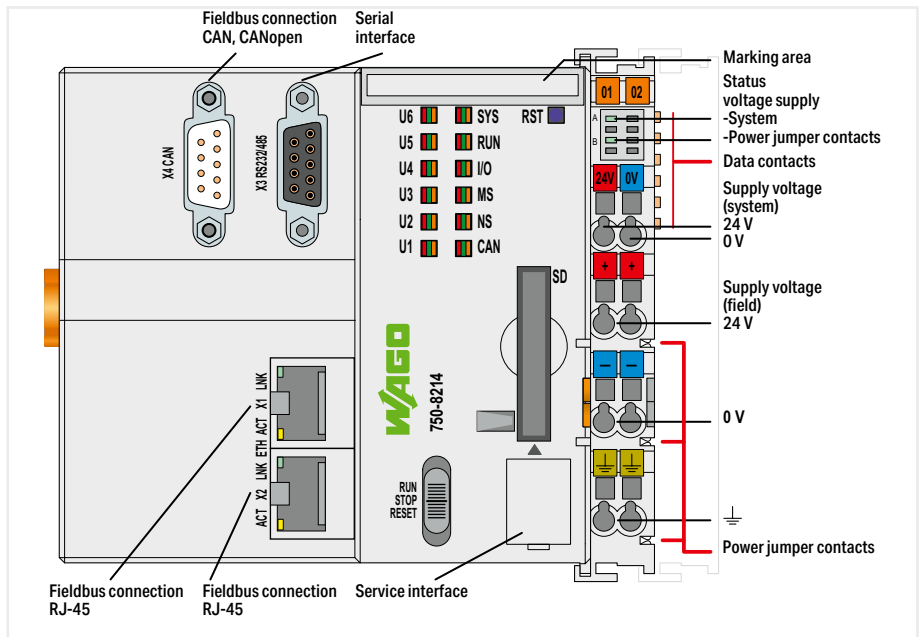
|          |  |
|----------|--|
| Item no. |  |
|----------|--|

|  |                  |
|--|------------------|
|  | 758-879/000-001  |
|  | 758-879/000-2108 |

# Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485, CAN, CANopen



750-8214



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                         |  |
|-------------------------|--|
| Standard                |  |
| 750-8214                |  |
| PFC200; G2; 2ETH RS CAN |  |

|                |  |
|----------------|--|
| Technical data |  |
| Communication  |  |

CANopen; Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; Telecontrol protocols, **requires an additional license**

|                       |  |
|-----------------------|--|
| ETHERNET protocols    |  |
| Telecontrol protocols |  |

DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  
IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)

|                         |  |
|-------------------------|--|
| Visualization           |  |
| Programming environment |  |

Web-Visu  
CODESYS V3.5, from firmware release 23; **e!COCKPIT** (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22

|                  |  |
|------------------|--|
| CPU              |  |
| Operating system |  |

Cortex A8; 1 GHz  
Real-time Linux (with RT-Preempt patch)

|  |  |
|--|--|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) |  |
|--|--|

512 MB / 4 GB / 128 KB

|   |  |
|---|--|
| Program memory/data memory/non-volatile memory (software) |  |
|---|--|

CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB

|                                   |  |
|-----------------------------------|--|
| Number of modules per node (max.) |  |
|-----------------------------------|--|

250

|  |  |
|--|--|
| Input and output process image (internal) max. |  |
| Input and output process image (Modbus®) max.  |  |
| Input and output process image (CAN) max.      |  |

1000 words/1000 words  
CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words  
2000 words/2000 words

|                         |  |
|-------------------------|--|
| Supply voltage (system) |  |
| Supply voltage (field)  |  |

24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  
24 VDC (-25 ... +30 %); via power jumper contacts

|   |  |
|---|--|
| Input current (typ.) at nominal load (24 V) |  |
| Total current (system supply)               |  |

550 mA  
1700 mA

|                                 |  |
|---------------------------------|--|
| Ambient temperature (operation) |  |
| Dimensions W x H x D            |  |

0 ... +55 °C  
(112 x 100 x 71.9) mm

|           |  |
|-----------|--|
| Approvals |  |
|-----------|--|

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  
wago.com/750-8214

|   |  |
|---|--|
| For data sheet and additional information, see: |  |
|---|--|

|  |  |
|--|--|
| <b>Product Expansions</b>                                      |  |
| Runtime; DNP3 Master; M; Single License; Online activation     |  |
| Runtime; IEC60870 Slave; Single License; Online activation     |  |
| Runtime; DNP3 Slave; Single License; Online activation         |  |
| Runtime; IEC60870 Master; M; Single License; Online activation |  |
| Runtime; IEC61850 Client; M; Single License; Online activation |  |
| Runtime; IEC61850 Server; Single License; Online activation    |  |

|                    |  |
|--------------------|--|
| Item no.           |  |
| 2759-2293/211-1000 |  |
| 2759-290/211-1000  |  |
| 2759-2290/211-1000 |  |
| 2759-293/211-1000  |  |
| 2759-2243/211-1000 |  |
| 2759-2240/211-1000 |  |

|  |  |
|--|--|
| <b>Accessories</b>   |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C |  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C  |  |

|                  |  |
|------------------|--|
| Item no.         |  |
| 758-879/000-001  |  |
| 758-879/000-2108 |  |

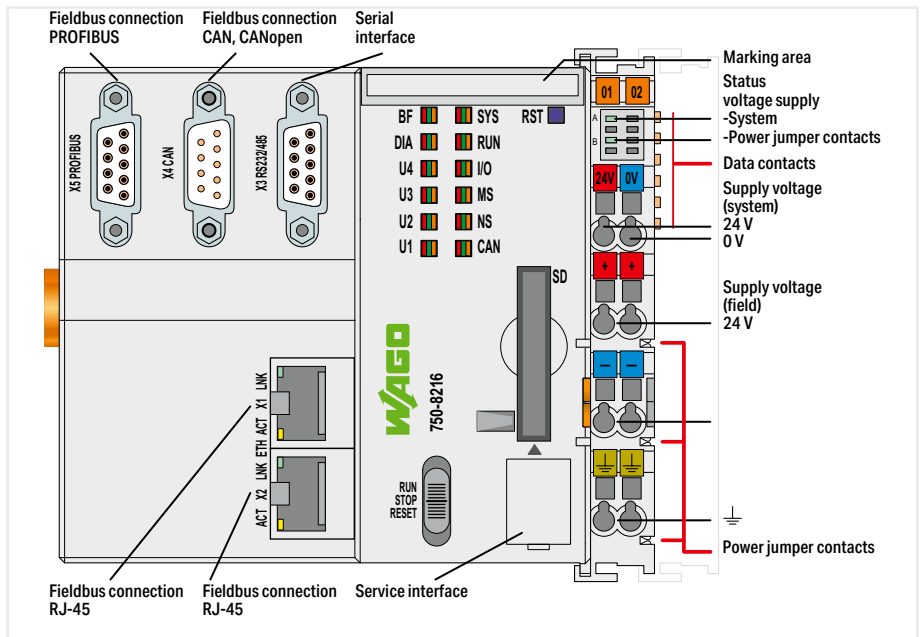
6.1



# Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS slave



750-8216



|            |                             |                                |  |
|------------|-----------------------------|--------------------------------|--|
| Version    | Standard                    | ext. temperature               | Telecontrol technology; ext. temperature |
| Item no.   | 750-8216                    | 750-8216/025-000               | 750-8216/025-001                         |
| Order Text | PFC200; G2; 2ETH RS CAN DPS | PFC200; G2; 2ETH RS CAN DPS; T | PFC200; G2; 2ETH RS CAN DPS; Tele; T     |

|                |   |  |   |
|----------------|---|--|---|
| Technical data |   |  |   |
| Communication  | PROFIBUS; CANopen; Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> |  | PROFIBUS; CANopen; Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; Telecontrol protocols; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> |

|                         |  |  |                            |
|-------------------------|--|--|----------------------------|
| ETHERNET protocols      | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  |  |                            |
| Telecontrol protocols   | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)                      |  | IEC 60870; IEC 61850; DNP3 |
| Visualization           | Web-Visu   |  |                            |
| Programming environment | CODESYS V3.5, from firmware release 23; e!COCKPIT (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |  |                            |

|  |  |  |                |
|--|--|--|----------------|
| CPU  | Cortex A8; 1 GHz   |  |                |
| Operating system   | Real-time Linux (with RT-Preempt patch)                                  |  |                |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB   |  |                |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB  |  |                |
| Number of modules per node (max.)  | 250  |  |                |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |  |                |
| Input and output process image (Modbus®) max.                            | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words   |  |                |
| Input and output process image (PROFIBUS) max.                           | 244 bytes/244 bytes  |  |                |
| Input and output process image (CAN) max.                                | 2000 words/2000 words  |  |                |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |  |                |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts                        |  |                |
| Input current (typ.) at nominal load (24 V)                              | 550 mA   |  |                |
| Total current (system supply)  | 1700 mA  |  |                |
| Ambient temperature (operation)  | 0 ... +55 °C   |  | -20 ... +60 °C |
| Dimensions W x H x D   | (112 x 100 x 71.9) mm  |  |                |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |  |                |
| For data sheet and additional information, see:                          | wago.com/750-8216  |  |                |

|   |                    |                    |                   |
|---|--------------------|--------------------|-------------------|
| Product Expansions                          | Item no.           | Item no.           | Item no.          |
| Runtime; BACnet; 300; Single License        | 2759-283/211-1000  | 2759-283/211-1000  | 2759-283/211-1000 |
| Runtime; DNP3 Master; M; Single License     | 2759-2293/211-1000 | 2759-2293/211-1000 | -                 |
| Runtime; IEC60870 Slave; Single License     | 2759-290/211-1000  | 2759-290/211-1000  | -                 |
| Runtime; DNP3 Slave; Single License         | 2759-2290/211-1000 | 2759-2290/211-1000 | -                 |
| Runtime; IEC60870 Master; M; Single License | 2759-293/211-1000  | 2759-293/211-1000  | -                 |
| Runtime; IEC61850 Client; M; Single License | 2759-2243/211-1000 | 2759-2243/211-1000 | -                 |
| Runtime; IEC61850 Server; Single License    | 2759-2240/211-1000 | 2759-2240/211-1000 | -                 |
| Accessories                                 | Item no.           | Item no.           | Item no.          |
| Memory Card SD; SLC-NAND; 2 GB              | 758-879/000-001    | 758-879/000-001    | 758-879/000-001   |
| Memory Card SD; pSLC-NAND; 8 GB             | 758-879/000-2108   | 758-879/000-2108   | 758-879/000-2108  |

6.1

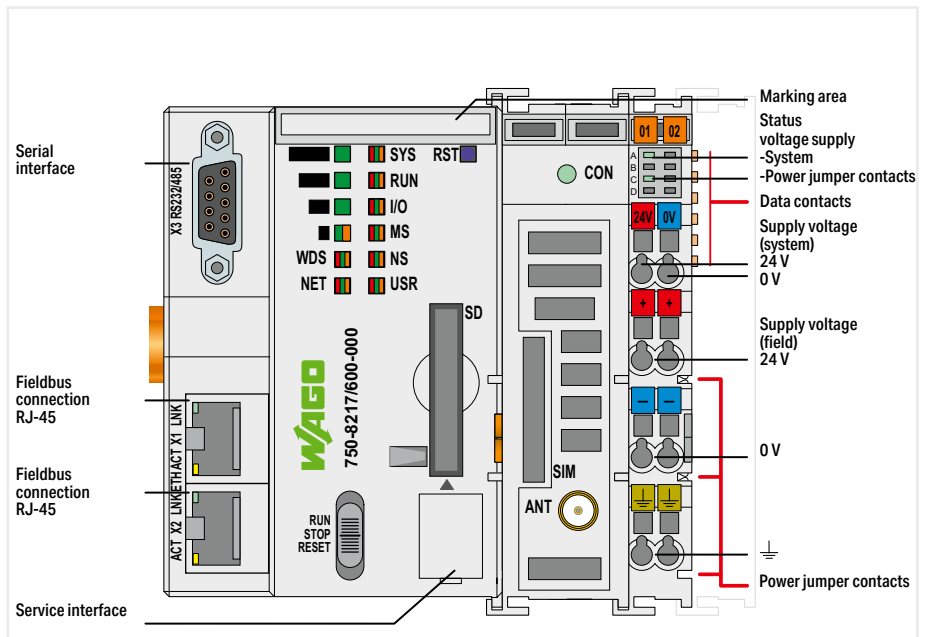




# Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485, mobile radio module 4G; global variant



750-8217



|            |                            |                               |
|------------|----------------------------|-------------------------------|
| Version    | Standard                   | ext. temperature              |
| Item no.   | 750-8217/600-000           | 750-8217/625-000              |
| Order Text | PFC200; 2ETH RS 4G; Global | PFC200; 2ETH RS 4G; Global; T |

|  |   |                |
|--|---|----------------|
| Technical data   |   |                |
| Communication  | Modbus (TCP, UDP); ETHERNET; EtherNet/IP™ Adapter (slave), library for <i>e!RUNTIME</i> ; Modbus® RTU; RS-232 serial interface; RS-485 interface; MQTT; BACnet/IP, <b>requires an additional license</b> ; EtherCAT® master ( <b>requires an additional license</b> ); Telecontrol protocols, <b>requires an additional license</b> |                |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |                |
| Telecontrol protocols  | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)   |                |
| Radio technology   | GSM/Edge/UMTS/HSPA+; LTE  |                |
| Frequency band   | GSM: B2/B3/B5/B8; WCDMA: B1/B2/B4/B5/B6/B8/B19; LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/ B26/B28; LTE-TDD: B38/B39/B40/B41   |                |
| Services   | GPRS connection to Internet   |                |
| Security encryption  | OpenVPN, IPsec, firewall  |                |
| Visualization  | Web-Visu  |                |
| Programming environment  | <b>e!COCKPIT</b> (based on CODESYS V3)  |                |
| CPU  | Cortex A8; 1 GHz  |                |
| Operating system   | Real-time Linux (with RT-Preempt patch)   |                |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |                |
| Program memory/data memory/non-volatile memory (software)                | 32 MB / 128 MB / 128 KB   |                |
| Number of modules per node (max.)  | 250   |                |
| Input and output process image (internal) max.                           | 1000 words/1000 words   |                |
| Input and output process image (Modbus®) max.                            | CODESYS V3: 32000 words/32000 words   |                |
| Supply voltage (system)  | 24 VSELV/PELV DC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |                |
| Supply voltage (field)   | 24 VSELV/PELV DC (-25 ... +30 %); via power jumper contacts   |                |
| Input current (typ.) at nominal load (24 V)                              | 550 mA  |                |
| Total current (system supply)  | 700 mA  |                |
| Ambient temperature (operation)  | 0 ... +55 °C  | -20 ... +60 °C |
| Dimensions W x H x D   | (102.5 x 100 x 71.9) mm   |                |
| Approvals  | CE; Marine; OrdLoc  |                |
| For data sheet and additional information, see:                          | wago.com/750-8217/600-000   |                |

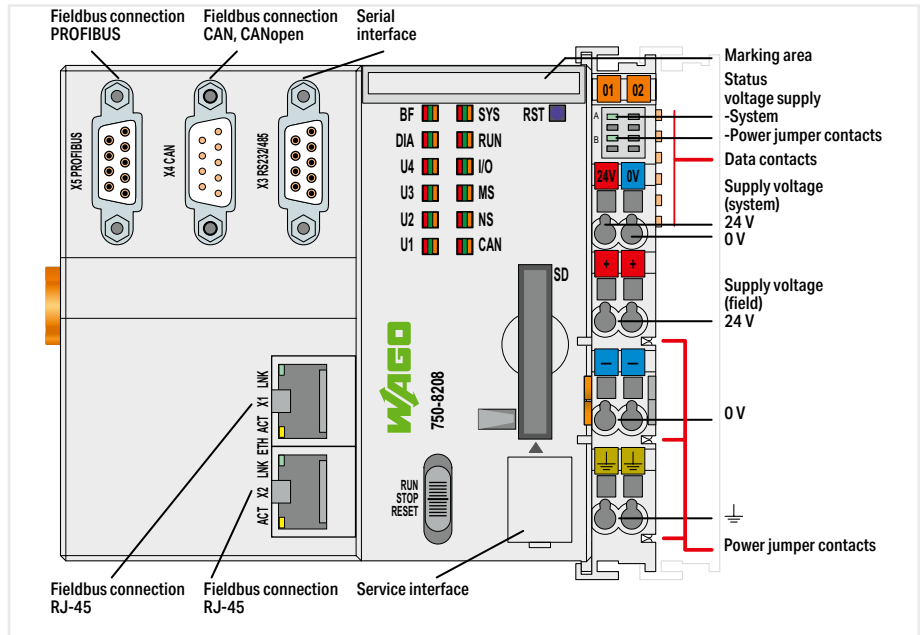
| Product Expansions  | Item no.           | Item no.           |
|---|--------------------|--------------------|
| Runtime; BACnet; 300; Single License  | 2759-283/211-1000  | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License   | 2759-2293/211-1000 | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License   | 2759-290/211-1000  | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License   | 2759-2290/211-1000 | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License   | 2759-293/211-1000  | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License   | 2759-2243/211-1000 | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License  | 2759-2240/211-1000 | 2759-2240/211-1000 |
| Accessories   | Item no.           | Item no.           |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C  | 758-879/000-001    | 758-879/000-001    |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C   | 758-879/000-2108   | 758-879/000-2108   |
| Magnetic foot antenna; with 2.5m cable and SMA plug; GSM/ UMTS/ LTE/ Bluetooth®/ WLAN; 698-960, 1710-6000 MHz | 758-975            | 758-975            |

6.1

# Controller PFC200 ▶ 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS master



750-8208



|            |                         |                            |  |
|------------|-------------------------|----------------------------|--|
| Version    | Standard                | ext. temperature           | Telecontrol technology; ext. temperature |
| Item no.   | 750-8208                | 750-8208/025-000           | 750-8208/025-001                         |
| Order Text | PFC200; 2ETH RS CAN DPM | PFC200; 2ETH RS CAN DPM; T | PFC200; 2ETH RS CAN DPM; Tele; T         |

|                       |  |  |   |
|-----------------------|--|--|---|
| Technical data        |  |  |   |
| Communication         | PROFIBUS DP master; CANopen; Modbus (TCP, UDP); ETHERNET; Modbus® RTU; RS-232 serial interface; RS-485 interface; MQTT |  | PROFIBUS DP master; CANopen; Modbus (TCP, UDP); ETHERNET; Modbus® RTU; RS-232 serial interface; RS-485 interface; MQTT; Telecontrol protocols |
| ETHERNET protocols    | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  |  |   |
| Telecontrol protocols |  |  | IEC 60870-5-101/-103/-104; IEC 61400-25; IEC 61850-7; DNP3  |

|  |  |                |  |
|--|--|----------------|--|
| Visualization  | Web-Visu   |                |  |
| Programming environment  | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |                |  |
| CPU  | Cortex A8; 600 MHz   |                |  |
| Operating system   | Real-time Linux (with RT-Preempt patch)                                  |                |  |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 256 MB / 256 MB / 128 KB   |                |  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB                                       |                |  |
| Number of modules per node (max.)  | 250  |                |  |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |                |  |
| Input and output process image (Modbus®) max.                            | CODESYS V2: 1000 words/1000 words  |                |  |
| Input and output process image (PROFIBUS) max.                           | 5000 bytes/5000 bytes  |                |  |
| Input and output process image (CAN) max.                                | 2000 words/2000 words  |                |  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |                |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts                        |                |  |
| Input current (typ.) at nominal load (24 V)                              | 670 mA   |                |  |
| Total current (system supply)  | 1700 mA  |                |  |
| Ambient temperature (operation)  | 0 ... +55 °C   | -20 ... +60 °C |  |
| Dimensions W x H x D   | (112 x 100 x 71.9) mm  |                |  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |                |  |
| For data sheet and additional information, see:                          | wago.com/750-8208  |                |  |

|  |                  |                  |                  |
|--|------------------|------------------|------------------|
| Accessories  | Item no.         | Item no.         | Item no.         |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  | 758-879/000-001  | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108 | 758-879/000-2108 | 758-879/000-2108 |



# Controllers PFC200 XTR

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

◀ Section 6.1

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

Section 6.5 ▶▶▶

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

Section 6.3 ▶

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

Section 6.4 ▶▶

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

## Starter Kits

For the entry into the most diverse application possibilities

## IoT Boxes







Integrating machines and plants into the Internet of Things

Section 6.6 ▶▶▶▶

# Controllers PFC200 XTR

## Contents

|  |      |
|--|------|
|  | Page |
| General Product Information  | 132  |
| Variants   | 133  |
| Interfaces and Types   | 133  |
| Item Number Key  | 133  |
| Installation Instructions  | 134  |
| Standards and Rated Conditions for Railway Applications (EN 50155) | 134  |
| Standards and Rated Conditions                                     | 135  |
| Approvals  | 135  |

|   | CPU              | Modbus (TCP, UDP) | EtherNet/IP™ | EtherCAT | PROFIBUS | CANopen | BACnet/IP | OPC UA | Modbus RTU | Telecontrol Protocols | IoT Protocols | Description   | Item No.         |     |
|---|------------------|-------------------|--------------|----------|----------|---------|-----------|--------|------------|-----------------------|---------------|---|------------------|-----|
|    | Cortex A8; 1 GHz | M/S               | M/S          | M        |          |         | x*        | x      | x          | x*                    | x             | Controller PFC200; 2nd Generation; 4 x ETHERNET; Extreme  | 750-8210/040-000 | 136 |
|   | Cortex A8; 1 GHz | M/S               | M/S          | M        |          |         | x*        | x      | x          | x*                    | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET, 2 x 100Base-FX; Extreme                            | 750-8211/040-000 | 137 |
|  | Cortex A8; 1 GHz | M/S               | M/S          | M        |          |         | x*        | x      | x          | x*                    | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485; Extreme                               | 750-8212/040-000 | 138 |
|   |                  | M/S               | M/S          | M        |          |         | x*        | x      | x          | x                     | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485; Telecontrol Technology; Extreme       | 750-8212/040-001 | 138 |
|  | Cortex A8; 1 GHz | M/S               | M/S          | M        |          |         | x*        | x      | x          | x*                    | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET M12, RS-232/-485; Extreme                           | 750-8212/040-010 | 139 |
|  | Cortex A8; 1 GHz | M/S               | M/S          | M        |          | M/S     | x*        | x      |            | x*                    | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET M12, CAN, CANopen; Extreme                          | 750-8213/040-010 | 140 |
|  | Cortex A8; 1 GHz | M/S               | M/S          | M        | S        | M/S     | x*        | x      | x          | x*                    | x             | Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave; Extreme | 750-8216/040-000 | 141 |

M: Master, S: Slave; \*requires an additional license

## Controller PFC200 XTR

### General Product Information

#### PFC200 XTR:

##### Taking It to the eXTReme – the Standard for 750 XTR

With the dark gray XTR version of the PFC200 Controller, you will benefit from the unique added value of this fast and highly communicative multi-talented controller for applications that are subjected to extreme environments.

The PFC200 XTR Controller excels with high processing speed and multiple interfaces for parallel communication. All variants of this controller feature two ETHERNET ports and – depending on the model – additional interfaces. The CANopen, PROFIBUS DP and Modbus TCP/UDP/RTU protocols allow flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in the development environment. The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC200 XTR offers ample memory for your applications provided by the internal flash memory and an integrated interface for SD/SDHC cards.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – the WAGO I/O System 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore installations
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway systems

#### Industry 4.0 / IoT

Recording, digitizing and linking data profitably – these are the core ideas of Industry 4.0. Using a dedicated library, WAGO's PFC100/ PFC200 Controllers become IoT controllers that send data from the field level to the cloud. Once in the cloud, data can be aggregated and used for analysis. This capability creates tremendous added value for your company – whether it's increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services. Existing systems also become IoT-ready, making them future-proof. The WAGO PFC family of controllers thus forms the basis for a sustainable corporate world.

#### Link between Process Data and IT Application – Even under eXTReme Conditions

The PFC200 XTR ideally combines real-time requirements with IT functionality. It supports both Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the controller incorporates library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

#### Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as HTTPS, FTPS, SSH and SSL/TLS are standard.

#### Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use – even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.

#### Superior Reliability in Extreme Climates

Engineered for freezing cold, extreme heat and high humidity, the WAGO I/O System 750 XTR provides absolute dependability in virtually any weather. The XTR version of the PFC200 is unfazed by both freezing cold down to -40°C and scorching heat up to +70°C. And this applies equally for both start-up and ongoing operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

#### Additional Protection against Interference Pulses

The WAGO I/O System 750 XTR provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths ensure trouble-free operation.

#### High Mechanical Performance

Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples of the many applications that can stress automation systems. The WAGO I/O System 750 XTR continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

#### Modular and Expandable

With the WAGO I/O System 750 XTR, the PFC200 Controllers can be expanded to almost any input/output interface. Using an industry-leading platform, the 750 XTR boasts the same proven benefits.

#### Open-Source Software and Linux®

We unite what belongs together: High-performance WAGO Hardware and future-ready Linux® Operating System. For complex tasks, you can choose between programming in IEC 61131 or directly under Linux®. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP). If you are interested, simply contact our AUTOMATION technical support.



#### Benefits:

- Controllers for eXTReme environmental conditions
  - No air conditioning required
  - Can be used in unshielded areas
  - Install close to vibrating and shock-generating system components
- Programming per IEC 61131-3
- Can be combined with high-level languages
- Linux® real-time operating system
- Rugged and maintenance-free
- Integrated IT security standards
- IoT ready

# Controller PFC200 XTR Variants

## Telecontrol Technology

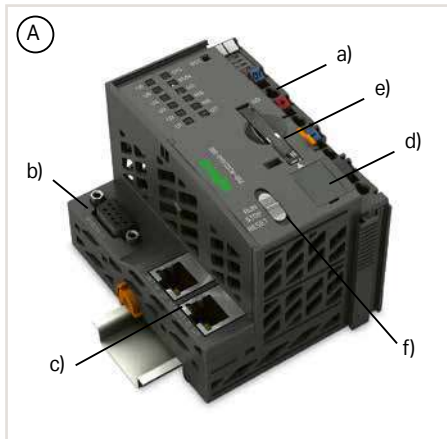
The PFC200 models for telecontrol technology integrate the following standardized telecontrol protocols:

- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

These controllers also meet stricter requirements for immunity to impulse voltages and electromagnetic interference according to EN 60870-2-1.



## Interfaces and Types



- Includes a supply module (a) to power downstream I/O modules
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)
- SD card slot for external storage media (e)
- Start/stop switch (f)

### Housing Design (A)

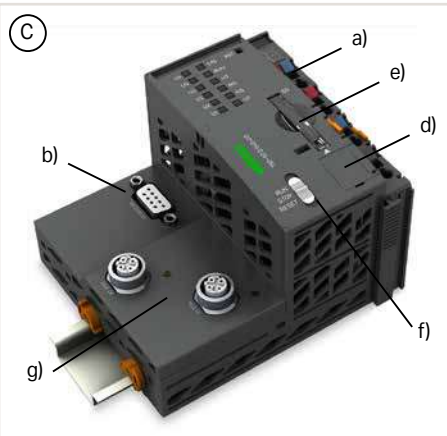
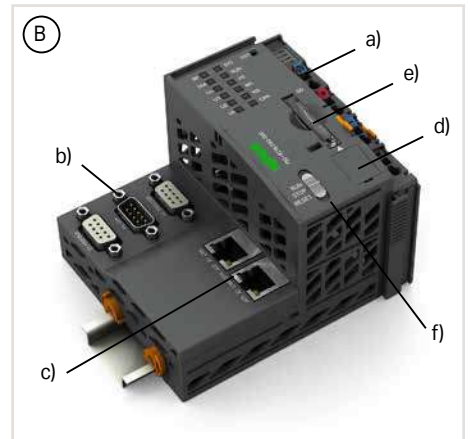
- W x H x D (mm): 78.6 x 100 x 71.9

### Housing Design (B)

- W x H x D (mm): 112 x 100 x 71.9

### Housing Design (C)

- ETHERNET 2 x M12 connector (g)
- W x H x D (mm): 112 x 100 x 71.9



## Item Number Key

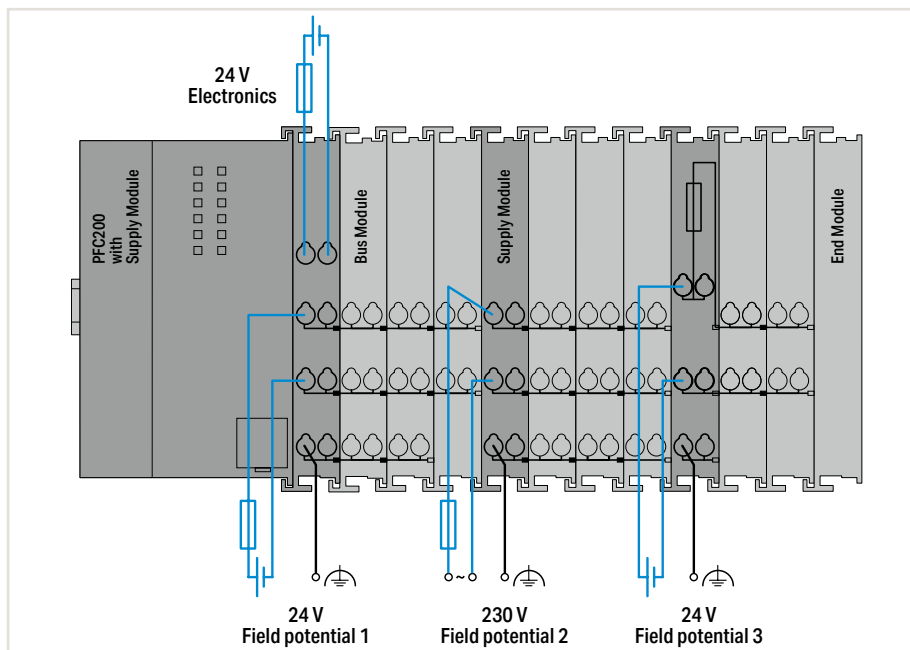
Explanation of an item number key's components

|                                     |   |
|-------------------------------------|---|
| Item No. : 750-82xy/040-000         |   |
| 0y:                                 | Generation 1                            |
| 1y:                                 | Generation 2                            |
| x0:                                 | 4 x ETHERNET                            |
| x1:                                 | 2 x ETHERNET, 2 x SFP port              |
| x2:                                 | 2 x ETHERNET, RS-232/-485               |
| x3:                                 | 2 x ETHERNET, CAN                       |
| x6:                                 | 2 x ETHERNET, RS-232/-485, CAN, CANopen |
| .../040-000: Standard               |   |
| .../040-001: Telecontrol technology |   |
| .../040-010: M12 connector          |   |

## Controller PFC200 XTR Installation Instructions

### Power Supply

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node. Power supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.



### Notes

Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are ready for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

### Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of modules are electrically isolated on the field side (i.e., electrically isolated power supply). This combination may be useful, for example, when there are only increased requirements for immunity to impulse voltages and interference, but the surrounding air temperature is not critical.

## Standards and Rated Conditions for Rail Applications (EN 50155)

| Railway Applications (EN 50155)                                     | Class/Standard Compliance    |
|---|------------------------------|
| <b>4.1 Rated operating conditions</b>                               |                              |
| 4.1.1 Altitude above sea level                                      | AX (EN 50125-1)              |
| 4.1.2 Surrounding air temperature                                   | TX                           |
| 4.1.3 Shock and vibration   | 1A and 1B (EN 61373)         |
| 4.1.4 Relative humidity   | 95 % (coated PCBs)           |
| <b>5.1 Power supply</b>   |                              |
| 5.1.1.1 Voltage fluctuations  |                              |
| Minimum voltage   | 0.725 x Un                   |
| Maximum voltage   | 1.3 x Un                     |
| 5.1.1.2 Power interruptions   | S1                           |
| <b>5.4 Surge, ESD, burst tests</b>                                  | EN 50121-3-2                 |
| <b>5.5 EMC (emission of interference, immunity to interference)</b> | EN 50121-3-2, EN 50121-4, -5 |
| <b>Fire behavior: per EN 45545-2 hazard level HL3</b>               |                              |

WAGO is certified in accordance with the IRIS quality standard.



# Controller PFC200 XTR

## Standards and Rated Conditions

| General technical data                            |  |
|---|--|
| Supply voltage (system)                           | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!   |
| Ambient temperature (operation)                   | -40 ... +70 °C   |
| Surrounding air temperature (storage)             | -40 ... +85 °C   |
| Relative humidity (without condensation)          | 95 %   |
| Relative humidity (with condensation)             | Short-term condensation per Class 3K7/IEC EN 60721-3-3 and E-DIN 40046-721-3 (except for wind-driven precipitation, water and ice formation)                     |
| Operating altitude                                | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)  |
| Pollution degree                                  | 2 per IEC 61131-2  |
| Vibration resistance                              | per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155; EN 61373  |
| Shock resistance                                  | per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks), EN 50155, EN 61373   |
| EMC immunity to interference                      | per EN 61000-6-1, -2; EN 61131-2; marine applications; EN 50121-3-2; EN 50121-4, -5; EN 60255-26; EN 60870-2-1; EN 61850-3; IEC 61000-6-5; IEEE 1613; VDEW: 1994 |
| EMC emission of interference                      | per EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, EN 50121-4, -5                                       |
| Protection type                                   | IP20   |
| Mounting position                                 | horizontal (standing/lying); vertical  |
| Mounting type                                     | DIN-35 rail  |
| Housing material                                  | Polycarbonate; polyamide 6.6   |
| Exposure to pollutants                            | per IEC 60068-2-42 and IEC 60068-2-43  |
| Connection technology: system supply              | 2 x CAGE CLAMP®  |
| Connection technology: field supply               | 4 x CAGE CLAMP®  |
| Solid conductor                                   | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG   |
| Fine-stranded conductor                           | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG   |
| Strip length                                      | 8 ... 9 mm / 0.31 ... 0.35 inches  |
| Current carrying capacity (power jumper contacts) | 10 A   |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).

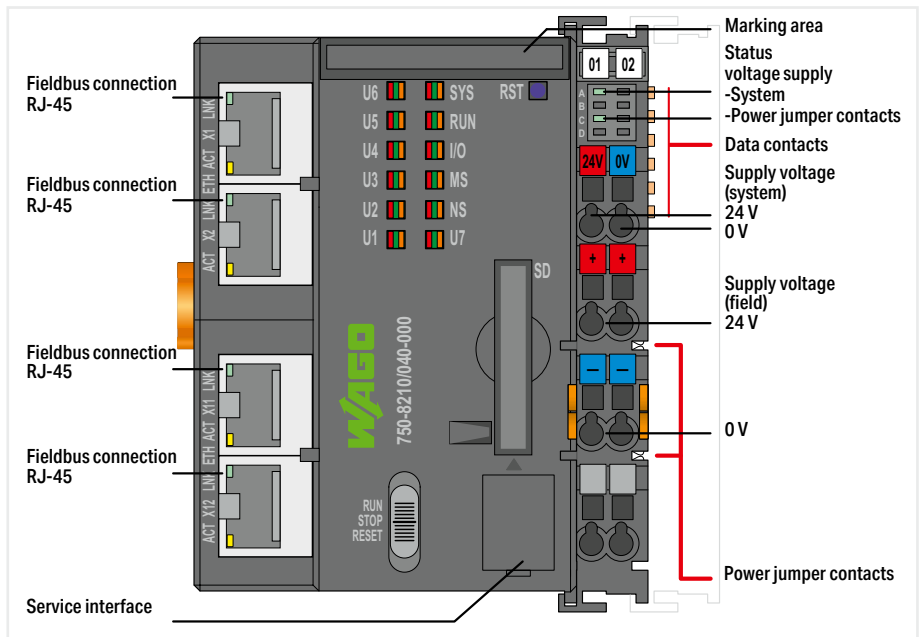


|                       |          |
|-----------------------|----------|
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Shield termination    | Page 708 |
| Software              | Page 12  |
| System enclosure      | Page 693 |

# Controller PFC200 XTR ▶ 4 x ETHERNET



750-8210/040-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                       |
|-----------------------|
| extreme               |
| 750-8210/040-000      |
| PFC200; G2; 4ETH; XTR |

|                |
|----------------|
| Technical data |
| Communication  |

Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, **requires an additional license**; Telecontrol protocols, **requires an additional license**

|                       |
|-----------------------|
| ETHERNET protocols    |
| Telecontrol protocols |

DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  
IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)

|                         |
|-------------------------|
| Visualization           |
| Programming environment |

Web-Visu  
CODESYS V3.5, from firmware release 23; **e!COCKPIT** (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22

|                  |
|------------------|
| CPU              |
| Operating system |

Cortex A8; 1 GHz  
Real-time Linux (with RT-Preempt patch)

|  |
|--|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) |
|--|

512 MB / 4 GB / 128 KB

|   |
|---|
| Program memory/data memory/non-volatile memory (software) |
|---|

CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB

|                                   |
|-----------------------------------|
| Number of modules per node (max.) |
|-----------------------------------|

64

|  |
|--|
| Input and output process image (internal) max. |
| Input and output process image (Modbus®) max.  |

1000 words/1000 words  
CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words

|                         |
|-------------------------|
| Supply voltage (system) |
| Supply voltage (field)  |

24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  
24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!

|          |
|----------|
| Derating |
|----------|

Derating (supply voltage): Surrounding air temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

|   |
|---|
| Input current (typ.) at nominal load (24 V) |
| Total current (system supply)               |

500 mA  
1700 mA

|                                 |
|---------------------------------|
| Ambient temperature (operation) |
| Dimensions W x H x D            |

-40 ... +70 °C  
(78.6 x 100 x 71.9) mm

|   |
|---|
| Approvals                                       |
| For data sheet and additional information, see: |

CE, OrdLoc  
wago.com/750-8210/040-000

|   |
|---|
| <b>Product Expansions</b>                   |
| Runtime; BACnet; 300; Single License        |
| Runtime; DNP3 Master; M; Single License     |
| Runtime; IEC60870 Slave; Single License     |
| Runtime; DNP3 Slave; Single License         |
| Runtime; IEC60870 Master; M; Single License |
| Runtime; IEC61850 Client; M; Single License |
| Runtime; IEC61850 Server; Single License    |

|                    |
|--------------------|
| <b>Item no.</b>    |
| 2759-283/211-1000  |
| 2759-2293/211-1000 |
| 2759-290/211-1000  |
| 2759-2290/211-1000 |
| 2759-293/211-1000  |
| 2759-2243/211-1000 |
| 2759-2240/211-1000 |

|  |
|--|
| <b>Accessories</b>   |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C |

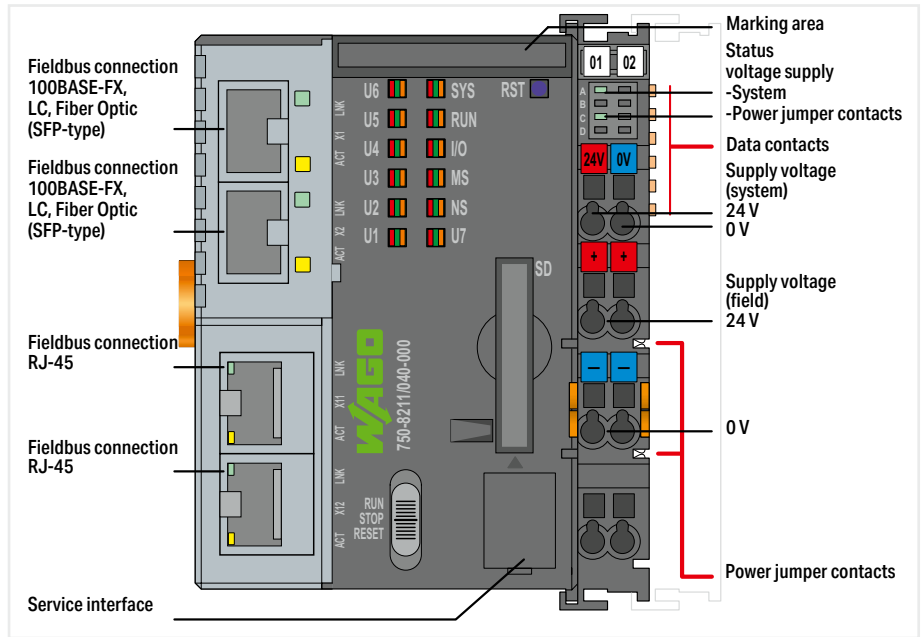
|                  |
|------------------|
| <b>Item no.</b>  |
| 758-879/000-001  |
| 758-879/000-2108 |

6.2

# Controller PFC200 XTR ▶ 2 x ETHERNET, 2 x SFP port



750-8211/040-000



|            |                             |
|------------|-----------------------------|
| Version    | extreme                     |
| Item no.   | 750-8211/040-000            |
| Order Text | PFC200; G2; 2ETH, 2SFP; XTR |

|            |                             |
|------------|-----------------------------|
| Version    | extreme                     |
| Item no.   | 750-8211/040-000            |
| Order Text | PFC200; G2; 2ETH, 2SFP; XTR |

|                |  |
|----------------|--|
| Technical data |  |
| Communication  |  |

|               |   |
|---------------|---|
| Communication | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> |
|---------------|---|

|                       |   |
|-----------------------|---|
| ETHERNET protocols    | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |
| Telecontrol protocols | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master) |

|                       |   |
|-----------------------|---|
| ETHERNET protocols    | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |
| Telecontrol protocols | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master) |

|                         |   |
|-------------------------|---|
| Visualization           | Web-Visu  |
| Programming environment | CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |

|                         |   |
|-------------------------|---|
| Visualization           | Web-Visu  |
| Programming environment | CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22 |

|                  |   |
|------------------|---|
| CPU              | Cortex A8; 1 GHz                        |
| Operating system | Real-time Linux (with RT-Preempt patch) |

|                  |   |
|------------------|---|
| CPU              | Cortex A8; 1 GHz                        |
| Operating system | Real-time Linux (with RT-Preempt patch) |

|  |   |
|--|---|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB |

|  |   |
|--|---|
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB |

|  |  |
|--|--|
| Number of modules per node (max.)              | 64   |
| Input and output process image (internal) max. | 1000 words/1000 words  |
| Input and output process image (Modbus®) max.  | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words |

|  |  |
|--|--|
| Number of modules per node (max.)              | 64   |
| Input and output process image (internal) max. | 1000 words/1000 words  |
| Input and output process image (Modbus®) max.  | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words |

|                         |   |
|-------------------------|---|
| Supply voltage (system) | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)  | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed! |

|                         |   |
|-------------------------|---|
| Supply voltage (system) | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)  | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed! |

|          |   |
|----------|---|
| Derating | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
|----------|---|

|          |   |
|----------|---|
| Derating | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
|----------|---|

|   |         |
|---|---------|
| Input current (typ.) at nominal load (24 V) | 550 mA  |
| Total current (system supply)               | 1700 mA |

|   |         |
|---|---------|
| Input current (typ.) at nominal load (24 V) | 550 mA  |
| Total current (system supply)               | 1700 mA |

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature (operation) | -40 ... +70 °C         |
| Dimensions W x H x D            | (78.6 x 100 x 71.9) mm |

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature (operation) | -40 ... +70 °C         |
| Dimensions W x H x D            | (78.6 x 100 x 71.9) mm |

|   |                           |
|---|---------------------------|
| Approvals                                       | CE; Marine; OrdLoc        |
| For data sheet and additional information, see: | wago.com/750-8211/040-000 |

|   |                           |
|---|---------------------------|
| Approvals                                       | CE; Marine; OrdLoc        |
| For data sheet and additional information, see: | wago.com/750-8211/040-000 |

|   |                    |
|---|--------------------|
| <b>Product Expansions</b>                   |                    |
| Runtime; BACnet; 300; Single License        | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License     | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License     | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License         | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License    | 2759-2240/211-1000 |

|   |                    |
|---|--------------------|
| <b>Item no.</b>                             |                    |
| Runtime; BACnet; 300; Single License        | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License     | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License     | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License         | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License    | 2759-2240/211-1000 |

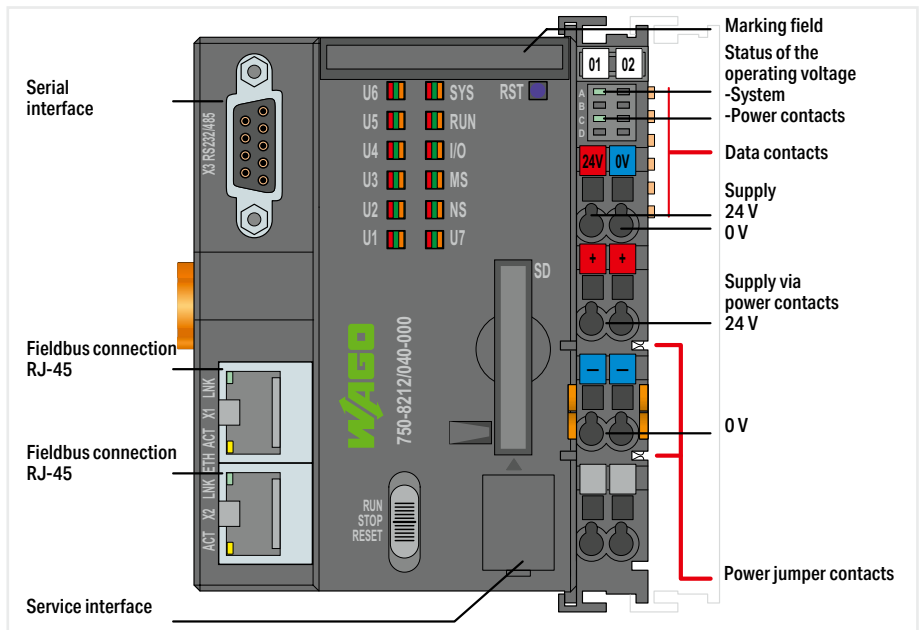
|  |                  |
|--|------------------|
| <b>Accessories</b>   |                  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C                 | 758-879/000-001  |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; DDM; Extreme; silver-colored | 852-202          |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C                  | 758-879/000-2108 |

|  |                  |
|--|------------------|
| <b>Item no.</b>  |                  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C                 | 758-879/000-001  |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; DDM; Extreme; silver-colored | 852-202          |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C                  | 758-879/000-2108 |

# Controller PFC200 XTR ▶ 2 x ETHERNET, RS-232/-485



750-8212/040-000



|            |                          |                                 |
|------------|--------------------------|---------------------------------|
| Version    | extreme                  | Telecontrol technology; extreme |
| Item no.   | 750-8212/040-000         | 750-8212/040-001                |
| Order Text | PFC200; G2; 2ETH RS; XTR | PFC200; G2; 2ETH RS; Tele; XTR  |

|  |  |  |
|--|--|--|
| Technical data   |  |  |
| Communication  | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> ; Telecontrol protocols, <b>requires an additional license</b> | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; Telecontrol protocols; RS-232 serial interface; RS-485 interface; BACnet/IP, <b>requires an additional license</b> |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  |  |
| Telecontrol protocols  | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)  | IEC 60870; IEC 61850; DNP3   |
| Visualization  | Web-Visu   |  |
| Programming environment  | CODESYS V3.5, from firmware release 23; <b>e!COCKPIT</b> (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22  |  |
| CPU  | Cortex A8; 1 GHz   |  |
| Operating system   | Real-time Linux (with RT-Preempt patch)  |  |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB   |  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB  |  |
| Number of modules per node (max.)  | 64   |  |
| Input and output process image (internal) max.                           | 1000 words/1000 words  |  |
| Input and output process image (Modbus®) max.                            | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words   |  |
| Supply voltage (system)  | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!   |  |
| Supply voltage (field)   | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!  |  |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)  |  |
| Input current (typ.) at nominal load (24 V)                              | 550 mA   |  |
| Total current (system supply)  | 1700 mA  |  |
| Ambient temperature (operation)  | -40 ... +70 °C   |  |
| Dimensions W x H x D   | (78.6 x 100 x 71.9) mm   |  |
| Approvals  | CE; Marine; OrdLoc/HazLoc  |  |
| For data sheet and additional information, see:                          | wago.com/750-8212/040-000  |  |

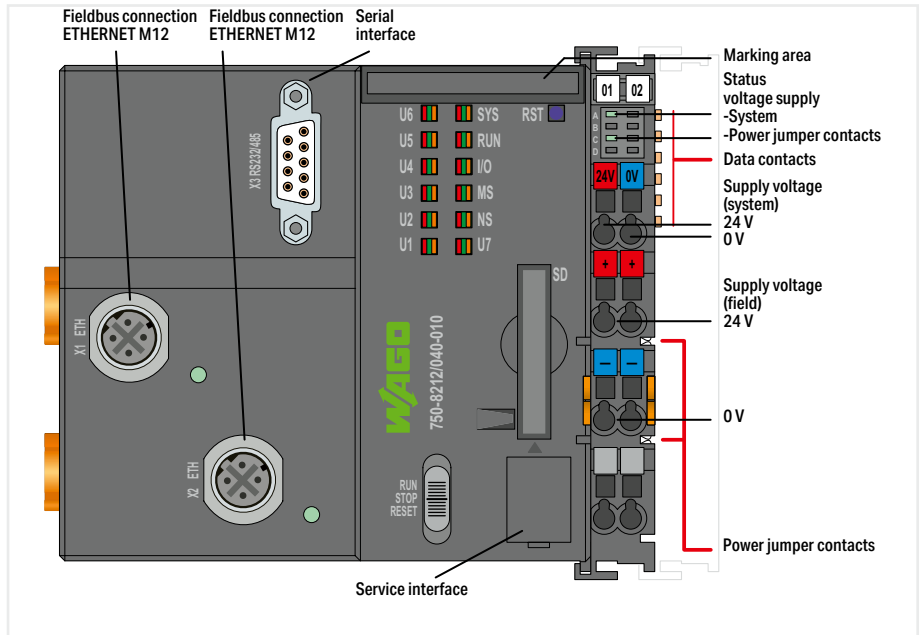
| Product Expansions                          | Item no.           | Item no.          |
|---|--------------------|-------------------|
| Runtime; BACnet; 300; Single License        | 2759-283/211-1000  | 2759-283/211-1000 |
| Runtime; DNP3 Master; M; Single License     | 2759-2293/211-1000 | -                 |
| Runtime; IEC60870 Slave; Single License     | 2759-290/211-1000  | -                 |
| Runtime; DNP3 Slave; Single License         | 2759-2290/211-1000 | -                 |
| Runtime; IEC60870 Master; M; Single License | 2759-293/211-1000  | -                 |
| Runtime; IEC61850 Client; M; Single License | 2759-2243/211-1000 | -                 |
| Runtime; IEC61850 Server; Single License    | 2759-2240/211-1000 | -                 |
| Accessories                                 | Item no.           | Item no.          |
| Memory Card SD; SLC-NAND; 2 GB              | 758-879/000-001    | 758-879/000-001   |
| Memory Card SD; pSLC-NAND; 8 GB             | 758-879/000-2108   | 758-879/000-2108  |

6.2

# Controller PFC200 XTR ▶ 2 x ETHERNET M12, RS-232/-485



750-8212/040-010



|            |                            |
|------------|----------------------------|
| Version    | M12; extreme               |
| Item no.   | 750-8212/040-010           |
| Order Text | PFC200 G2 2ETH M12 RS; XTR |

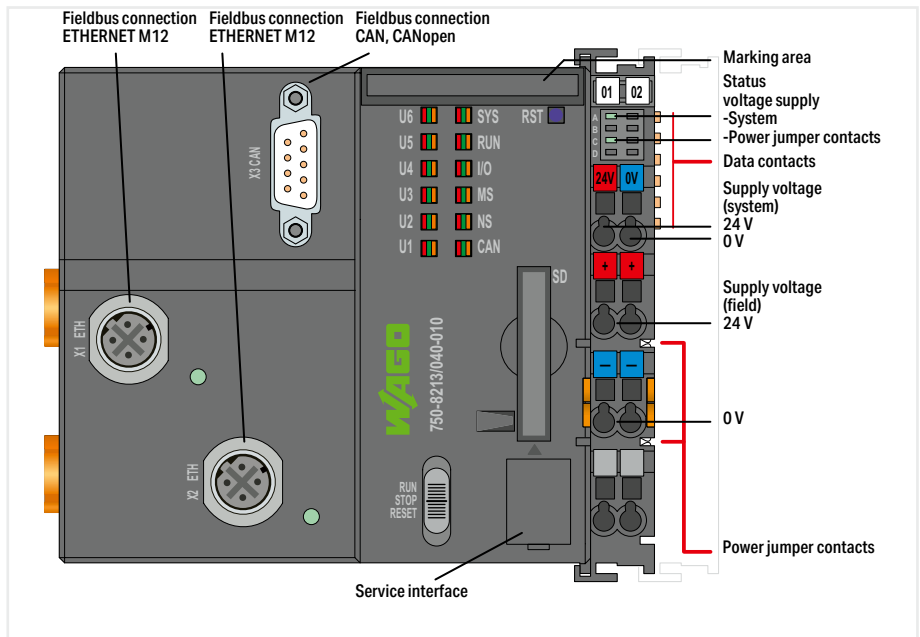
|  |   |
|--|---|
| Technical data   |   |
| Communication  | Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP; requires an additional license; Telecontrol protocols, requires an additional license |
| ETHERNET protocols   | DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH   |
| Telecontrol protocols  | IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)   |
| Visualization  | Web-Visu  |
| Programming environment  | CODESYS V3.5, from firmware release 23; e!COCKPIT (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22  |
| CPU  | Cortex A8; 1 GHz  |
| Operating system   | Real-time Linux (with RT-Preempt patch)   |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) | 512 MB / 4 GB / 128 KB  |
| Program memory/data memory/non-volatile memory (software)                | CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB   |
| Number of modules per node (max.)  | 64  |
| Input and output process image (internal) max.                           | 1000 words/1000 words   |
| Input and output process image (Modbus®) max.                            | CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words  |
| Supply voltage (system)  | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)   | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)   |
| Input current (typ.) at nominal load (24 V)                              | 550 mA  |
| Total current (system supply)  | 1700 mA   |
| Ambient temperature (operation)  | -40 ... +70 °C  |
| Dimensions W x H x D   | (112 x 100 x 71.9) mm   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                          | wago.com/750-8212/040-010   |

|  |                    |
|--|--------------------|
| <b>Product Expansions</b>  |                    |
| Runtime; BACnet; 300; Single License                             | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License                          | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License                          | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License                              | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License                      | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License                      | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License                         | 2759-2240/211-1000 |
| <b>Accessories</b>   |                    |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001    |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108   |

## Controller PFC200 XTR ▶ 2 x ETHERNET M12, CAN, CANOpen



750-8213/040-010



|            |                             |
|------------|-----------------------------|
| Version    | M12; extreme                |
| Item no.   | 750-8213/040-010            |
| Order Text | PFC200 G2 2ETH M12 CAN; XTR |

Technical data

Communication  
 CANOpen; Modbus TCP master/slave; Modbus (UDP); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; BACnet/IP, **requires an additional license**; Telecontrol protocols, **requires an additional license**

ETHERNET protocols  
 DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH

Telecontrol protocols  
 IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)

Visualization  
 Web-Visu  
 CODESYS V3.5, from firmware release 23; **e!COCKPIT** (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22

CPU  
 Cortex A8; 1 GHz

Operating system  
 Real-time Linux (with RT-Preempt patch)

Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)  
 512 MB / 4 GB / 128 KB

Program memory/data memory/non-volatile memory (software)  
 CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB

Number of modules per node (max.)  
 64

Input and output process image (internal) max.  
 1000 words/1000 words

Input and output process image (Modbus®) max.  
 CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words

Input and output process image (CAN) max.  
 2000 words/2000 words

Supply voltage (system)  
 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!

Supply voltage (field)  
 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!

Derating  
 Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

Input current (typ.) at nominal load (24 V)  
 550 mA

Total current (system supply)  
 1700 mA

Ambient temperature (operation)  
 -40 ... +70 °C

Dimensions W x H x D  
 (112 x 100 x 71.9) mm

Approvals  
 CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

For data sheet and additional information, see:  
[wago.com/750-8213/040-010](http://wago.com/750-8213/040-010)

Product Expansions

|   |                    |
|---|--------------------|
| Runtime; BACnet; 300; Single License        | 2759-283/211-1000  |
| Runtime; DNP3 Master; M; Single License     | 2759-2293/211-1000 |
| Runtime; IEC60870 Slave; Single License     | 2759-290/211-1000  |
| Runtime; DNP3 Slave; Single License         | 2759-2290/211-1000 |
| Runtime; IEC60870 Master; M; Single License | 2759-293/211-1000  |
| Runtime; IEC61850 Client; M; Single License | 2759-2243/211-1000 |
| Runtime; IEC61850 Server; Single License    | 2759-2240/211-1000 |

Accessories

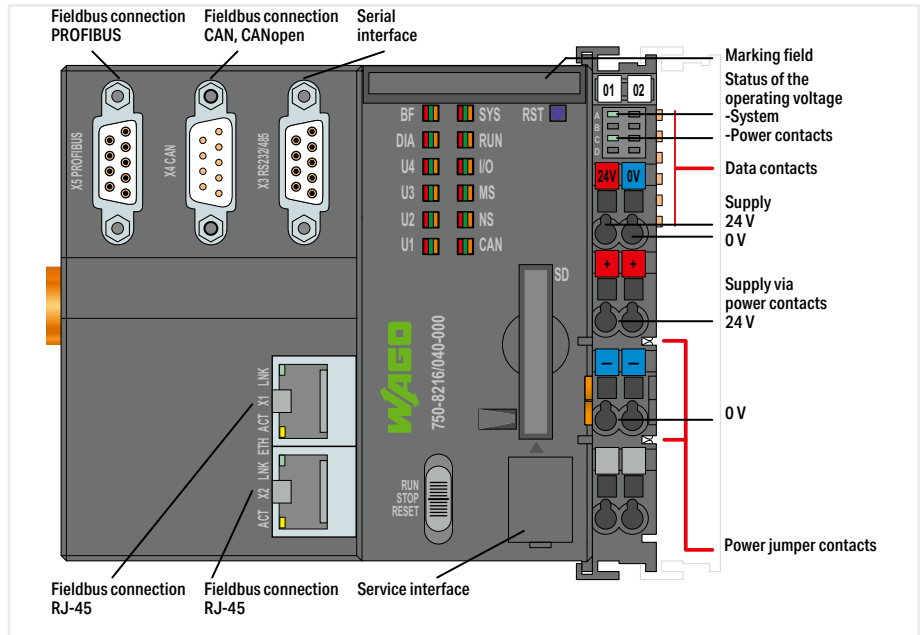
|  |                  |
|--|------------------|
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108 |

6.2

# Controller PFC200 XTR ▶ 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS slave



750-8216/040-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                  |
|----------------------------------|
| <b>extreme</b>                   |
| 750-8216/040-000                 |
| PFC200; G2; 2ETH RS CAN DPS; XTR |

|                |
|----------------|
| Technical data |
| Communication  |

PROFIBUS; CANopen; Modbus TCP master/slave; Modbus (UDP); Modbus (RTU); ETHERNET; EtherNet/IP™ Adapter (slave); EtherNet/IP™ Scanner; EtherCAT® Master; OPC UA Server/Client; OPC UA Pub/Sub (can be installed later); MQTT; RS-232 serial interface; RS-485 interface; BACnet/IP, **requires an additional license**; Telecontrol protocols, **requires an additional license**

|                       |
|-----------------------|
| ETHERNET protocols    |
| Telecontrol protocols |

DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH  
IEC 60870 (additional license as slave or master); IEC 61850 (additional license as Client or Server); DNP3 (additional license as Slave or Master)

|                         |
|-------------------------|
| Visualization           |
| Programming environment |

Web-Visu  
CODESYS V3.5, from firmware release 23; **e!COCKPIT** (based on CODESYS V3), up to firmware release 22; WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to firmware release 22

|  |
|--|
| CPU  |
| Operating system   |
| Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware) |
| Program memory/data memory/non-volatile memory (software)                |

Cortex A8; 1 GHz  
Real-time Linux (with RT-Preempt patch)  
512 MB / 4 GB / 128 KB  
CODESYS V2: 16 MB / 64 MB / 128 KB; CODESYS V3: 32 MB / 128 MB / 128 KB

|  |
|--|
| Number of modules per node (max.)              |
| Input and output process image (internal) max. |
| Input and output process image (Modbus®) max.  |
| Input and output process image (PROFIBUS) max. |
| Input and output process image (CAN) max.      |

64  
1000 words/1000 words  
CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words  
244 bytes/244 bytes  
2000 words/2000 words

|                         |
|-------------------------|
| Supply voltage (system) |
| Supply voltage (field)  |

24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  
24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!

|          |
|----------|
| Derating |
|----------|

Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

|   |
|---|
| Input current (typ.) at nominal load (24 V) |
| Total current (system supply)               |
| Ambient temperature (operation)             |
| Dimensions W x H x D                        |
| Approvals                                   |

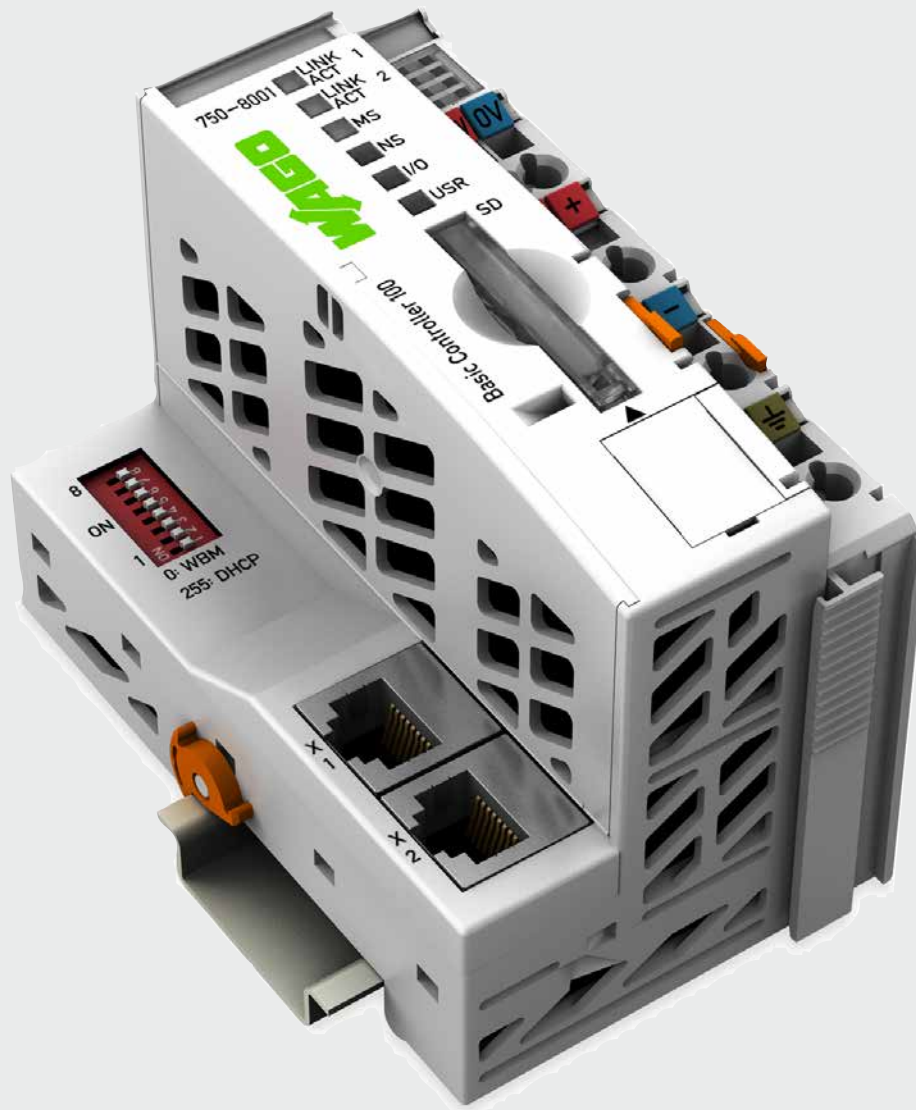
550 mA  
1700 mA  
-40 ... +70 °C  
(112 x 100 x 71.9) mm  
CE; Marine; OrdLoc/HazLoc  
wago.com/750-8216/040-000

|   |
|---|
| For data sheet and additional information, see: |
| <b>Product Expansions</b>                       |
| Runtime; BACnet; 300; Single License            |
| Runtime; DNP3 Master; M; Single License         |
| Runtime; IEC60870 Slave; Single License         |
| Runtime; DNP3 Slave; Single License             |
| Runtime; IEC60870 Master; M; Single License     |
| Runtime; IEC61850 Client; M; Single License     |
| Runtime; IEC61850 Server; Single License        |

|                    |
|--------------------|
| <b>Item no.</b>    |
| 2759-283/211-1000  |
| 2759-2293/211-1000 |
| 2759-290/211-1000  |
| 2759-2290/211-1000 |
| 2759-293/211-1000  |
| 2759-2243/211-1000 |
| 2759-2240/211-1000 |

|  |
|--|
| <b>Accessories</b>   |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C |

|                  |
|------------------|
| <b>Item no.</b>  |
| 758-879/000-001  |
| 758-879/000-2108 |



# Basic Controllers 100

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

◀◀ Section 6.1

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◀ Section 6.2

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

Section 6.4 ▶

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 6.5 ▶▶

## Starter Kits

For the entry into the most diverse application possibilities

## IoT Boxes

Integrating machines and plants into the Internet of Things

Section 6.6 ▶▶▶



# Basic Controllers 100

## Contents

|                                | Page |
|--------------------------------|------|
| General Product Information    | 144  |
| Interfaces and Types           | 145  |
| Item Number Key                | 145  |
| Installation Instructions      | 146  |
| Standards and Rated Conditions | 147  |
| Approvals                      | 147  |



| CPU     | Modbus (TCP, UDP) | Description                             | Item No. |     |
|---------|-------------------|---|----------|-----|
| 32 bits | M/S               | Basic Controller 100; 2 x ETHERNET      | 750-8001 | 148 |
|         | M/S               | Basic Controller 100; 2 x ETHERNET; ECO | 750-8000 | 149 |

M: Master, S: Slave

## Basic Controllers 100

### General Product Information

#### Basic Controllers 100:

The Basic Controllers 100 primarily use the manufacturer-independent IEC 61131-3 engineering system CODESYS V3. Integrated standard editors (FBD, LD, ST, AS) make it easy to create extensive applications. All the advantages of object-oriented programming can be used to their full extent.

Seamlessly integrated communication protocols (OPC UA Client/Server/PubSub, Modbus TCP Master/Slave, EtherNet/IP™ Scanner/Adapter and MQTT) are supported, along with advanced HTML5-based web visualization.

The Basic Controllers 100 feature a new role-based user management and support the TLS1.3 encryption protocol. Both RFC 5424-compliant syslog and the SFTP encrypted transfer protocol – along with https – are standard features.

#### Link between Process Data and IT Application

WAGO's controllers ideally combine real-time requirements with IT functionality. They support Modbus/TCP and EtherNet/IP™ for use in industrial environments. HTTP; HTTPS, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data.

Furthermore, the controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

#### Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use. These approvals even include the harsh operating conditions that ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous other marine certifications cover.

#### Modular and Expandable

With the WAGO I/O System 750, the Basic Controllers can expand to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools.

The straightforward design prevents installation errors. Additionally, proven CAGE CLAMP® technology ensures that all connections made in the field are quick, vibration-proof and maintenance-free. Depending on the I/O modules' granularity, the field level can be directly wired using 1-, 2-, 3- or 4-conductor technology.

#### Maximum Reliability and Ruggedness

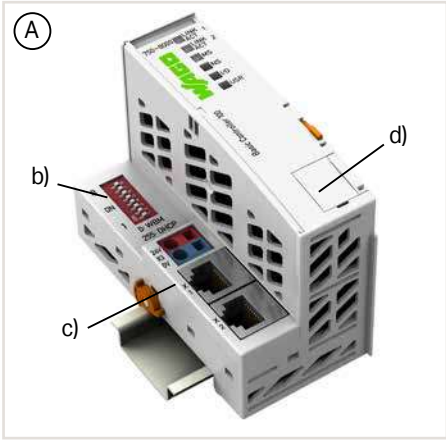
The WAGO I/O System is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100% function testing ensure consistent quality.



#### Advantages:

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

# Basic Controllers 100 Interfaces and Types



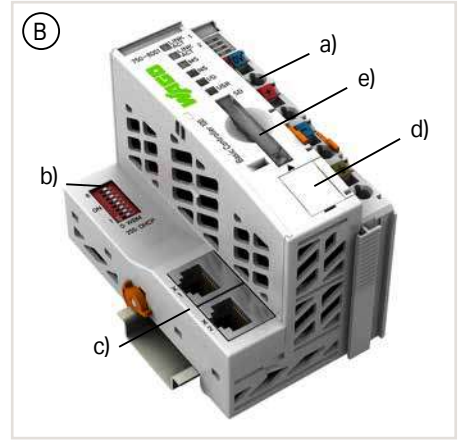
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- Service interface (d)

### Housing Design Eco (A)

- W x H x D (mm): 49.5 x 96.8 x 71.9

### Housing Design (B)

- Includes a supply module (a) to power downstream I/O modules
- SD card slot for external storage media (e)
- W x H x D (mm): 61.5 x 100 x 71.9



## Item Number Key

Explanation of an item number key's components:

|                     |         |                                    |
|---------------------|---------|------------------------------------|
| Item No. : 750-800x |         |                                    |
| 0:                  | 32 bits | ETHERNET; Modbus TCP; Eco          |
| 1:                  | 32 bits | ETHERNET; Modbus TCP; SD card slot |

# Basic Controllers 100 Installation Instructions

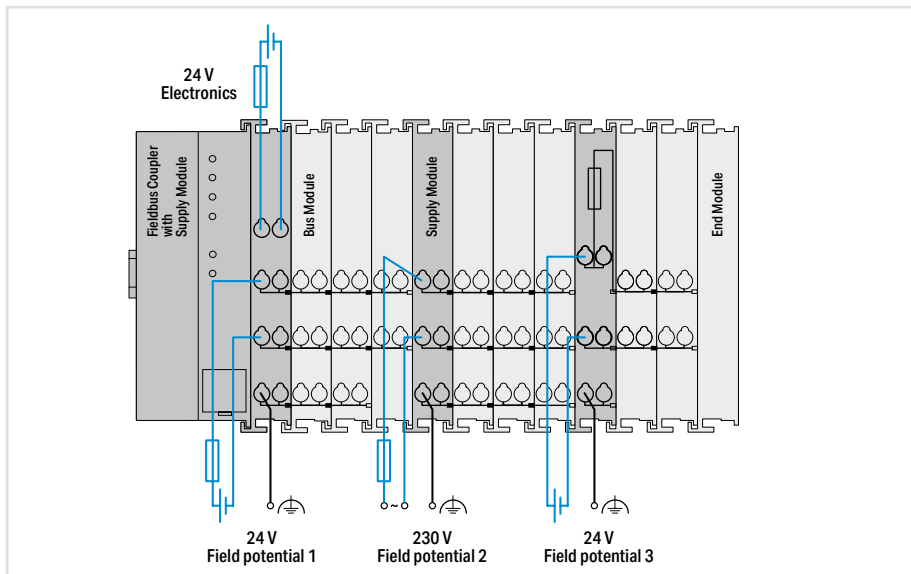
## Power Supply

The internal electronics are powered by the controller. The field-side power supply is electrically isolated via the supply module on the controller or a separate power supply module. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node. Power supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.

## Interference-Free in Safety-Related Applications

To easily and safely perform a cost-effective and centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



### Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

### Notes:

Additional steps must be implemented based on where the I/O system is installed:

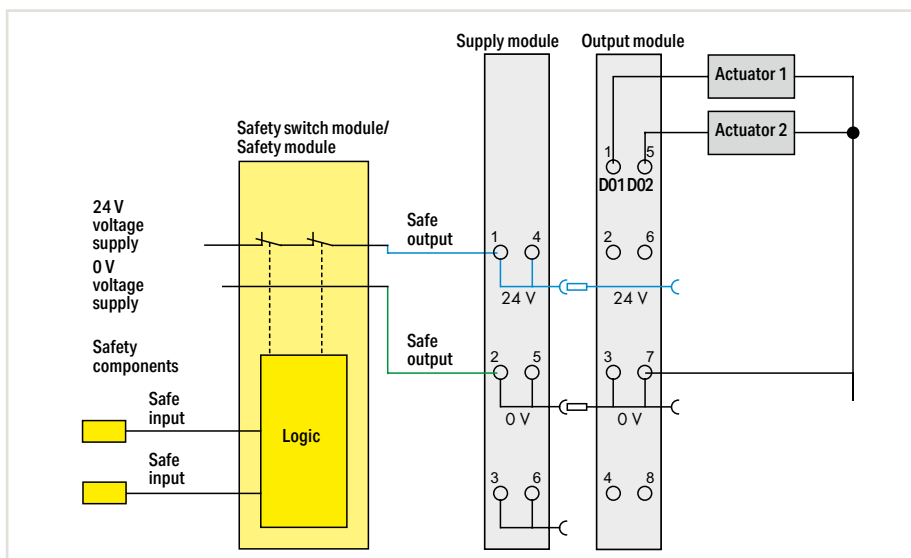
Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.

Additionally, both a supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

When operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. Furthermore, specific power and field-side power supply filters (750-626) must be provided.

Please refer to the manual for details about the power supply's design.

A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.



Example: 2-channel, double-pole power supply disconnection

## Basic Controllers 100

### Standards and Rated Conditions

| General Technical Data   |   |
|--|---|
| System supply voltage  | 24 VDC (-25 % ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |
| Isolation  | 500 V (system/supply)   |
| Surrounding air temperature (operation)  | 0 ... +55 °C  |
| Surrounding air temperature (storage)  | -25 ... +85 °C  |
| Relative humidity  | 95 % (non-condensing)   |
| Operating altitude   | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.) |
| Pollution degree   | 2 per IEC 61131-2   |
| Vibration resistance   | 04g per IEC 60068-2-6   |
| Shock resistance   | 15g per IEC 60068-2-27  |
| EMC immunity to interference   | Per EN 61000-6-2; marine applications   |
| EMC emission of interference   | Per EN 61000-6-3; marine applications   |
| Protection class   | IP20  |
| Mounting position  | any   |
| Mounting type  | DIN-35 rail mounting  |
| Housing material   | Polycarbonate; polyamide 6.6  |
| Exposure to pollutants   | Per IEC 60068-2-42 and IEC 60068-2-43   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity < 75 %  | 25 ppm  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity < 75 % | 10 ppm  |
| Connection technology: system supply   | 2 x CAGE CLAMP®   |
| Solid conductor  | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG  |
| Fine-stranded conductor  | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG  |
| Strip length   | 8 ... 9 mm / 0.31 ... 0.35 inches   |
| Current carrying capacity (power jumper contacts)                                    | 10 A  |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).

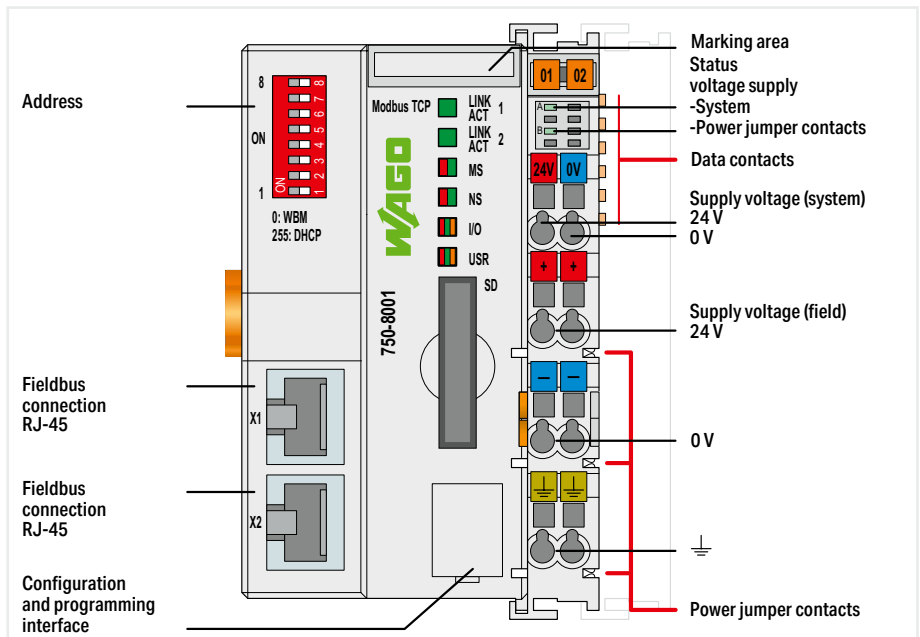


|                       |          |
|-----------------------|----------|
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Shield termination    | Page 708 |
| Software              | Page 36  |
| System enclosure      | Page 693 |

## Basic Controller 100 ▶ Modbus TCP; SD card slot



750-8001



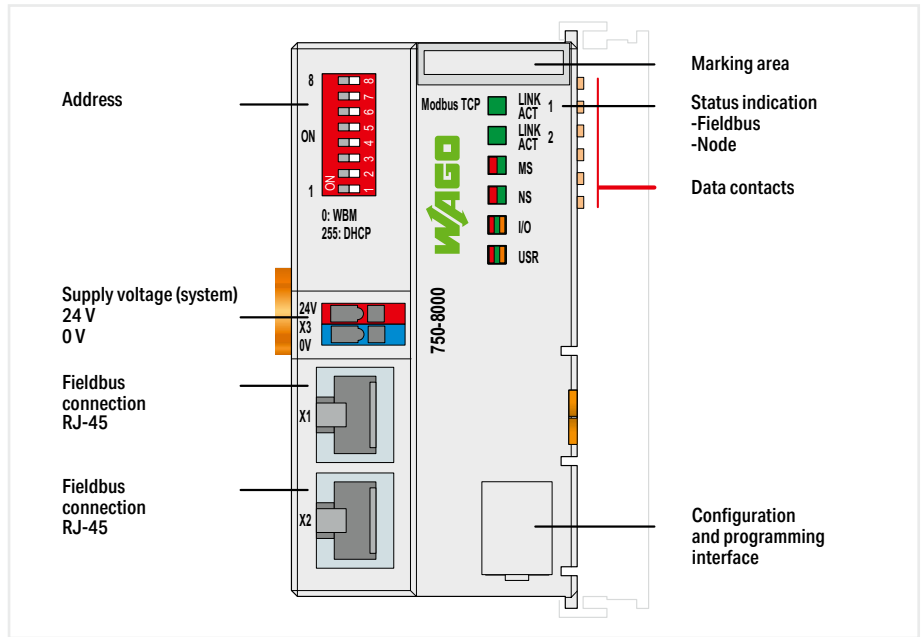
|            |                            |
|------------|----------------------------|
| Version    | Standard                   |
| Item no.   | 750-8001                   |
| Order Text | Basic Controller 100; 2ETH |

|   |  |
|---|--|
| Technical data  |  |
| Communication   | Modbus (TCP, UDP)  |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNTP; SFTP; SNMP (V2 & V3); TLS1.3 Syslog                 |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP); 2 x RJ-45   |
| Baud rate   | 10/100 Mbit/s  |
| Visualization   | Webserver mit integrierten RBAC (Role Based Access Control)                          |
| Programming environment                                   | CODESYS V3.5   |
| Type of memory card                                       | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card) |
| Program memory/data memory/non-volatile memory (software) | 16 MB / 32 MB / 128 KB   |
| Number of modules per node (max.)                         | 250  |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)             |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                                    |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |
| Current consumption (5 V system supply)                   | 440 mA   |
| Total current (system supply)                             | 1700 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (61.5 x 100 x 71.9) mm   |
| Approvals   | CE   |
| For data sheet and additional information, see:           | wago.com/750-8001  |

# Basic Controller 100 ▶ Modbus TCP; ECO

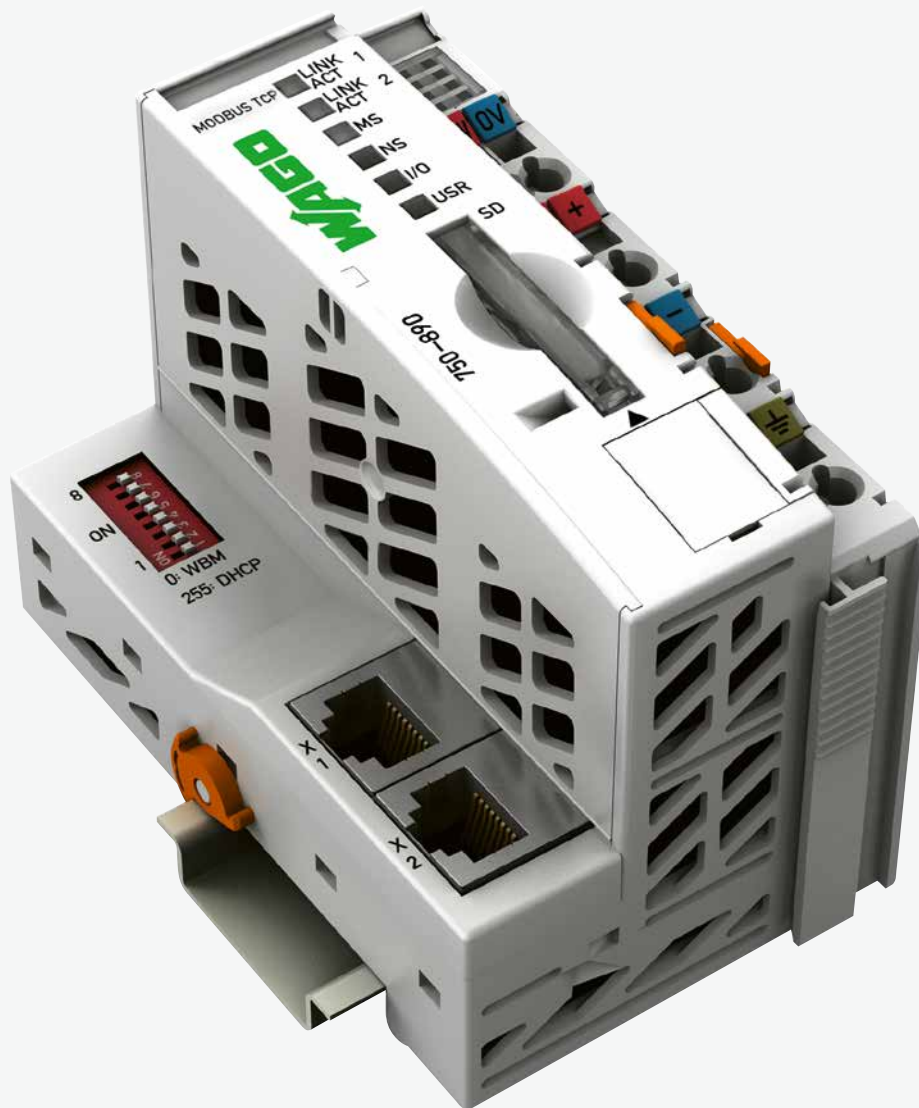


750-8000



|            |                                 |
|------------|---------------------------------|
| Version    | Standard                        |
| Item no.   | 750-8000                        |
| Order Text | Basic Controller 100; 2ETH; ECO |

|   |  |
|---|--|
| Technical data  |  |
| Communication   | Modbus (TCP, UDP)  |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNTP; SFTP; SNMP (V2 & V3); TLS1.3 Syslog |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP); 2 x RJ-45   |
| Baud rate   | 10/100 Mbit/s  |
| Visualization   | Webserver mit integrierten RBAC (Role Based Access Control)          |
| Programming environment                                   | CODESYS V3.5   |
| Program memory/data memory/non-volatile memory (software) | 16 MB / 16 MB / 64 KB  |
| Number of modules per node (max.)                         | 250  |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector                      |
| Input current (typ.) at nominal load (24 V)               | 300 mA   |
| Current consumption (5 V system supply)                   | 390 mA   |
| Total current (system supply)                             | 700 mA   |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (49.5 x 96.8 x 71.9) mm  |
| Approvals   | CE   |
| For data sheet and additional information, see:           | wago.com/750-8000  |



# Controllers 750

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

◀◀ Section 6.1

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◀◀ Section 6.2

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

◀ Section 6.3

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 6.5 ▶

## Starter Kits

For the entry into the most diverse application possibilities

## IoT Boxes

Integrating machines and plants into the Internet of Things

Section 6.6 ▶▶



# Controllers 750 Contents

|                                |      |
|--------------------------------|------|
|                                | Page |
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| Item Number Key                | 153  |
| Installation Instructions      | 154  |
| Standards and Rated Conditions | 155  |
| Approvals                      | 155  |



| CPU     | ETHERNET          |              |           |        |            |                       |              |           |          | Description | Item No.  |                 |                                    |                      |
|---------|-------------------|--------------|-----------|--------|------------|-----------------------|--------------|-----------|----------|-------------|---|-----------------|------------------------------------|----------------------|
|         | Modbus (TCP, UDP) | EtherNet/IP™ | BACnet/IP | KNX IP | Modbus RTU | Telecontrol Protocols | BACnet MS/TP | DeviceNet | PROFIBUS |             | CANopen   | Standard        |                                    | Extended Temperature |
| 32 bits | M/S               |              |           |        |            |                       |              |           |          |             | Controller Modbus TCP; 4th Generation; 2 x ETHERNET, SD Card Slot   | 750-890         | 750-890/025-000                    | 156                  |
|         | M/S               |              |           |        |            | x                     |              |           |          |             | Controller Modbus TCP; 4th Generation; 2 x ETHERNET, SD Card Slot; Telecontrol Technology; Ext. Temperature |                 | 750-890/025-001<br>750-890/025-002 | 156                  |
| 32 bits | M/S               |              |           |        |            |                       |              |           |          |             | Controller Modbus TCP; 4th Generation; 2 x ETHERNET   | 750-891         |                                    | 157                  |
|         | M/S               |              |           |        |            |                       |              |           |          |             | Controller Modbus TCP; 4th Generation; ECO  | 750-862         |                                    | 158                  |
| 32 bits | M/S               | S            |           |        |            |                       |              |           |          |             | Controller EtherNet/IP™; 4th Generation; 2 x ETHERNET, SD Card Slot   | 750-893         |                                    | 159                  |
|         | M/S               | S            |           |        |            |                       |              |           |          |             | Controller EtherNet/IP™; 4th Generation; 2 x ETHERNET; ECO  | 750-823         |                                    | 160                  |
| 16 bits | M/S               |              |           |        |            |                       |              |           |          |             | Controller ETHERNET; 1 st Generation  | 750-842         |                                    | 161                  |
|         | M/S               |              |           |        |            |                       |              |           |          |             | Controller ETHERNET; 1 st Generation; ECO   | 750-843         |                                    | 162                  |
| 32 bits | M/S               |              | x         |        |            |                       |              |           |          |             | Controller BACnet/IP  | 750-832         |                                    | 163                  |
|         | M/S               |              | x         |        |            |                       |              |           |          |             | Controller BACnet/IP; ECO   | 750-832/000-002 |                                    | 163                  |
| 32 bits | M/S               |              |           |        |            |                       | x            |           |          |             | Controller BACnet MS/TP   | 750-829         |                                    | 164                  |
| 32 bits | M/S               |              |           | x      |            |                       |              |           |          |             | Controller KNX/IP   | 750-889         |                                    | 165                  |
| 16 bits |                   |              |           |        | x          |                       |              |           |          |             | Controller MODBUS; RS-485; 115.2 kBd  | 750-815/300-000 | 750-815/325-000                    | 166                  |
|         |                   |              |           |        | x          |                       |              |           |          |             | Controller MODBUS; RS-232; 115.2 kBd  | 750-816/300-000 |                                    | 167                  |
| 16 bits |                   |              |           |        |            |                       |              |           | S        |             | Controller PROFIBUS Slave   | 750-833         | 750-833/025-000                    | 168                  |
| 16 bits |                   |              |           |        |            |                       |              |           |          | x           | Controller DeviceNet  | 750-806         |                                    | 169                  |
| 16 bits |                   |              |           |        |            |                       |              |           |          | M/S         | Controller CANopen; 128/64 KB Program/ RAM; MCS   | 750-837         |                                    | 170                  |
|         |                   |              |           |        |            |                       |              |           |          | M/S         | Controller CANopen; 640/832 KB Program/ RAM; MCS  | 750-837/021-000 |                                    | 170                  |
|         |                   |              |           |        |            |                       |              |           |          | M/S         | Controller CANopen; 128/64 KB Program/ RAM; D-Sub   | 750-838         |                                    | 171                  |
|         |                   |              |           |        |            |                       |              |           |          | M/S         | Controller CANopen; 640/832 KB Program/ RAM; D-Sub  | 750-838/021-000 |                                    | 171                  |

M: Master, S: Slave

## Controllers 750

### General Product Information

#### Controllers 750: Open – Flexible – Compact

WAGO's controllers are ideal for a wide variety of applications ranging from industrial, process and building automation to measurement and data collection. Based on the fieldbus couplers for all standard fieldbus systems, they are programmable to IEC 61131-3. Direct connection to a wide range of I/O modules from the WAGO I/O System 750 provides perfect adaptation to any application.

#### Building Automation

Dedicated controllers for the BACnet/IP and KNX IP bus systems are ideal for building automation applications. The wide range of I/O modules allows integration of external systems such as lighting control (DALI), sun protection (SMI), wireless switches (EnOcean) and much more.

#### Marine and Onshore/Offshore Industries

International approvals coupled with industry-specific features permit use in marine applications and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for both interference immunity and emission, along with superior mechanical performance in these sensitive areas, the WAGO I/O System will readily meet the needs of other industries.

#### Telecontrol Technology

Standardized IEC 60870-5, IEC 61850, IEC 61400-25 and DNP3 Telecontrol Protocols allow the Controllers 750 to be used in telecontrol applications.

#### Starter Kits

For a quick start, WAGO offers every customer the unique opportunity to purchase a starter kit that already contains all the components needed to begin programming and getting to know the controllers. For starter kits, see Section 6.6.

#### Link between Process Data and IT Application

WAGO's controllers ideally combine real-time requirements with IT functionality. They support Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP; HTTPS, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

#### Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use – even under harsh operating conditions. These recognitions include: ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous marine certifications.

#### Modular and Expandable

With the WAGO I/O System 750, the Controllers 750 can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools.

The straightforward design prevents installation errors. Additionally, proven CAGE CLAMP® technology ensures that all connections made in the field are quick, vibration-proof and maintenance-free. Depending on the I/O modules' granularity, the field level can be directly wired using 1-, 2-, 3- or 4-conductor technology.

#### Maximum Reliability and Ruggedness

The WAGO I/O System is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100% function testing ensure consistent quality.



#### Benefits:

- Controllers for all prominent fieldbus systems
- Industry-specific features
- Programmable via CODESYS 3 (IEC 61131-3)
- Expandable with the WAGO I/O System 750's comprehensive product range
- Extensive IT integration possibilities
- Tested and approved worldwide
- Maintenance-free

# Controllers 750 Variants

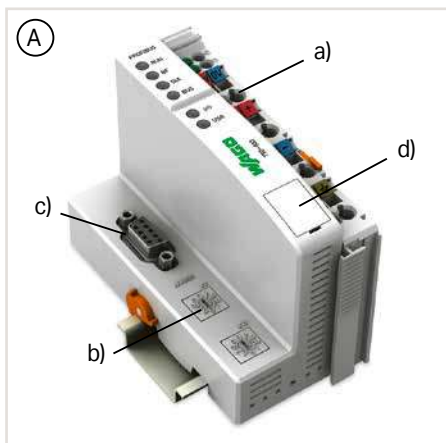
## Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, there are applications that require an extended temperature range. Select controllers are available in an extended temperature range of -20°C to +60°C.



For extreme applications, where even this extended temperature range is not sufficient, the WAGO I/O System 750 XTR is available.

## Interfaces and Types



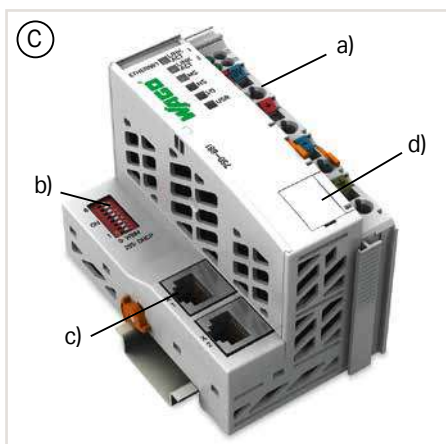
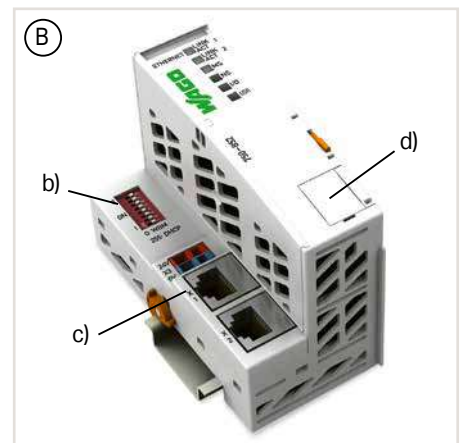
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- Service interface (d)

### Housing Design (A)

- Includes a supply module (a) to power downstream I/O modules
- W x H x D (mm): 50.5 x 100 x 71.1

### Housing Design Eco (B)

- W x H x D (mm): 49.5 x 96.8 x 71.9

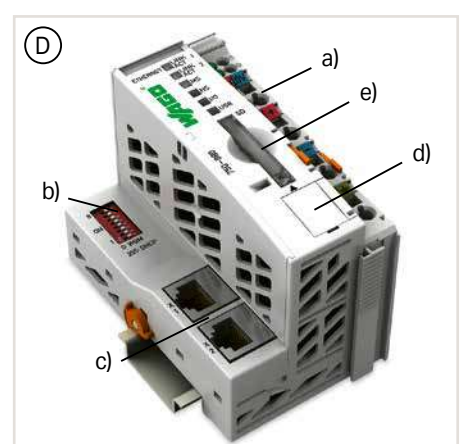


### Housing Design (C)

- Includes a supply module (a) to power downstream I/O modules
- W x H x D (mm): 61.5 x 100 x 71.9

### Housing Design (D)

- Includes a supply module (a) to power downstream I/O modules
- SD card slot for external storage media (e)
- W x H x D (mm): 61.5 x 100 x 71.9



## Item Number Key

Explanation of an item number key's components

Item No. : 750-8xx

0x, 1x: 16-bit CPU

3x, 4x: 16-bit CPU

6x: 32 bits

2x, 7x, 8x: 32-bit multitasking

INTERBUS, DeviceNet, Modbus

BACnet, PROFIBUS, CANopen, ETHERNET

ETHERNET Eco

ETHERNET, telecontrol technology, media redundancy,

BACnet, KNX IP

.../025-yyy: Extended temperature range (-20 ... +60 °C)

000: Standard, 001: Telecontrol technology, 002: Telecontrol technology Eco

# Controllers 750 Installation Instructions

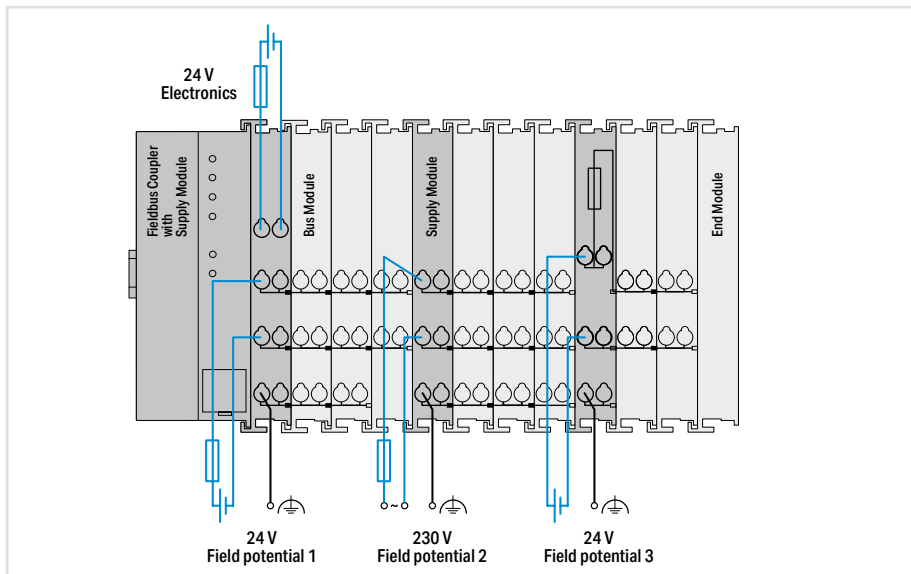
## Power Supply

The internal electronics are powered by the controller. The field-side power supply is electrically isolated via the supply module on the controller or a separate power supply module. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node. Power supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.

## Interference-Free in Safety-Related Applications

To easily and safely perform a cost-effective and centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



### Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

### Notes:

Additional steps must be implemented based on where the I/O system is installed:

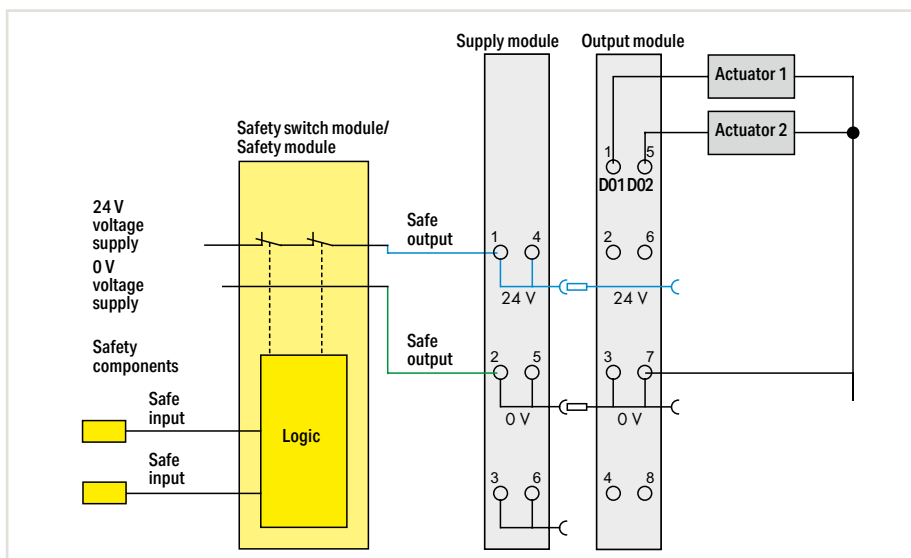
Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.

Additionally, both a supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

When operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. Furthermore, specific power and field-side power supply filters (750-626) must be provided.

Please refer to the manual for details about the power supply's design.

A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.



Example: 2-channel, double-pole power supply disconnection

# Controller 750

## Standards and Rated Conditions

| General technical data   |   |
|--|---|
| Relative humidity (without condensation)   | 95 %  |
| Operating altitude   | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.) |
| Pollution degree   | 2 per IEC 61131-2   |
| Shock resistance   | 15g per IEC 60068-2-27  |
| Protection type  | IP20  |
| Mounting position  | any   |
| Mounting type  | DIN-35 rail   |
| Housing material   | Polycarbonate; polyamide 6.6  |
| Exposure to pollutants   | per IEC 60068-2-42 and IEC 60068-2-43   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm  |
| Connection technology: system supply   | 2 x CAGE CLAMP®   |
| Solid conductor  | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG  |
| Fine-stranded conductor  | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG  |
| Strip length   | 8 ... 9 mm / 0.31 ... 0.35 inches   |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).

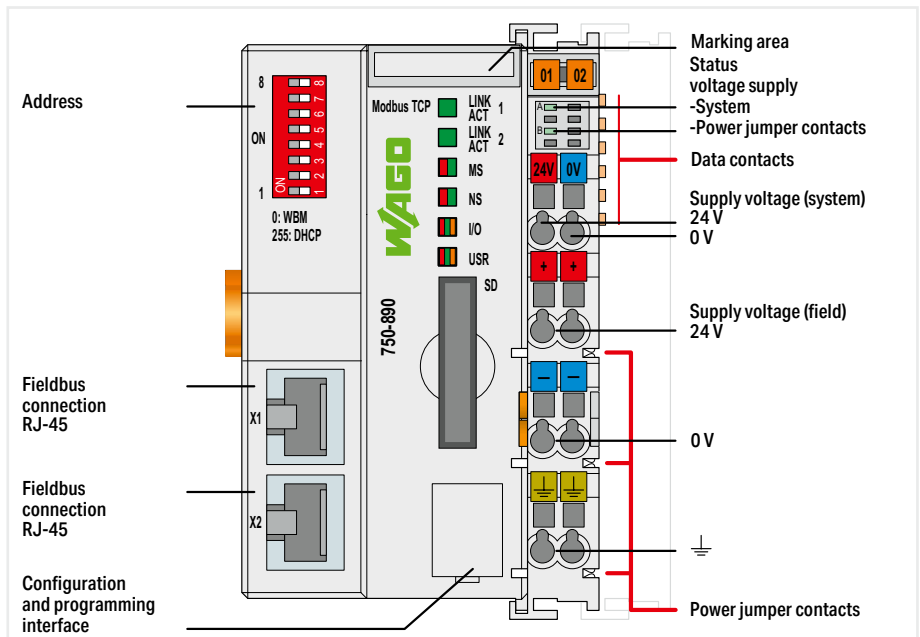


|                       |          |
|-----------------------|----------|
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Shield termination    | Page 708 |
| Software              | Page 36  |
| System enclosure      | Page 693 |

# Controller 750 ▶ Modbus TCP; SD card slot



750-890



|            |                                    |                                       |   |  |
|------------|------------------------------------|---------------------------------------|---|--|
| Version    | Standard                           | ext. temperature                      | Telecontrol technology; ext. temperature    | Telecontrol technology; ext. temperature; ECO    |
| Item no.   | 750-890                            | 750-890/025-000                       | 750-890/025-001                             | 750-890/025-002                                  |
| Order Text | Controller Modbus TCP; G4; 2ETH SD | Controller Modbus TCP; G4; 2ETH SD; T | Controller Modbus TCP; G4; 2ETH SD; Tele; T | Controller Modbus TCP; G4; 2ETH SD; Tele; T; ECO |

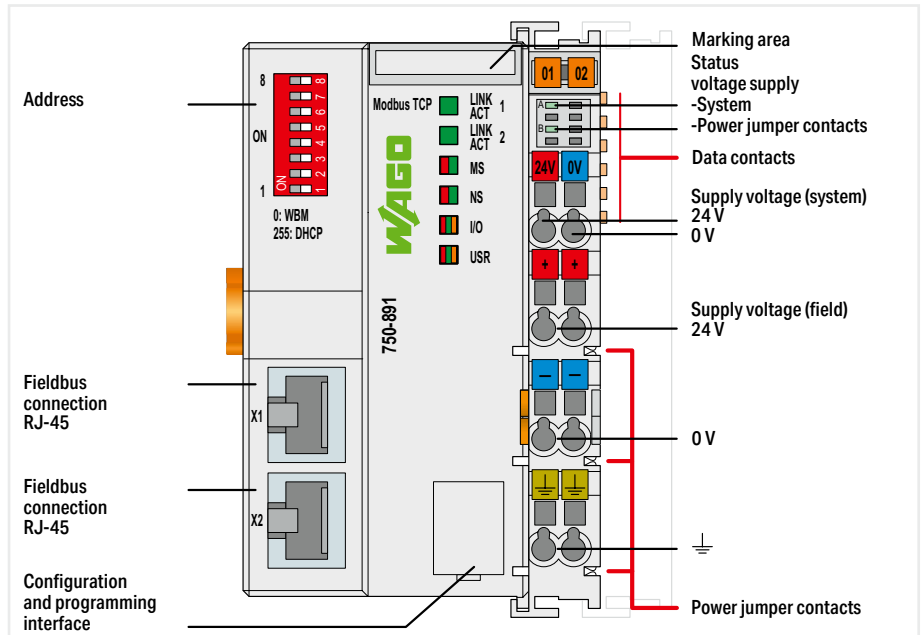
|   |  |  |  |  |
|---|--|--|--|--|
| Technical data  |  |  |  |  |
| Communication   | Modbus (TCP, UDP)  |  | Modbus (TCP, UDP); Telecontrol protocols   |  |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP  |  |  |  |
| Telecontrol protocols                                     | -  |  |  |  |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP): 2 x RJ-45   |  | IEC 60870-5-101/-103/-104; IEC 61400-25; IEC 61850-7; DNP3<br>Modbus (TCP, UDP): 2 x RJ-45; Telecontrol protocol IEC 60870-5-101/-103: 1 x Serial interface via I/O module; Telecontrol protocol IEC 60870-5-104: 1 x RJ-45; Telecontrol protocol IEC 61850: 1 x RJ-45; Telecontrol protocol DNP3: 1 x RJ-45 |  |
| Baud rate   | 10/100 Mbit/s  |  |  |  |
| Visualization   | Web-Visu   |  |  |  |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)  |  |  |  |
| Type of memory card                                       | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card) |  |  |  |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 8 MB / 8 MB / 32 KB  |  |  |  |
| Number of modules per node (max.)                         | 250  |  | 4  |  |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words  |  |  |  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)             |  |  |  |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                                    |  |  |  |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |  |  |  |
| Current consumption (5 V system supply)                   | 440 mA   |  |  |  |
| Total current (system supply)                             | 1700 mA  |  |  |  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |  | -20 ... +60 °C   |  |
| Dimensions W x H x D                                      | (61.5 x 100 x 71.9) mm   |  |  |  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |  |  |  |
| For data sheet and additional information, see:           | wago.com/750-890   |  |  |  |

|  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|
| Accessories  | Item no.         | Item no.         | Item no.         | Item no.         |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  | 758-879/000-001  | 758-879/000-001  | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108 | 758-879/000-2108 | 758-879/000-2108 | 758-879/000-2108 |

# Controller 750 ▶ Modbus TCP



750-891



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                 |
|---------------------------------|
| Standard                        |
| 750-891                         |
| Controller Modbus TCP; G4; 2ETH |

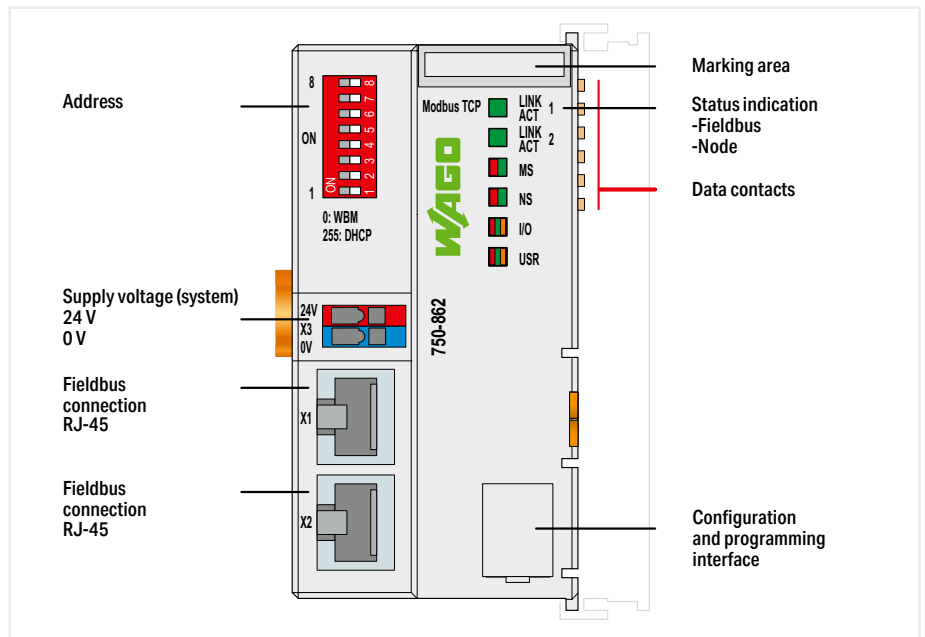
|   |
|---|
| Technical data  |
| Communication   |
| ETHERNET protocols  |
| Connection technology: communication/fieldbus             |
| Baud rate   |
| Visualization   |
| Programming environment                                   |
| Program memory/data memory/non-volatile memory (software) |
| Number of modules per node (max.)                         |
| Input and output process image (fieldbus) max.            |
| Supply voltage (system)                                   |
| Supply voltage (field)                                    |
| Input current (typ.) at nominal load (24 V)               |
| Current consumption (5 V system supply)                   |
| Total current (system supply)                             |
| Ambient temperature (operation)                           |
| Dimensions W x H x D                                      |
| Approvals   |
| For data sheet and additional information, see:           |

|  |
|--|
| Modbus (TCP, UDP)  |
| HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP                            |
| Modbus (TCP, UDP); 2 x RJ-45   |
| 10/100 Mbit/s  |
| Web-Visu   |
| WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |
| CODESYS V2: 4 MB / 4 MB / 32 KB  |
| 250  |
| 1020 words/1020 words  |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| 500 mA   |
| 390 mA   |
| 1700 mA  |
| 0 ... +55 °C   |
| (61.5 x 100 x 71.9) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                    |
| wago.com/750-891   |

# Controller 750 ▶ Modbus TCP; ECO



750-862



|            |                                      |
|------------|--------------------------------------|
| Version    | Standard                             |
| Item no.   | 750-862                              |
| Order Text | Controller Modbus TCP; G4; 2ETH; ECO |

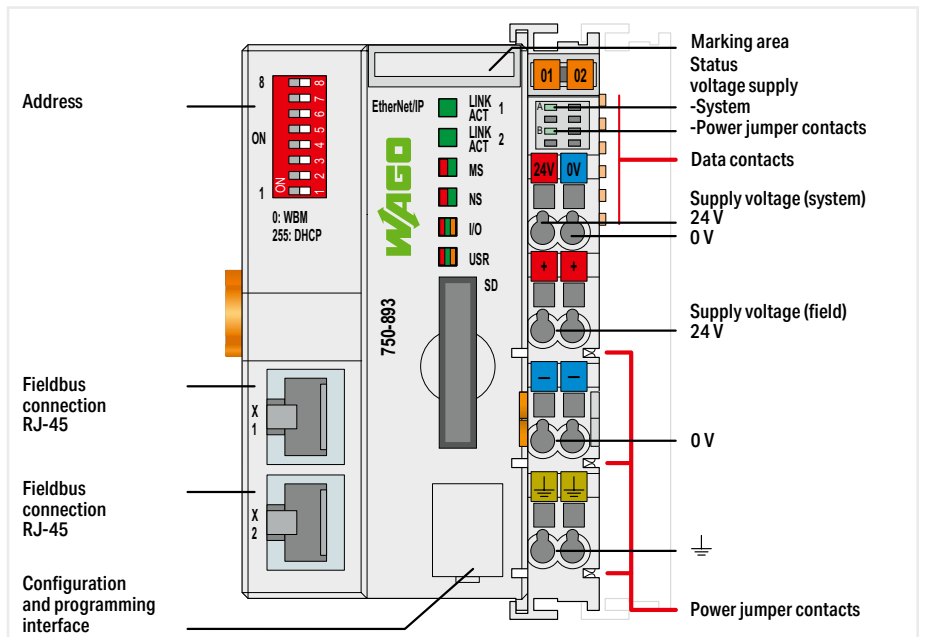
|   |   |
|---|---|
| Technical data  |   |
| Communication   | Modbus (TCP, UDP)                               |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP   |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP); 2 x RJ-45                    |
| Baud rate   | 10/100 Mbit/s                                   |
| Visualization   | Web server                                      |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)       |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 2 MB / 2 MB / 16 KB                 |
| Number of modules per node (max.)                         | 250   |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words                           |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector |
| Input current (typ.) at nominal load (24 V)               | 300 mA  |
| Current consumption (5 V system supply)                   | 390 mA  |
| Total current (system supply)                             | 700 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C                                    |
| Dimensions W x H x D                                      | (49.5 x 96.8 x 71.9) mm                         |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX           |
| For data sheet and additional information, see:           | wago.com/750-862                                |



## Controller 750 ▶ EtherNet/IP™; SD card slot



750-893

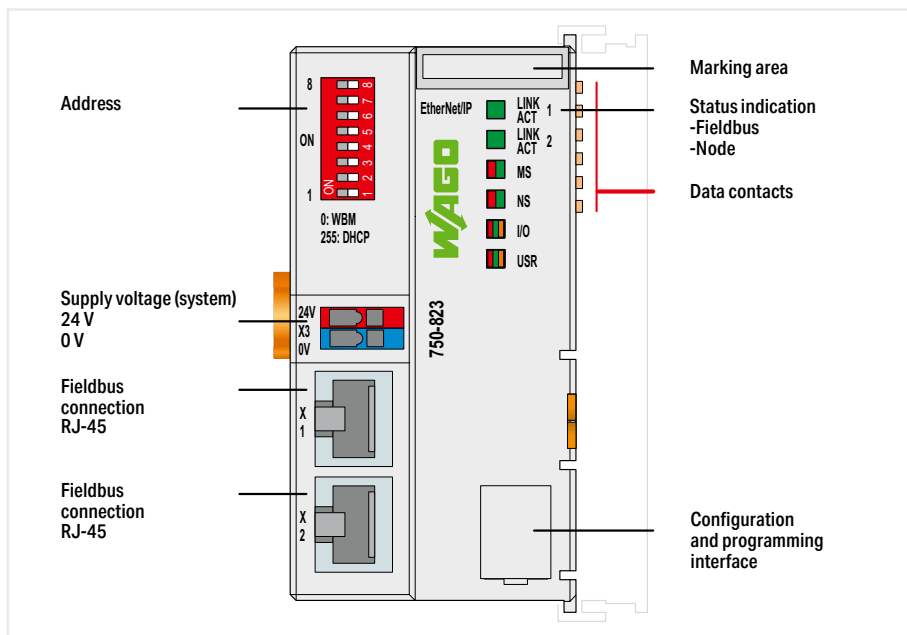


|  |  |
|--|--|
| Version  | Standard   |
| Item no.   | 750-893  |
| Order Text   | Controller EtherNet/IP; SD   |
| Technical data   |  |
| Communication  | EtherNet/IP™   |
| ETHERNET protocols   | HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP  |
| Connection technology: communication/fieldbus                    | EtherNet/IP™: 2 x RJ-45  |
| Baud rate  | 10/100 Mbit/s  |
| Visualization  | Web-Visu   |
| Programming environment  | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)  |
| Type of memory card  | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card) |
| Program memory/data memory/non-volatile memory (software)        | CODESYS V2: 8 MB / 8 MB / 32 KB  |
| Number of modules per node (max.)                                | 250  |
| Input and output process image (fieldbus) max.                   | 1020 words/1020 words  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)             |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts                                    |
| Input current (typ.) at nominal load (24 V)                      | 500 mA   |
| Current consumption (5 V system supply)                          | 440 mA   |
| Total current (system supply)                                    | 1700 mA  |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (61.5 x 100 x 71.9) mm   |
| Approvals  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                  | wago.com/750-893   |
| Accessories  |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108   |

## Controller 750 ▶ EtherNet/IP™; ECO



750-823



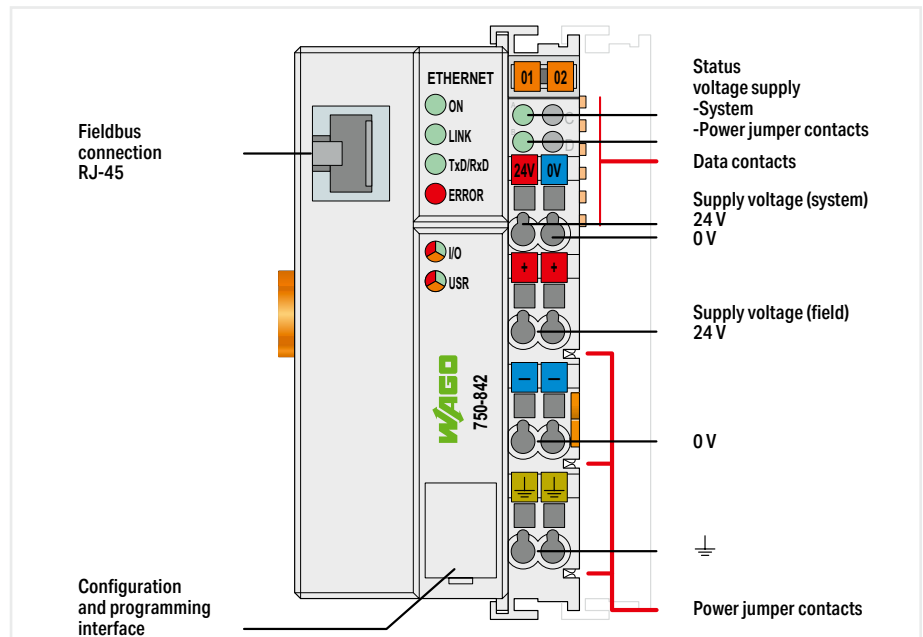
|            |                             |
|------------|-----------------------------|
| Version    | Standard                    |
| Item no.   | 750-823                     |
| Order Text | Controller EtherNet/IP; ECO |

|   |   |
|---|---|
| Technical data  |   |
| Communication   | EtherNet/IP™                                    |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP   |
| Connection technology: communication/fieldbus             | EtherNet/IP™: 2 x RJ-45                         |
| Baud rate   | 10/100 Mbit/s                                   |
| Visualization   | Web-Visu  |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)       |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 2 MB / 2 MB / 32 KB                 |
| Number of modules per node (max.)                         | 250   |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words                           |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector |
| Input current (typ.) at nominal load (24 V)               | 300 mA  |
| Current consumption (5 V system supply)                   | 390 mA  |
| Total current (system supply)                             | 700 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C                                    |
| Dimensions W x H x D                                      | (49.5 x 96.8 x 71.9) mm                         |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX           |
| For data sheet and additional information, see:           | wago.com/750-823                                |

## Controller 750 ► ETHERNET



750-842

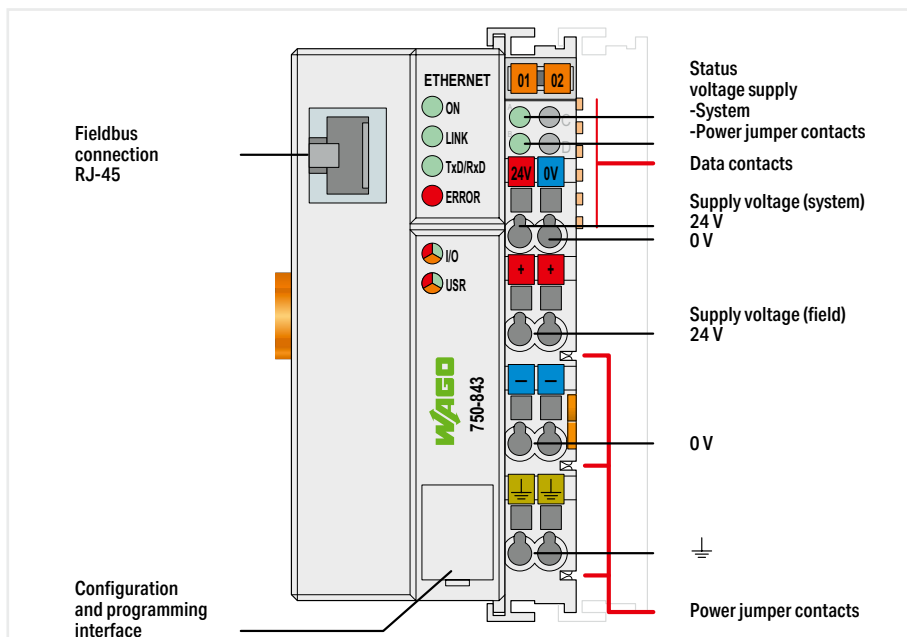


| Version   | Standard   |
|---|--|
| Item no.  | 750-842  |
| Order Text  | Controller ETHERNET; G1  |
| Technical data  |  |
| Communication   | Modbus (TCP, UDP); ETHERNET  |
| ETHERNET protocols  | HTTP; BootP  |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP); 1 x RJ-45   |
| Bus segment length (max.)                                 | 100 m  |
| Baud rate   | 10 Mbit/s  |
| Visualization   | none   |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 128 KB / 64 KB / 8 KB  |
| Number of modules per node (max.)                         | 64   |
| Input and output process image (fieldbus) max.            | 512 bytes/512 bytes  |
| Memory for fieldbus input variables (max.)                | 512 bytes  |
| Memory for fieldbus output variables (max.)               | 512 bytes  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |
| Current consumption (5 V system supply)                   | 200 mA   |
| Total current (system supply)                             | 1800 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm   |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |
| For data sheet and additional information, see:           | wago.com/750-842   |

## Controller 750 ► ETHERNET ECO



750-843

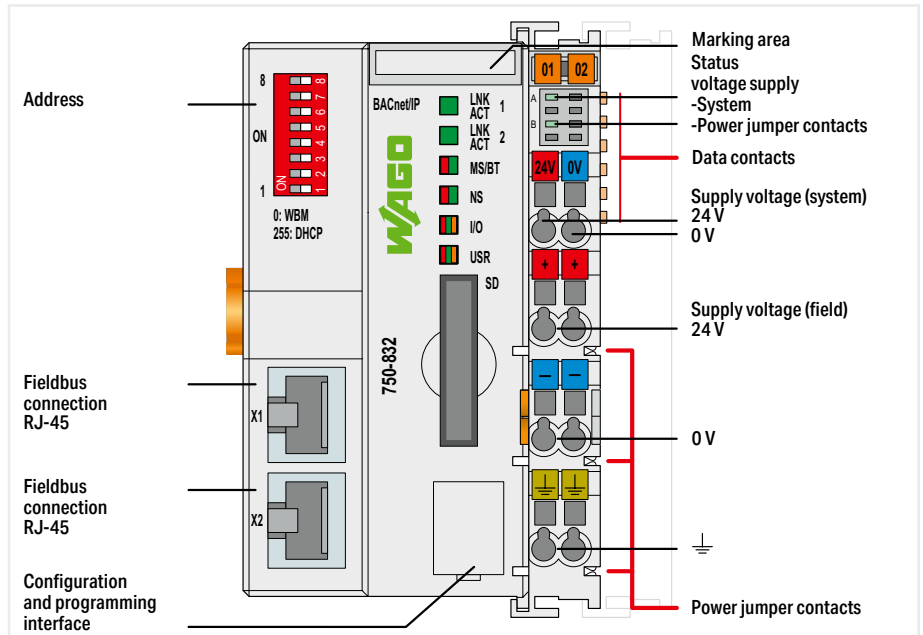


|   |  |
|---|--|
| Version   | Standard   |
| Item no.  | 750-843  |
| Order Text  | Controller ETHERNET; G1; ECO   |
| Technical data  |  |
| Communication   | Modbus (TCP, UDP); ETHERNET  |
| ETHERNET protocols  | HTTP; BootP  |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP): 1 x RJ-45   |
| Bus segment length (max.)                                 | 100 m  |
| Baud rate   | 10 Mbit/s  |
| Visualization   | none   |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 64 KB / 64 KB / 8 KB   |
| Number of modules per node (max.)                         | 64   |
| Input and output process image (fieldbus) max.            | 512 bytes/512 bytes  |
| Memory for fieldbus input variables (max.)                | 512 bytes  |
| Memory for fieldbus output variables (max.)               | 512 bytes  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |
| Current consumption (5 V system supply)                   | 200 mA   |
| Total current (system supply)                             | 1800 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm   |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |
| For data sheet and additional information, see:           | wago.com/750-843   |

# Controller 750 ▶ BACnet/IP; SD card slot



750-832



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                     |  |
|-------------------------------------|--|
| <b>Standard</b>                     | <b>ECO</b>                               |
| 750-832                             | 750-832/000-002                          |
| Controller BACnet/IP; G4; 2xETH; SD | Controller BACnet/IP; G4; 2xETH; SD; ECO |

|   |
|---|
| Technical data  |
| Communication   |
| ETHERNET protocols  |
| Connection technology: communication/fieldbus             |
| Baud rate   |
| Visualization   |
| Programming environment                                   |
| Type of memory card                                       |
| Device-specific   |
| Program memory/data memory/non-volatile memory (software) |
| Number of modules per node (max.)                         |
| Input and output process image (fieldbus) max.            |
| Supply voltage (system)                                   |
| Supply voltage (field)                                    |
| Input current (typ.) at nominal load (24 V)               |
| Current consumption (5 V system supply)                   |
| Total current (system supply)                             |
| Ambient temperature (operation)                           |
| Dimensions W x H x D                                      |
| Approvals   |
| For data sheet and additional information, see:           |

|   |
|---|
| BACnet/IP; Modbus (TCP, UDP)  |
| HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP   |
| BACnet/IP: 2 x RJ-45; Modbus (TCP, UDP): 2 x RJ-45  |
| 10/100 Mbit/s   |
| Web-Visu  |
| WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)   |
| SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card)        |
| BACnet device profile: B-BC (BACnet building controller); BACnet revision: 12               |
| CODESYS V2: 8 MB / 8 MB / 32 KB   |
| 250   |
| 1020 words/1020 words   |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)                    |
| 24 VDC (-25 ... +30 %); via power jumper contacts   |
| 500 mA  |
| 440 mA  |
| 1700 mA   |
| 0 ... +55 °C  |
| (61.5 x 100 x 71.9) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX; BACnet approvals: WSPCert certification; BTL listing |
| wago.com/750-832  |

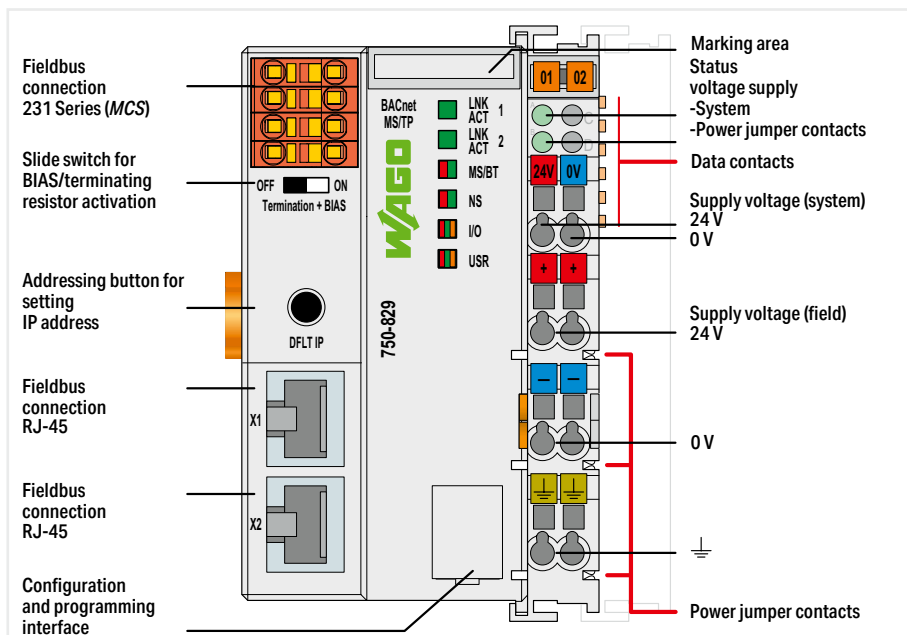
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|---|
| <b>Accessories</b>  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C |

|                  |  |
|------------------|--|
| <b>Item no.</b>  | <b>Item no.</b>  |
| 758-879/000-2108 | 758-879/000-2108   |
|                  | 750-832/000-002 Controllers support a maximum of 256 BACnet objects. |

## Controller 750 ► BACnet MS/TP



750-829

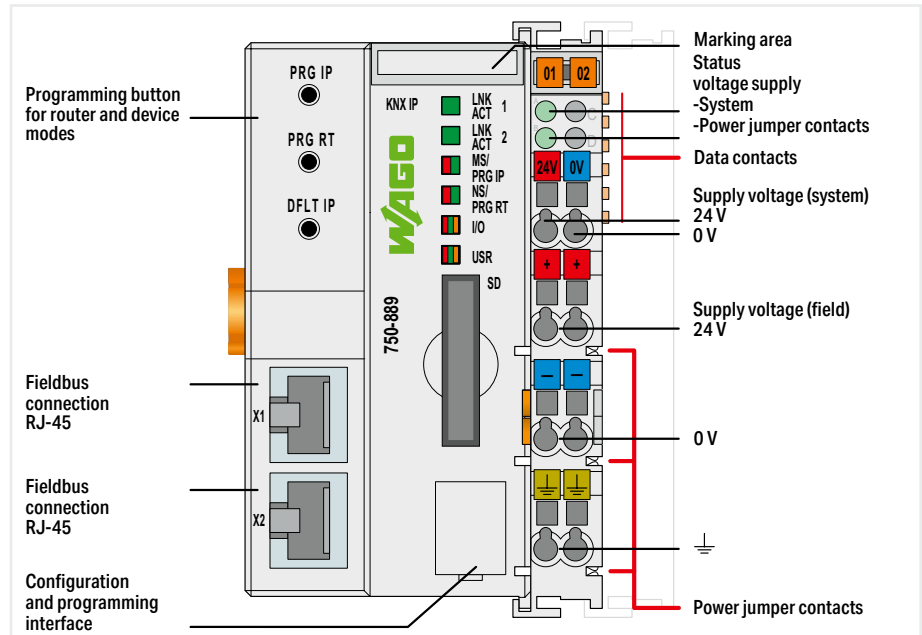


|   |  |
|---|--|
| Version   | Standard   |
| Item no.  | 750-829  |
| Order Text  | Controller BACnet MS/TP  |
| Technical data  |  |
| Communication   | BACnet MS/TP; Modbus (TCP, UDP); ETHERNET  |
| ETHERNET protocols  | HTTP; BootP; DHCP; DNS; SNMP; FTP; SNMP; SMTP  |
| Connection technology: communication/fieldbus             | BACnet MS/TP: 1 x Male connector; 4-pole; Modbus (TCP, UDP): 2 x RJ-45   |
| Bus segment length (max.)                                 | BACnet MS/TP: 1200 m; Depends on baud rate/cable (per BACnet standard) 1200 m at ≤ 76800 baud; 1000 m at > 76800 baud; ETHERNET: 100 m |
| Baud rate   | BACnet MS/TP: 38.4 kBd (9600, 19200, 38400*, 57600, 76800, 115200 Bd (per BACnet standard); * Factory setting)                         |
| Visualization   | Web-Visu   |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)  |
| Device-specific   | BACnet device profile: B-BC (BACnet building controller); BACnet revision: 1.7   |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 1024 KB / 1024 KB / 32 KB  |
| Number of modules per node (max.)                         | 99   |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words  |
| Memory for fieldbus input variables (max.)                | 512 bytes  |
| Memory for fieldbus output variables (max.)               | 512 bytes  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts  |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |
| Current consumption (5 V system supply)                   | 450 mA   |
| Total current (system supply)                             | 1700 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (61.5 x 100 x 71.9) mm   |
| Approvals   | CE; OrdLoc/HazLoc  |
| For data sheet and additional information, see:           | wago.com/750-829   |

## Controller 750 ▶ KNX/IP



750-889



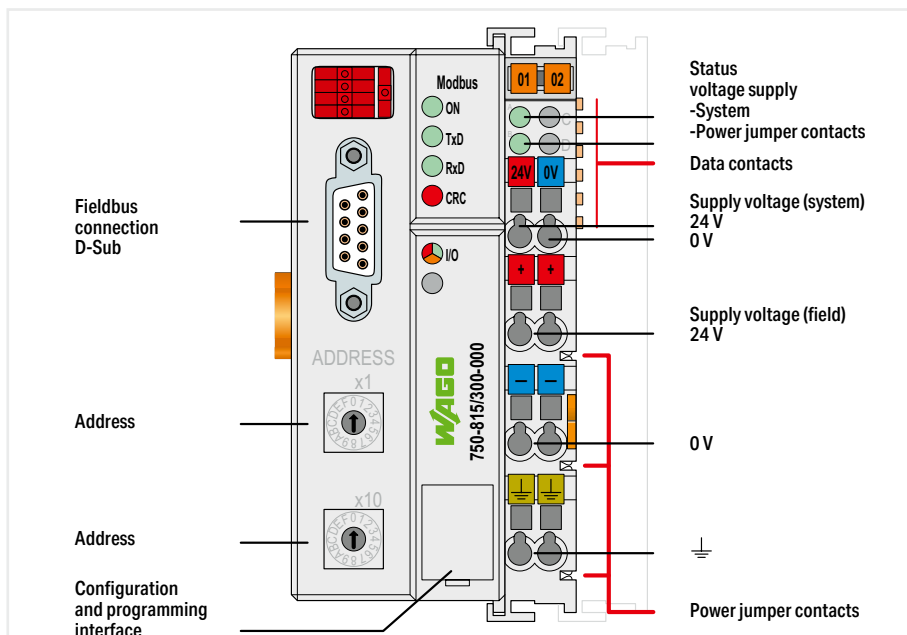
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| Version  | Standard   |
| Item no.   | 750-889  |
| Order Text   | Controller KNX/IP  |
| Technical data   |  |
| Communication  | KNX IP; Modbus (TCP, UDP); ETHERNET  |
| ETHERNET protocols   | HTTP; BootP; DHCP; DNS; AutoIP; SNMP; FTP; SNMP V3; SMTP                             |
| Connection technology: communication/fieldbus                    | KNX IP: 2 x RJ-45; Modbus (TCP, UDP): 2 x RJ-45                                      |
| Bus segment length (max.)  | 100 m  |
| Baud rate  | 10/100 Mbit/s  |
| Visualization  | Web-Visu   |
| Programming environment  | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)  |
| Type of memory card  | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card) |
| Device specification   | KNX/TP1 Bus Specification: 1.0   |
| Device-specific  | Number of group addresses: 254; Number of communication objects: 253                 |
| Program memory/data memory/non-volatile memory (software)        | CODESYS V2: 1024 KB / 1024 KB / 32 KB  |
| Number of modules per node (max.)                                | 250  |
| Input and output process image (fieldbus) max.                   | 1020 words/1020 words  |
| Memory for fieldbus input variables (max.)                       | 512 bytes  |
| Memory for fieldbus output variables (max.)                      | 512 bytes  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)             |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts                                    |
| Input current (typ.) at nominal load (24 V)                      | 500 mA   |
| Current consumption (5 V system supply)                          | 450 mA   |
| Total current (system supply)                                    | 1700 mA  |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (61.5 x 100 x 71.9) mm   |
| KNX certified  | IP Controller: 61/8316/08; IP Router: 61/8317/08                                     |
| Approvals  | CE; Marine; OrdLoc/HazLoc  |
| For data sheet and additional information, see:                  | wago.com/750-889   |
| Accessories  |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C  | 758-879/000-2108   |

This controller can accommodate two KNX logic devices at the same time: programmable controller or KNX router in conjunction with KNX/EIB/TP1 module. Commissioning (KNX-side): via ETS plug-in, 2 programming buttons

## Controller 750 ► MODBUS; RS-485; 115.2 kBd



750-815/300-000



|            |                                    |                                       |
|------------|------------------------------------|---------------------------------------|
| Version    | Standard                           | ext. temperature                      |
| Item no.   | 750-815/300-000                    | 750-815/325-000                       |
| Order Text | Controller MODBUS; RS485; 115.2kBd | Controller MODBUS; RS485; 115.2kBd; T |

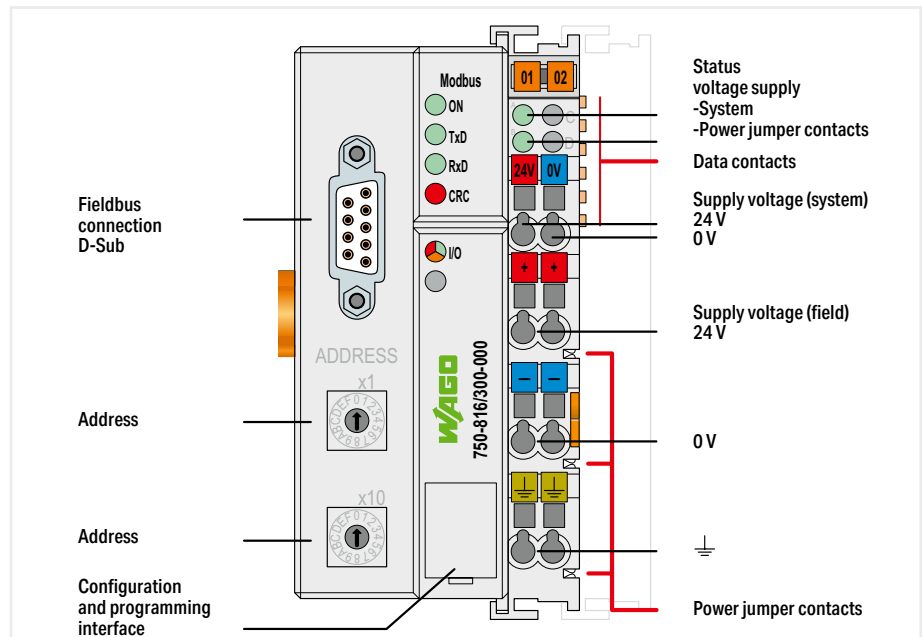
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|---|--|----------------|
| Technical data  |  |                |
| Communication   | Modbus® RTU  |                |
| Connection technology: communication/fieldbus             | Modbus® RTU: 1 x D-sub 9 socket  |                |
| Bus segment length (max.)                                 | 1200 m   |                |
| Baud rate   | 150 Bd ... 115.2 kBd   |                |
| Number of fieldbus nodes on master (max.)                 | 247  |                |
| Visualization   | none   |                |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |                |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 32 KB / 32 KB / 8 KB   |                |
| Number of modules per node (max.)                         | 64   |                |
| Input and output process image (fieldbus) max.            | 1024 bytes/1024 bytes  |                |
| Memory for fieldbus input variables (max.)                | 512 bytes  |                |
| Memory for fieldbus output variables (max.)               | 512 bytes  |                |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |                |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                        |                |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |                |
| Current consumption (5 V system supply)                   | 350 mA   |                |
| Total current (system supply)                             | 1650 mA  |                |
| Ambient temperature (operation)                           | 0 ... +55 °C   | -20 ... +60 °C |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm   |                |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                    |                |
| For data sheet and additional information, see:           | wago.com/750-815/300-000   |                |



## Controller 750 ► MODBUS; RS-232; 115.2 kBd



750-816/300-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                    |
|------------------------------------|
| Standard                           |
| 750-816/300-000                    |
| Controller MODBUS; RS232; 115.2kBd |

|   |
|---|
| Technical data  |
| Communication   |
| Connection technology: communication/fieldbus             |
| Bus segment length (max.)                                 |
| Baud rate   |
| Number of fieldbus nodes on master (max.)                 |
| Visualization   |
| Programming environment                                   |
| Program memory/data memory/non-volatile memory (software) |
| Number of modules per node (max.)                         |
| Input and output process image (fieldbus) max.            |
| Memory for fieldbus input variables (max.)                |
| Memory for fieldbus output variables (max.)               |
| Supply voltage (system)                                   |
| Supply voltage (field)                                    |
| Input current (typ.) at nominal load (24 V)               |
| Current consumption (5 V system supply)                   |
| Total current (system supply)                             |
| Ambient temperature (operation)                           |
| Dimensions W x H x D                                      |
| Approvals   |

|  |
|--|
| Modbus® RTU  |
| Modbus® RTU: 1 x D-sub 9 socket  |
| 1200 m   |
| 150 Bd ... 115.2 kBd   |
| 247  |
| none   |
| WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |
| CODESYS V2: 32 KB / 32 KB / 8 KB   |
| 64   |
| 1024 bytes/1024 bytes  |
| 512 bytes  |
| 512 bytes  |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| 500 mA   |
| 350 mA   |
| 1650 mA  |
| 0 ... +55 °C   |
| (50.5 x 100 x 71.1) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |

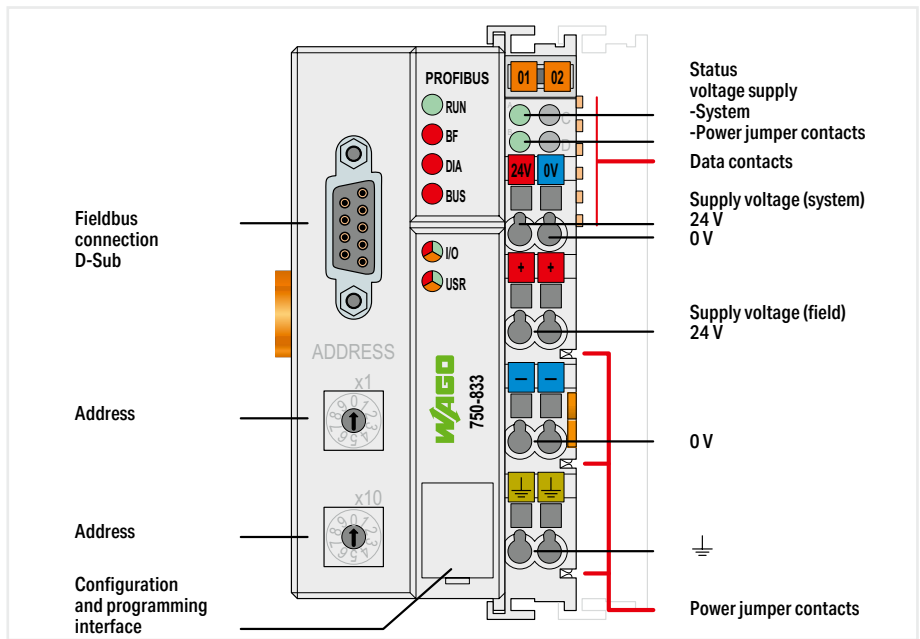
For data sheet and additional information, see:

wago.com/750-816/300-000

# Controller 750 ▶ PROFIBUS slave



750-833



|            |                           |                              |
|------------|---------------------------|------------------------------|
| Version    | Standard                  | ext. temperature             |
| Item no.   | 750-833                   | 750-833/025-000              |
| Order Text | Controller PROFIBUS Slave | Controller PROFIBUS Slave; T |

|   |  |  |
|---|--|--|
| Technical data  | PROFIBUS   |  |
| Communication   | PROFIBUS: 1 x D-sub 9 socket   |  |
| Connection technology: communication/fieldbus             | 1200 m   |  |
| Bus segment length (max.)                                 | 9.6 kBd ... 12 MBd   |  |
| Baud rate   | 96   |  |
| Number of fieldbus nodes on master (max.)                 | none   |  |
| Visualization   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |  |
| Programming environment                                   | CODESYS V2: 128 KB / 64 KB / 8 KB  |  |
| Program memory/data memory/non-volatile memory (software) | 63   |  |
| Number of modules per node (max.)                         | 244 bytes/244 bytes  |  |
| Input and output process image (fieldbus) max.            | 244 bytes  |  |
| Memory for fieldbus input variables (max.)                | 244 bytes  |  |
| Memory for fieldbus output variables (max.)               | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via power jumper contacts                        |  |
| Supply voltage (field)                                    | 500 mA   |  |
| Input current (typ.) at nominal load (24 V)               | 200 mA   |  |
| Current consumption (5 V system supply)                   | 1800 mA  |  |
| Total current (system supply)                             | 0 ... +55 °C   |  |
| Ambient temperature (operation)                           | -20 ... +60 °C   |  |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm   |  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                    |  |

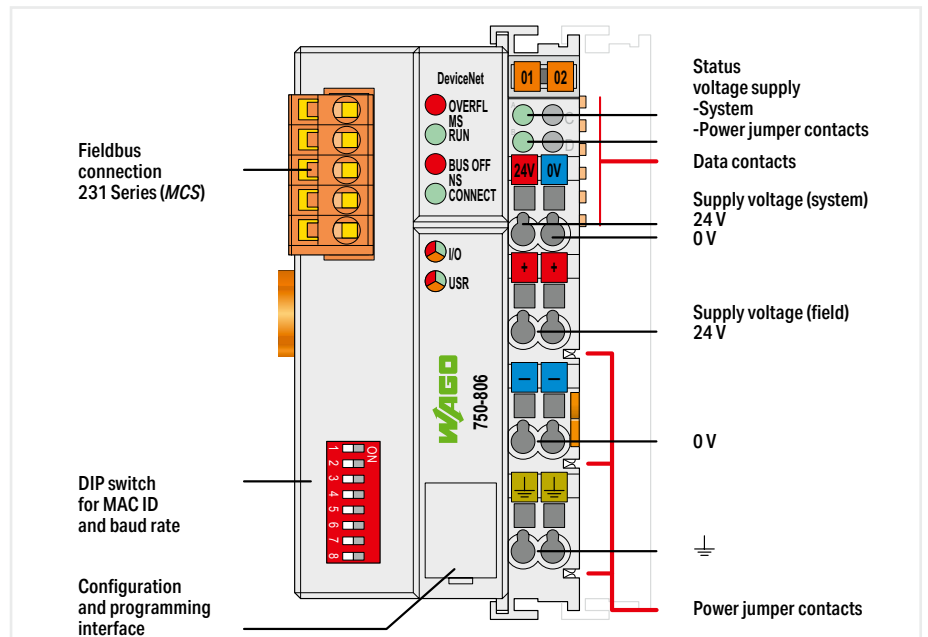
For data sheet and additional information, see:

wago.com/750-833

## Controller 750 ▶ DeviceNet



750-806

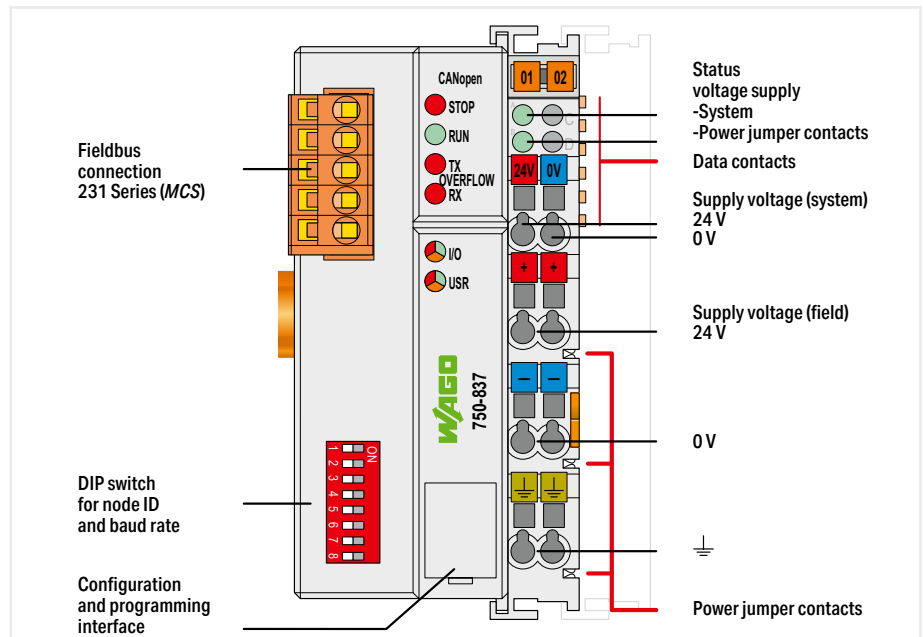


| Version   | Standard   |
|---|--|
| Item no.  | 750-806  |
| Order Text  | Controller DeviceNet   |
| Technical data  |  |
| Communication   | DeviceNet  |
| Connection technology: communication/fieldbus             | DeviceNet: 1 x Male connector; 5-pole                                    |
| Bus segment length (max.)                                 | 500 m  |
| Baud rate   | 500 kBd (125 kBd, 250 kBd, 500 kBd)                                      |
| Number of fieldbus nodes on master (max.)                 | 64   |
| Visualization   | none   |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)                                |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 128 KB / 64 KB / 8 KB  |
| Number of modules per node (max.)                         | 64   |
| Input and output process image (fieldbus) max.            | 1024 bytes/1024 bytes  |
| Memory for fieldbus input variables (max.)                | 512 bytes  |
| Memory for fieldbus output variables (max.)               | 512 bytes  |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)               | 500 mA   |
| Current consumption (5 V system supply)                   | 350 mA   |
| Input current via DeviceNet interface at 11 V             | 120 mA   |
| Total current (system supply)                             | 1650 mA  |
| Ambient temperature (operation)                           | 0 ... +55 °C   |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm   |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                    |
| For data sheet and additional information, see:           | wago.com/750-806   |

# Controller 750 ▶ CANopen; MCS



750-837



|            |                             |                             |
|------------|-----------------------------|-----------------------------|
| Version    | Standard                    | 640/832 KB program/RAM      |
| Item no.   | 750-837                     | 750-837/021-000             |
| Order Text | Controller CANopen; M1; MCS | Controller CANopen; M3; MCS |

|   |   |                                    |
|---|---|------------------------------------|
| Technical data  |   |                                    |
| Communication   | CANopen   |                                    |
| Connection technology: communication/fieldbus             | CANopen: 1 x Male connector; 5-pole   |                                    |
| Bus segment length (max.)                                 | 1000 m  |                                    |
| Baud rate   | 10 kBd ... 1 MBd  |                                    |
| Number of fieldbus nodes on master (max.)                 | 110   |                                    |
| Visualization   | none  |                                    |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)   |                                    |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 128 KB / 64 KB / 8 KB   | CODESYS V2: 640 KB / 832 KB / 8 KB |
| Number of modules per node (max.)                         | 64  |                                    |
| Input and output process image (fieldbus) max.            | 512 bytes/512 bytes   |                                    |
| Memory for fieldbus input variables (max.)                | 512 bytes   |                                    |
| Memory for fieldbus output variables (max.)               | 512 bytes   |                                    |
| Communication profile                                     | DS-301 V4.01  |                                    |
| Device profile  | DS-401 V2.0; Limit value monitoring; Edge-triggered PDOs; Configurable response in the event of an error; DSP 405; NMT master can be programmed using function blocks |                                    |
| Number of PDOs  | 32 Tx / 32 Rx   |                                    |
| Number of SDOs  | 2 SDO servers / 16 SDO clients  |                                    |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |                                    |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts   |                                    |
| Input current (typ.) at nominal load (24 V)               | 500 mA  |                                    |
| Current consumption (5 V system supply)                   | 350 mA  |                                    |
| Total current (system supply)                             | 1650 mA   |                                    |
| Ambient temperature (operation)                           | 0 ... +55 °C  |                                    |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm  |                                    |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |                                    |

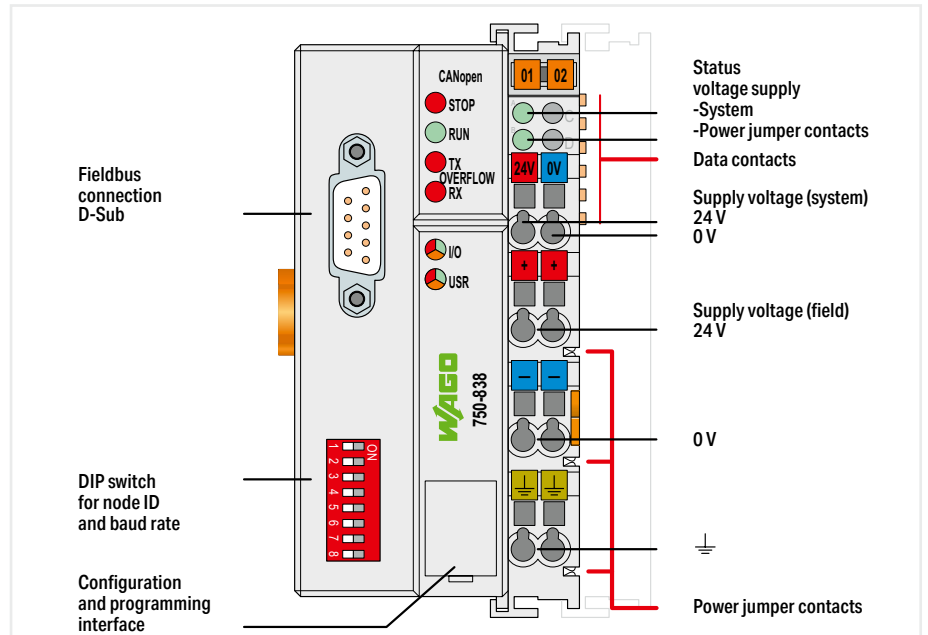
For data sheet and additional information, see:

wago.com/750-837

## Controller 750 ▶ CANopen; D-Sub



750-838



|            |                              |                              |
|------------|------------------------------|------------------------------|
| Version    | Standard                     | 640/832 KB program/RAM       |
| Item no.   | 750-838                      | 750-838/021-000              |
| Order Text | Controller CANopen; M1; DSub | Controller CANopen; M3; DSub |

|   |   |   |
|---|---|---|
| Technical data  |   |   |
| Communication   |   | CANopen                                   |
| Connection technology: communication/fieldbus             |   | CANopen: 1 x D-sub 9 plug                 |
| Bus segment length (max.)                                 |   | 1000 m                                    |
| Baud rate   |   | 10 kBd ... 1 MBd                          |
| Number of fieldbus nodes on master (max.)                 |   | 110                                       |
| Visualization   |   | none                                      |
| Programming environment                                   |   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3) |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 128 KB / 64 KB / 8 KB   | CODESYS V2: 640 KB / 832 KB / 8 KB        |
| Number of modules per node (max.)                         |   | 64  |
| Input and output process image (fieldbus) max.            |   | 512 bytes/512 bytes                       |
| Memory for fieldbus input variables (max.)                |   | 512 bytes                                 |
| Memory for fieldbus output variables (max.)               |   | 512 bytes                                 |
| Communication profile                                     |   | DS-301 V4.01                              |
| Device profile  | DS-401 V2.0; Limit value monitoring; Edge-triggered PDOs; Configurable response in the event of an error; DSP 405; NMT master can be programmed using function blocks |   |
| Number of PDOs  |   | 32 Tx / 32 Rx                             |
| Number of SDOs  |   | 2 SDO servers / 16 SDO clients            |
| Supply voltage (system)                                   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |   |
| Supply voltage (field)                                    | 24 VDC (-25 ... +30 %); via power jumper contacts   |   |
| Input current (typ.) at nominal load (24 V)               |   | 500 mA                                    |
| Current consumption (5 V system supply)                   |   | 350 mA                                    |
| Total current (system supply)                             |   | 1650 mA                                   |
| Ambient temperature (operation)                           |   | 0 ... +55 °C                              |
| Dimensions W x H x D                                      |   | (50.5 x 100 x 71.1) mm                    |
| Approvals   |   |   |
| For data sheet and additional information, see:           | wago.com/750-838  |   |



# Controllers 750 XTR

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

◀◀◀ Section 6.1

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◀◀◀ Section 6.2

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

◀◀ Section 6.3

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

◀ Section 6.4

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

## Starter Kits

For the entry into the most diverse application possibilities

## IoT Boxes

Integrating machines and plants into the Internet of Things

Section 6.6 ▶

# Controllers 750 XTR

## Contents

|  | Page |
|--|------|
| General Product Information  | 174  |
| Interfaces and Types   | 175  |
| Item Number Key  | 175  |
| Standards and Rated Conditions for Railway Applications (EN 50155) | 175  |
| Installation Instructions  | 176  |
| Standards and Rated Conditions                                     | 177  |
| Approvals  | 177  |



| CPU     | ETHERNET          |         | Description  | Item No.        |     |
|---------|-------------------|---------|--|-----------------|-----|
|         | Modbus (TCP, UDP) | CANopen |  |                 |     |
| 32 bits | M/S               |         | Controller Modbus TCP; 4th Generation; 2 x ETHERNET, SD Card Slot; Extreme | 750-890/040-000 | 178 |
| 32 bits |                   | M/S     | Controller CANopen; 640/832 KB Program/RAM; D-Sub; Extreme                 | 750-838/040-000 | 179 |

M: Master, S: Slave

## Controllers 750 XTR

### General Product Information

6.5

#### Controllers 750 XTR: Taking It to the eXTReme – The Standard for 750 XTR

With the dark gray XTR version of the Controllers 750, you will benefit from the unique added value of this system for applications that are subjected to extreme environments.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – the WAGO I/O System 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore installations
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway systems

#### Marine and Onshore/Offshore Industries

International approvals coupled with industry-specific features permit use in marine applications and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for both interference immunity and emission, along with superior mechanical performance in these sensitive areas, the WAGO I/O System will readily meet the needs of other industries.

#### Telecontrol Technology

Standardized IEC 60870-5, IEC 61850, IEC 61400-25 and DNP3 Telecontrol Protocols allow the Controllers 750 XTR to be used in telecontrol applications. These controllers also meet stricter requirements for immunity to impulse voltages according to EN 60870-2-1.

The result is a tailor-made solution for demanding telecontrol applications that readily meets all requirements.

#### Link between Process Data and IT Application – Even under eXTReme Conditions

WAGO's controllers ideally combine real-time requirements with IT functionality. They support Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

#### Modular and Expandable

With the WAGO I/O System 750 XTR, the Controllers 750 XTR can be expanded to almost any input/output interface. Using an industry-leading platform, the 750 XTR boasts the same proven benefits.

#### Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use – even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.

#### Superior Reliability in Extreme Climates

Engineered for freezing cold, extreme heat and high humidity, the WAGO I/O System 750 XTR provides absolute dependability in virtually any weather. The XTR version of the Controllers 750 is unfazed by both freezing cold down to -40°C and scorching heat up to +70°C. And this applies equally for both start-up and ongoing operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

#### Additional Protection against Interference Pulses

The WAGO I/O System 750 XTR provides greater immunity to impulse voltages up to 5 kV, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths ensure trouble-free operation.

#### High Mechanical Performance

Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples of the many applications that can stress automation systems. The WAGO I/O System 750 XTR continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

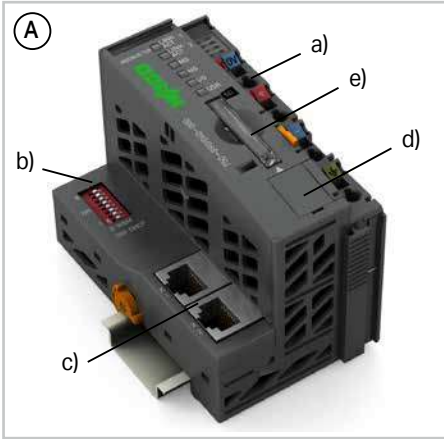


#### Benefits:

- Controllers for eXTReme environmental conditions
  - No air conditioning required
  - Can be used in unshielded areas
  - Install close to vibrating and shock-generating system components
- Extensive IT integration possibilities
- Expandable with the WAGO I/O System 750 XTR's comprehensive product range
- Maintenance-free
- Vibration-proof, fast and maintenance-free CAGE CLAMP® spring connections



# Controllers 750 XTR Interfaces and Types



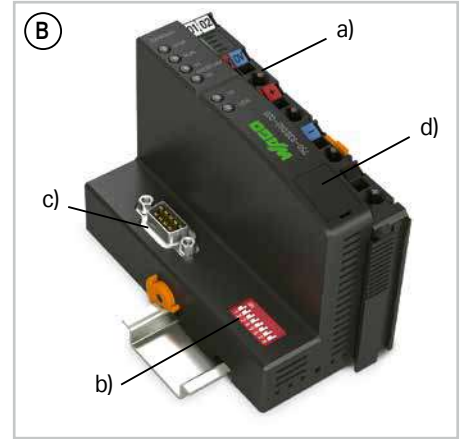
- Includes a supply module (a) to power downstream I/O modules
- Technical differences on the connection level; addressing switch (b) and fieldbus interface (c)
- Service interface (d)

**Housing Design (A)**

- SD card slot for external storage media (e)
- W x H x D (mm): 61.5 x 100 x 71.9

**Housing Design (B)**

- W x H x D (mm): 50.5 x 100 x 71.1



**6.5**  
Controllers  
750 XTR

## Item Number Key

Explanation of an item number key's components

|                                     |                                    |
|-------------------------------------|------------------------------------|
| Item No. : 750-8xx/040-00y          |                                    |
| 3x: 16 bits                         | CANopen                            |
| 8x, 9x: 32-bit multitasking<br>001: | ETHERNET<br>Telecontrol Technology |

## Standards and Rated Conditions for Rail Applications (EN 50155)

| Railway Applications (EN 50155)                                     | Class/Standard Compliance    |
|---|------------------------------|
| <b>4.1 Rated operating conditions</b>                               |                              |
| 4.1.1 Altitude above sea level                                      | AX (EN 50125-1)              |
| 4.1.2 Surrounding air temperature                                   | TX                           |
| 4.1.3 Shock and vibration   | 1A and 1B (EN 61373)         |
| 4.1.4 Relative humidity   | 95 % (coated PCBs)           |
| <b>5.1 Power supply</b>   |                              |
| 5.1.1.1 Voltage fluctuations  |                              |
| Minimum voltage   | 0.725 x Un                   |
| Maximum voltage   | 1.3 x Un                     |
| 5.1.1.2 Power interruptions   | S1                           |
| <b>5.4 Surge, ESD, burst tests</b>                                  | EN 50121-3-2                 |
| <b>5.5 EMC (emission of interference, immunity to interference)</b> | EN 50121-3-2, EN 50121-4, -5 |
| <b>Fire behavior: per EN 45545-2 hazard level HL3</b>               |                              |

WAGO is certified in accordance with the IRIS quality standard.

# Controllers 750 XTR Installation Instructions

## Power Supply

6.5

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node.

Power supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.

### Interference-Free in Safety-Related Applications

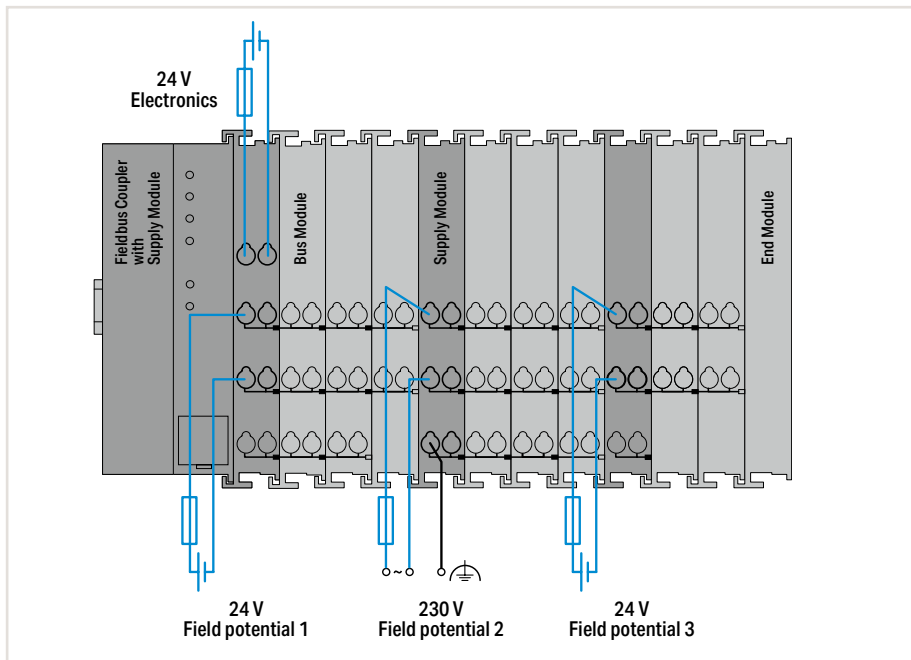
To easily and safely perform a cost-effective and centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs.

In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

All 750 XTR Series Digital Output Modules are designed to provide interference-free safety functionality. The modules can be used in safety applications up to category 4 per DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.

### Notice:

WAGO's interference-free I/O modules have no active influence on the safety function, they are not an active part of the safety application and are not a substitute for the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.



### Notes:

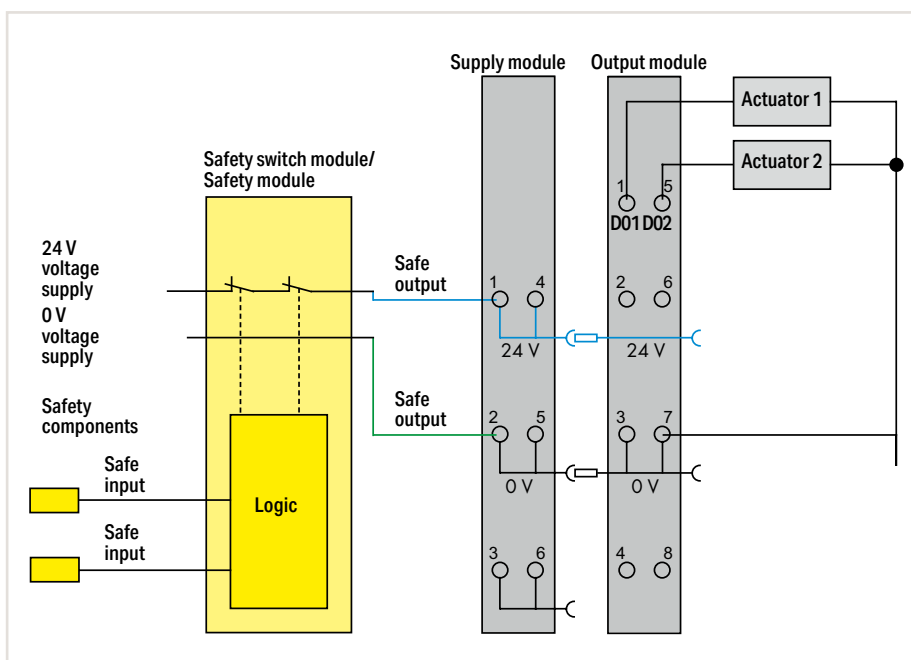
Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

### Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of modules are electrically isolated on the field side (i.e., electrically isolated power supply). This combination may be useful, for example, when there are only increased requirements for immunity to impulse voltages and interference, but the surrounding air temperature is not critical.



# Controller 750 XTR

## Standards and Rated Conditions

| General technical data   |  |
|--|--|
| Supply voltage (system)  | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!   |
| Ambient temperature (operation)  | -40 ... +70 °C   |
| Surrounding air temperature (storage)  | -40 ... +85 °C   |
| Relative humidity (without condensation)   | 95 %   |
| Relative humidity (with condensation)  | Short-term condensation per Class 3K7/IEC EN 60721-3-3 and E-DIN 40046-721-3 (except for wind-driven precipitation, water and ice formation) |
| Operating altitude   | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)                          |
| Pollution degree   | 2 per IEC 61131-2  |
| Vibration resistance   | per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155; EN 61373  |
| Shock resistance   | per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks), EN 50155, EN 61373   |
| EMC emission of interference   | per EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, EN 50121-4, -5                   |
| Protection type  | IP20   |
| Mounting position  | horizontal (standing/lying); vertical  |
| Mounting type  | DIN-35 rail  |
| Housing material   | Polycarbonate; polyamide 6.6   |
| Exposure to pollutants   | per IEC 60068-2-42 and IEC 60068-2-43  |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm   |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm   |
| Connection technology: system supply   | 2 x CAGE CLAMP®  |
| Connection technology: field supply  | 4 x CAGE CLAMP®  |
| Solid conductor  | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG   |
| Fine-stranded conductor  | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG   |
| Strip length   | 8 ... 9 mm / 0.31 ... 0.35 inches  |
| Current carrying capacity (power jumper contacts)                                  | 10 A   |

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).



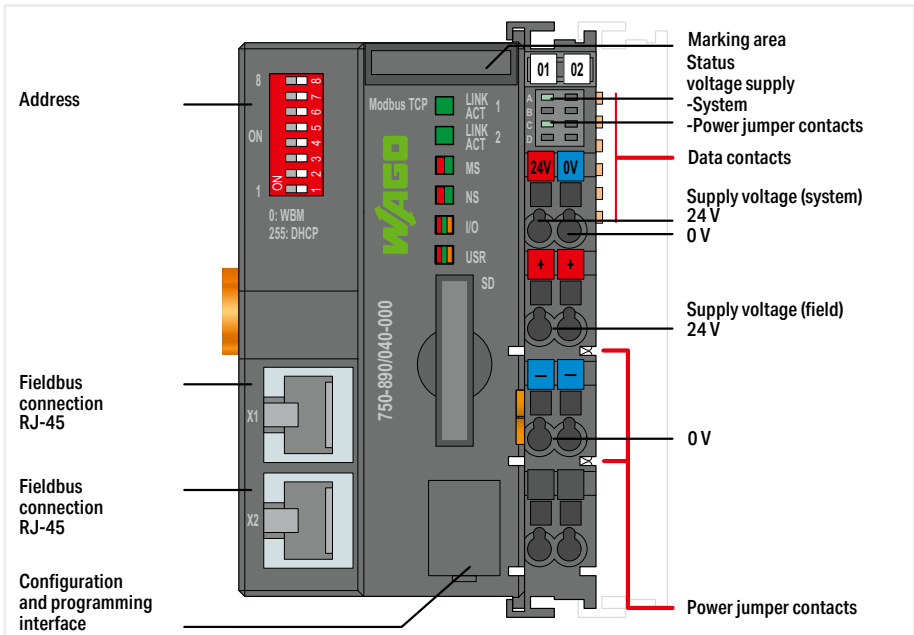
|                       |          |
|-----------------------|----------|
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Shield termination    | Page 708 |
| Software              | Page 36  |
| System enclosure      | Page 693 |

## Controller 750 XTR ▶ Modbus TCP; SD card slot

6.5



750-890/040-000



|            |                                    |
|------------|------------------------------------|
| Version    | extreme                            |
| Item no.   | 750-890/040-000                    |
| Order Text | Controller Modbus TCP; G4; SD; XTR |

|   |   |
|---|---|
| Technical data  |   |
| Communication   | Modbus (TCP, UDP)   |
| ETHERNET protocols  | HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP   |
| Connection technology: communication/fieldbus             | Modbus (TCP, UDP); 2 x RJ-45  |
| Baud rate   | 10/100 Mbit/s   |
| Visualization   | Web-Visu  |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)   |
| Type of memory card                                       | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card)  |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 8 MB / 8 MB / 32 KB   |
| Number of modules per node (max.)                         | 64  |
| Input and output process image (fieldbus) max.            | 1020 words/1020 words   |
| Supply voltage (system)                                   | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)                                    | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)               | 500 mA  |
| Current consumption (5 V system supply)                   | 440 mA  |
| Total current (system supply)                             | 1700 mA   |
| Ambient temperature (operation)                           | -40 ... +70 °C  |
| Dimensions W x H x D                                      | (61.5 x 100 x 71.9) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

For data sheet and additional information, see:

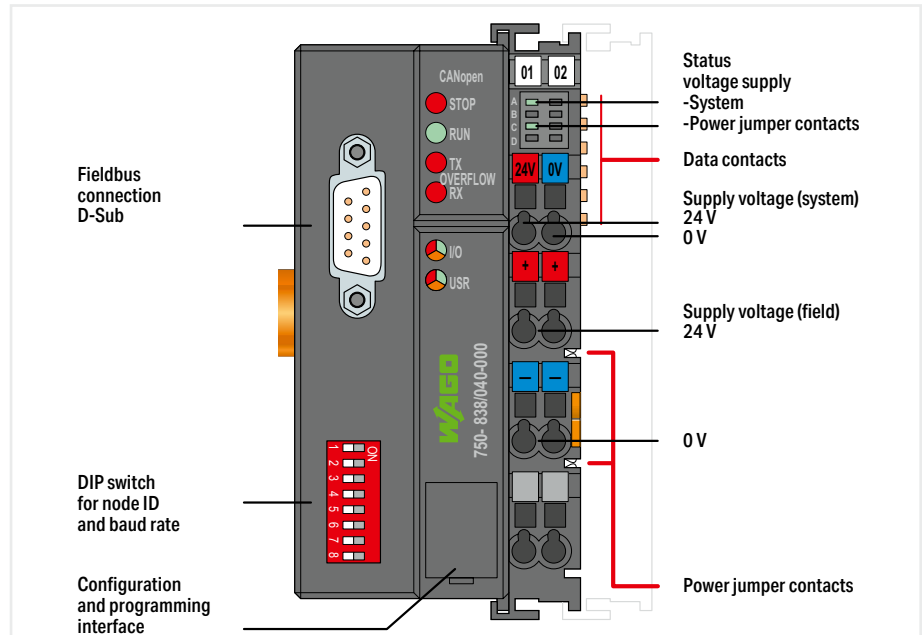
|  |  |
|--|--|
| <b>Accessories</b>   |  |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C |  |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C |  |

|  |   |
|--|---|
| Version  | extreme   |
| Item no.   | 750-890/040-000   |
| Order Text   | Controller Modbus TCP; G4; SD; XTR  |
| Technical data   |   |
| Communication  | Modbus (TCP, UDP)   |
| ETHERNET protocols   | HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP   |
| Connection technology: communication/fieldbus                    | Modbus (TCP, UDP); 2 x RJ-45  |
| Baud rate  | 10/100 Mbit/s   |
| Visualization  | Web-Visu  |
| Programming environment  | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)   |
| Type of memory card  | SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card)  |
| Program memory/data memory/non-volatile memory (software)        | CODESYS V2: 8 MB / 8 MB / 32 KB   |
| Number of modules per node (max.)                                | 64  |
| Input and output process image (fieldbus) max.                   | 1020 words/1020 words   |
| Supply voltage (system)  | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)   | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)                      | 500 mA  |
| Current consumption (5 V system supply)                          | 440 mA  |
| Total current (system supply)                                    | 1700 mA   |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (61.5 x 100 x 71.9) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:                  | wago.com/750-890/040-000  |
| <b>Accessories</b>   |   |
| Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C | 758-879/000-001   |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90 °C | 758-879/000-2108  |

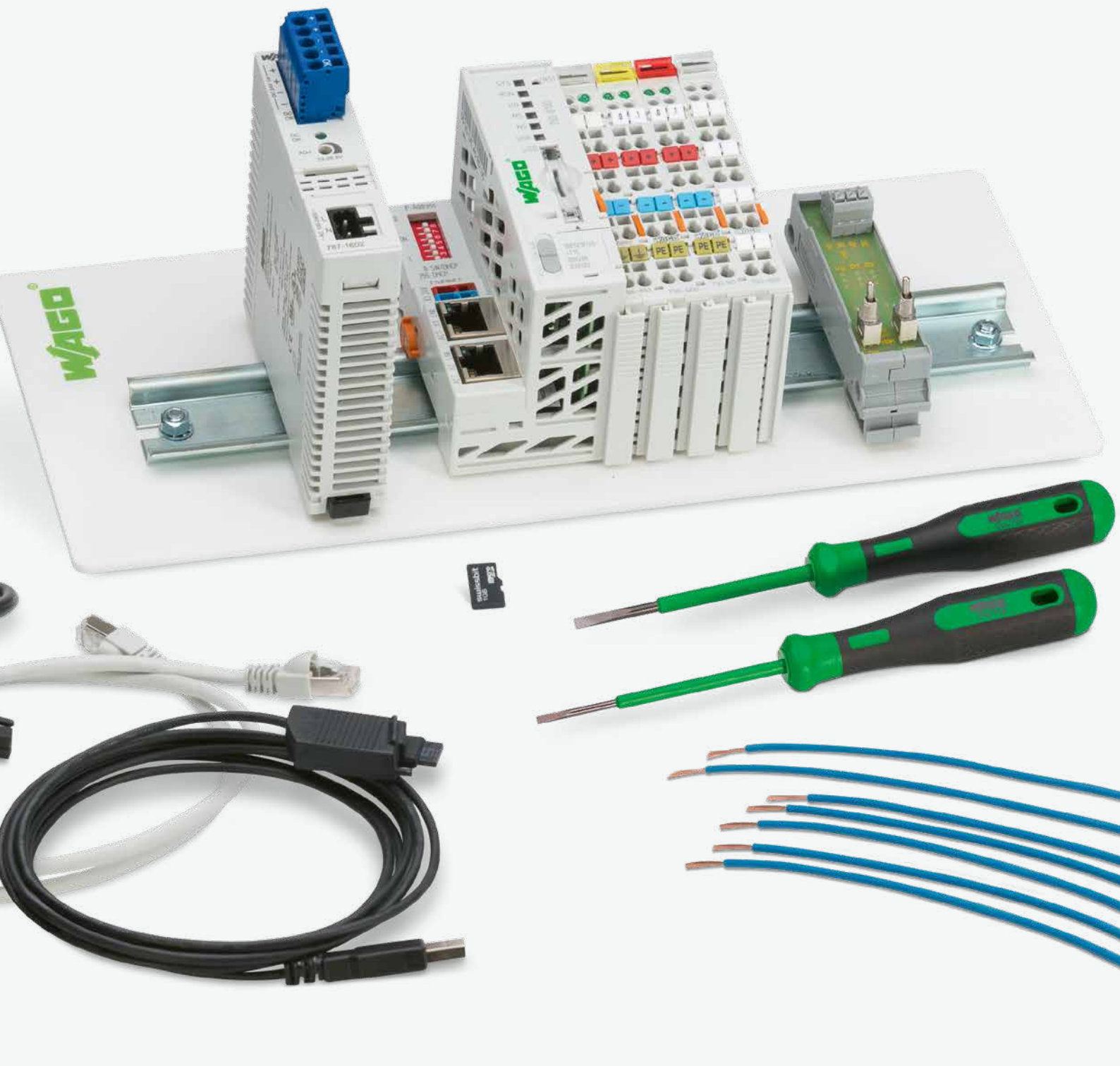
## Controller 750 XTR ▶ CANopen; D-Sub



750-838/040-000



|   |   |
|---|---|
| Version   | <b>extreme</b>  |
| Item no.  | <b>750-838/040-000</b>  |
| Order Text  | <b>Controller CANopen; M3; DSub; XTR</b>  |
| Technical data  |   |
| Communication   | CANopen   |
| Connection technology: communication/fieldbus             | CANopen: 1 x D-sub 9 plug   |
| Bus segment length (max.)                                 | 1000 m  |
| Baud rate   | 10 kBd ... 1 Mbd  |
| Number of fieldbus nodes on master (max.)                 | 110   |
| Visualization   | none  |
| Programming environment                                   | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)   |
| Program memory/data memory/non-volatile memory (software) | CODESYS V2: 640 KB / 832 KB / 8 KB  |
| Number of modules per node (max.)                         | 64  |
| Input and output process image (fieldbus) max.            | 512 bytes/512 bytes   |
| Memory for fieldbus input variables (max.)                | 512 bytes   |
| Memory for fieldbus output variables (max.)               | 512 bytes   |
| Communication profile                                     | DS-301 V4.01  |
| Device profile  | DS-401 V2.0; Limit value monitoring; Edge-triggered PDOs; Configurable response in the event of an error; DSP 405; NMT master can be programmed using function blocks   |
| Number of PDOs  | 32 Tx / 32 Rx   |
| Number of SDOs  | 2 SDO servers / 16 SDO clients  |
| Supply voltage (system)                                   | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)                                    | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating  | Total current for system supply: 1650 mA (ambient (operating) temperature < 60 °C; 1250 mA (ambient (operating) temperature: 60 ... 70 °C); Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)               | 500 mA  |
| Current consumption (5 V system supply)                   | 350 mA  |
| Total current (system supply)                             | 1650 mA   |
| Ambient temperature (operation)                           | -40 ... +70 °C  |
| Dimensions W x H x D                                      | (50.5 x 100 x 71.1) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:           | wago.com/750-838/040-000  |



# Starter Kits and IoT Boxes

## Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V3

◀◀◀◀ Section 6.1

## Controllers PFC200 XTR

- The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:
- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◀◀◀◀ Section 6.2

## Basic Controllers 100

- Freely programmable per IEC 61131-3 with CODESYS V3
- HTML-5-based Web visualization
- Syslog in compliance with RFC 5424 and role-based user management (RBAC)
- Large amount of memory for projects and data

◀◀◀ Section 6.3

## Controllers 750

- Controllers for all common fieldbus systems
- Programmable per IEC 61131-3
- Readily combines with the modules of the WAGO I/O System 750

◀◀ Section 6.4

## Controllers 750 XTR

- For demanding applications in which the following are critical:
- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

◀ Section 6.5

## Starter Kits

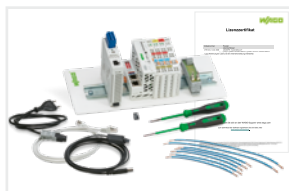
For the entry into the most diverse application possibilities

## IoT Boxes

Integrating machines and plants into the Internet of Things

# WAGO Starter Kits and IoT Boxes Contents

Page



| Modbus (TCP, UDP) | EtherNet/IP™ | EtherCAT | KNX IP | CANopen | Modbus RTU | IoT Protocols | Description   | Item No.                   |     |
|-------------------|--------------|----------|--------|---------|------------|---------------|---|----------------------------|-----|
| M/S               | S            |          |        |         |            | x             | Starter Kit; e!COCKPIT with Controller PFC100; 2 x ETHERNET; Eco                      | 8003-099/750-8100          | 182 |
| M/S               | M/S          | M        |        |         | x          | x             | Starter Kit; Linux® with Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485 | 8003-099/750-8212          | 183 |
| M/S               | M/S          | M        |        | M/S     | x          | x             | Starter Kit; Touch Panel 600, Advanced Line, Control Panel                            | 8003-099/762-5303          | 184 |
| M/S               |              |          | x      |         |            |               | Starter Kit; KNX IP with Controller KNX IP  | 8003-001/K999-9999/000-901 | 185 |
| M/S               | M/S          | M        |        |         | x          | x             | WAGO IoT-Box; Energy Data with Controller PFC200 (750-8212)                           | 2854-099/000-001           | 186 |
| M/S               | M/S          | M        |        |         | x          | x             | WAGO IoT-Box; MES with Controller PFC200 (750-8212)                                   | 2854-099/000-002           | 187 |
| M/S               | S            | M*       |        |         | x          | x             | WAGO IoT-Box; Energy Data 4G with Controller PFC200 (750-8217)                        | 2854-099/000-003           | 188 |
| M/S               | S            | M*       |        |         | x          | x             | WAGO IoT-Box; MES 4G with Controller PFC200 (750-8217)                                | 2854-099/000-004           | 189 |

M: Master, S: Slave; \*requires an additional license

6.6  
Starter Kits  
and IoT Boxes

## Starter Kit; e!COCKPIT with Controller PFC100; 2 x ETHERNET; Eco

6.6



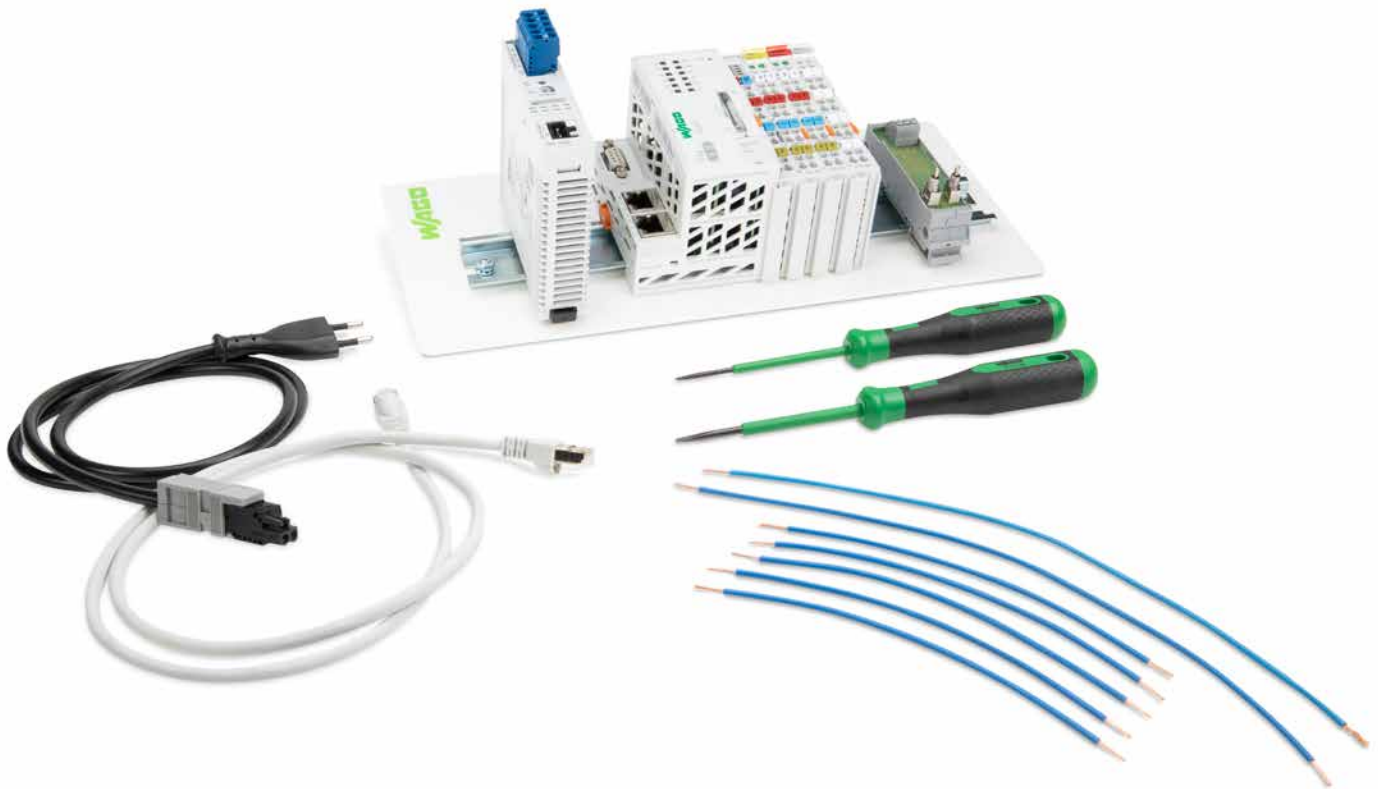
The PFC100 Controller can be seamlessly integrated into WAGO's e!COCKPIT Engineering Software, which can be used for hardware configuration, programming, simulation and visualization of complex control tasks.

Tightly integrated automation software and controller hardware provide the ideal platform for advanced and intuitive CODESYS V3-based engineering.

| Item Description                                    | Item No.            |
|---|---------------------|
| Starter Kit; e!COCKPIT                              | 8003-099/750-8100   |
| <b>The WAGO Starter Kit e!COCKPIT includes:</b>     |                     |
| Controller PFC100; 2 x ETHERNET; Eco                | 750-8100            |
| Supply Module; 24 VDC                               | 750-602             |
| 2-Channel Digital Input; 24 VDC; 3 ms               | 750-400             |
| 2-Channel Digital Output; 24 VDC; 0.5 A             | 750-501             |
| End Module  | 750-600             |
| Power Supply Classic; 24 VDC output voltage; 1 A    | 787-1602            |
| Switching Module; 2-way DI simulator                | 288-863             |
| Development Environment e!COCKPIT; Licence for 1 PC | 2759-0101/1111-5000 |
| USB Communication Cable; 2.5 m                      | 750-923             |
| Memory Card microSD; 2 GB                           | 758-879/000-3102    |
| Operating Tool; Type 1; (3.5 x 0.5) mm blade        | 210-720             |
| Operating Tool; Type 1; (2.5 x 0.4) mm blade        | 210-719             |
| Patch Cable; 1.0 m                                  |                     |



## Starter Kit; Linux® with Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485



With the PFC200 Controller as its central component, the Linux® Starter Kit provides an entry to the world of open programming. In addition to its scalability through the open-source community, the primary advantage of having a controller with an open-source operating system is that it is continually developed and maintained.

Besides the PFC200, other components of the starter kit include input and output modules, a power supply, a switching module and the accessories needed to start programming immediately with Linux®.

Additional information on Linux® is available at:  
[wago.com/linux](http://wago.com/linux)

| Item Description    | Item No.          |
|---------------------|-------------------|
| Starter Kit; Linux® | 8003-099/750-8212 |

#### The WAGO Starter Kit Linux® includes:

|  |          |
|--|----------|
| Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485 | 750-8212 |
| 2-Channel Digital Input; 24 VDC; 3 ms                        | 750-400  |
| 2-Channel Digital Output; 24 VDC; 0.5 A                      | 750-501  |
| End Module   | 750-600  |
| Power Supply Classic; 24 VDC output voltage; 1 A             | 787-1602 |
| Switching Module; 2-way DI simulator                         | 288-863  |
| Operating Tool; Type 1; (3.5 x 0.5) mm blade                 | 210-720  |
| Operating Tool; Type 1; (2.5 x 0.4) mm blade                 | 210-719  |
| Patch Cable; 1.0 m   |          |

## Starter Kit; Touch Panel 600, Advanced Line, Control Panel

6.6



The WAGO Starter Kit Touch Panel 600 contains an Advanced Control Panel 17.8 cm (7.0") with a full single-user license of the *e!COCKPIT* Engineering Software (based on CODESYS V3).

Required accessories for power supply, assembly and installation of the panel are included for easy commissioning.

Demo applications, which illustrate the extensive possibilities of visualization, web connectivity and programming with *e!COCKPIT*, can be started directly from the SD card.

Additionally, a Docker® application demonstrates another option for creating applications under Linux® via open-source software.

After a successful start, both the open operating system and the full version of the engineering software are available for the free creation of applications. WAGO's Touch Panel has 2 x LAN, 1 x RS, 1 x CAN, DI/O interfaces and supports communication protocols such as Modbus/UDP/TCP/RTU, CANopen, CAN2.0, OPC UA, MQTT.

Additional protocols, such as BACnet/IP or EtherCAT® (Master), can be licensed optionally.

| Item Description   | Item No.          |
|--|-------------------|
| Starter Kit; Touch Panel 600, Advanced Line, Control Panel | 8003-099/762-5303 |

### The WAGO Starter Kit Touch Panel 600 includes:

|   |                     |
|---|---------------------|
| Touch Panel 600; 17.8 cm (7.0"); 800 x 480 pixels; 2 x ETHERNET, 2 x USB, CAN, DI/O, RS-232/485, Audio; Control Panel | 762-5303/8000-002   |
| Power Supply Classic; 24 VDC output voltage; 1 A  | 787-1602            |
| Development Environment <i>e!COCKPIT</i> ; Licence for 1 PC   | 2759-0101/1111-5000 |
| Memory Card microSD; pSLC-NAND; 8 GB  | 758-879/000-3108    |
| Operating Tool; Type 1; (2.5 x 0.4) mm blade  | 210-719             |
| Allen Wrench  |                     |
| Cable; black/red; 2 x 0.5; 0.3 m  |                     |
| Power Cable; 230 V  |                     |
| Aluminum Feet; with groove  |                     |
| Product Display; with cutout for 7" Touch Panel   |                     |
| Mounting Accessories (Locking Clips, Mounting Brackets, M4x8 Screws)  |                     |
| Patch Cable F/UTP; 1.0 m  |                     |

## Starter Kit; KNX IP with Controller KNX IP



The WAGO Starter Kit KNX IP is available for those new to KNX IP. This starter kit is particularly well-suited to users seeking to:

- Expand existing KNX/EIB networks via the KNX/EIB/TP1 Interface to include the functionality of the modular WAGO I/O System and program applications themselves (IEC 61131-3)
- Have remote access to their KNX/EIB/TP1 network via the router
- Exploit the advantages of an ETHERNET network with KNX/EIB projects via the IP controller

| Item Description    | Item No.                   |
|---------------------|----------------------------|
| Starter Kit; KNX IP | 8003-001/K999-9999/000-901 |

#### The WAGO Starter Kit KNX IP includes:

|   |                 |
|---|-----------------|
| Controller KNX IP   | 750-889         |
| 4-Channel Digital Input; 24 VDC; 3 ms   | 750-402         |
| 4-Channel Digital Output; 24 VDC; 0.5 A                                       | 750-504         |
| End Module  | 750-600         |
| KNX/EIB/TP1 Interface   | 753-646         |
| Switched-Mode Power Supply; 24 VDC output voltage; 1.3 A                      | 787-602         |
| Development Environment, incl. USB Communication Cable; WAGO-I/O-PRO; USB Kit | 759-333/000-923 |
| Patch Cable; Cross-Over   |                 |

## WAGO IoT Box; Energy Data with Controller PFC200 (750-8212)

6.6



Integrating machines and systems into the "Internet of Things" is incredibly quick and easy with the WAGO IoT Box Energy Data. This IoT Box features power and energy measurement functionality and is ready for immediate use. It also offers all the functions required for digitalization, from signal acquisition to cloud connectivity.

The IoT Box was designed as a plug-and-play device – no hardware engineering is needed. Collected data is transferred to the desired IoT application with just a few parameter settings.

The hardware includes a controller with its own communication interface, I/O modules with analog and digital inputs/outputs, a 3-phase power measurement module and a 24 V power supply unit.

Depending on the application, additional I/O modules can be added later to adapt the system to specific requirements.

| Item Description   | Item No.                |
|--|-------------------------|
| <b>IoT Box; Energy Data</b>  | <b>2854-099/000-001</b> |
| <b>This IoT Box includes:</b>  |                         |
| Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485   | 750-8212                |
| Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 2 A; NEC Class 2; DC OK signal                           | 787-1606                |
| 8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection   | 750-1415                |
| 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection   | 750-1515                |
| 8-Channel Analog Input; Resistance measurement; Adjustable   | 750-451                 |
| 4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics  | 750-471                 |
| 3-Phase Power Measurement; 690 VAC 1 A   | 750-495                 |
| Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Cable length: 1.5 m; Feedthrough for measurement conductor: 70 mm | 855-9150/2000-701       |
| End Module   | 750-600                 |
| SD Memory Card; pSLC-NAND; 8 GB<br>Temperature range: -40 ... +90 °C   | 758-879/000-2108        |
| IoT Box application (installed and licensed)   |                         |
| Circuit breaker; 1-pole; C 10 A; 10 kA   |                         |
| Electrical circuit breaker; 1-pole; 24 VDC; 1 ... 8 A  |                         |
| Set of wall-mount lugs   |                         |
| Cable grips M16; M20; M25  |                         |
| Connectors (plug and socket) for power supply  |                         |

|  |   |
|--|---|
| Communication                            | ETHERNET;<br>RS-232 interface;<br>RS-485 interface;<br>MQTT                 |
| ETHERNET protocols                       | DHCP, DNS, FTP, FTPS, HTTP, HTTPS,<br>SSH                                   |
| Transmission rate                        | ETHERNET: 10/100 Mbit/s   |
| Visualization                            | Web-Visu  |
| Dimensions W x H x D                     | 300 x 300 x 210   |
| Power supply (AC)                        | 230 VAC (L/N/GND); 50 Hz  |
| Weight                                   | 7.5 kg  |
| Color                                    | Light gray (RAL7035)  |
| Housing material                         | Metal   |
| Conformity marking                       | CE  |
| Surrounding air temperature (operation)  | 0 ... 45 °C   |
| Surrounding air temperature (storage)    | -40 ... +85 °C  |
| Protection type                          | IP20/IP65; (IP65 only applies when both<br>power and LAN cables are locked) |
| Pollution degree                         | I   |
| Relative humidity (without condensation) | 95 %  |
| Mounting type                            | Wall-mount  |

## WAGO IoT Box; MES with Controller PFC200 (750-8212)



Integrating machines and systems into the "Internet of Things" is incredibly quick and easy with the WAGO IoT Box MES. This IoT Box also offers a wide range of communication and bus protocols for communicating with production control systems. The complete system is ready for immediate use and offers all the functions required for digitalization, from signal acquisition to cloud connectivity.

The IoT Box was designed as a plug-and-play device – no hardware engineering is needed. Collected data is transferred to the desired IoT application with just a few parameter settings.

The hardware includes a controller with its own communication interface, I/O modules with analog and digital inputs/outputs and a 24 V power supply unit.

Depending on the application, additional I/O modules can be added later to adapt the system to specific requirements.

Manufacturing Execution Systems (MES)

| Item Description   | Item No.         |
|--|------------------|
| IoT Box; MES   | 2854-099/000-002 |
| <b>This IoT Box includes:</b>  |                  |
| Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485   | 750-8212         |
| Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 2 A; NEC Class 2; DC OK signal | 787-1606         |
| 8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection   | 750-1415         |
| 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection   | 750-1515         |
| 8-Channel Analog Input; resistance measurement; adjustable   | 750-451          |
| 4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics                                    | 750-471          |
| End Module   | 750-600          |
| SD Memory Card; pSLC-NAND; 8 GB<br>Temperature range: -40 ... +90 °C   | 758-879/000-2108 |
| Energy Data Management (EDM) application (installed and licensed)  |                  |
| Circuit breaker; 1-pole; C 10 A; 10 kA   |                  |
| Electrical circuit breaker; 1-pole; 24 VDC; 1 ... 8 A  |                  |
| Set of wall-mount lugs   |                  |
| Cable grips M16; M20; M25  |                  |
| Connectors (plug and socket) for power supply  |                  |

|  |   |
|--|---|
| Communication                            | ETHERNET;<br>Modbus (TCP, UDP); Modbus RTU;<br>RS-232 interface;<br>RS-485 interface;<br>MQTT |
| ETHERNET protocols                       | DHCP, DNS, FTP, FTPS, HTTP, HTTPS, SSH  |
| Transmission rate                        | ETHERNET: 10/100 Mbit/s   |
| Visualization                            | Web-Visu  |
| Dimensions W x H x D                     | 300 x 300 x 210   |
| Power supply (AC)                        | 230 VAC (L/N/GND); 50 Hz  |
| Weight                                   | 7.5 kg  |
| Color                                    | Light gray (RAL7035)  |
| Housing material                         | Metal   |
| Conformity marking                       | CE  |
| Surrounding air temperature (operation)  | 0 ... 45 °C   |
| Surrounding air temperature (storage)    | -40 ... +85 °C  |
| Protection type                          | IP20/IP65; (IP65 only applies when both power and LAN cables are locked)                      |
| Pollution degree                         | I   |
| Relative humidity (without condensation) | 95 %  |
| Mounting type                            | Wall-mount  |

## WAGO IoT Box; Energy Data 4G with Controller PFC200 (750-8217)

6.6



Integrating machines and systems into the "Internet of Things" is incredibly quick and easy with the WAGO IoT Box Energy Data 4G.

This IoT Box features power and energy measurement functionality and is ready for immediate use. It also offers all the functions required for digitalization, from signal acquisition to cloud connectivity.

The IoT Box was designed as a plug-and-play device – no hardware engineering is needed. Collected data is transferred to the desired IoT application with just a few parameter settings.

The hardware includes a controller with its own communication interface, I/O modules with analog and digital inputs/outputs, a 3-phase power measurement module and a 24 V power supply unit.

The integrated 4G cellular modem provides a wireless connection to the Internet and includes a radio license for EU countries.

Depending on the application, additional I/O modules can be added later to adapt the system to specific requirements.

| Item Description   | Item No.                |
|--|-------------------------|
| <b>IoT Box; Energy Data 4G</b>   | <b>2854-099/000-003</b> |
| <b>This IoT Box includes:</b>  |                         |
| Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, 4G cellular module   | 750-8217                |
| Magnetic-Mount Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 698-960, 1400-1518, 1710-2700 MHz                         | 758-975                 |
| Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 2 A; NEC Class 2; DC OK signal                           | 787-1606                |
| 8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection   | 750-1415                |
| 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection   | 750-1515                |
| 8-Channel Analog Input; Resistance measurement; Adjustable   | 750-451                 |
| 4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics  | 750-471                 |
| 3-Phase Power Measurement; 690 VAC 1 A   | 750-495                 |
| Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Cable length: 1.5 m; Feedthrough for measurement conductor: 70 mm | 855-9150/2000-701       |
| End Module   | 750-600                 |
| SD Memory Card; pSLC-NAND; 8 GB<br>Temperature range: -40 ... +90 °C   | 758-879/000-2108        |
| IoT Box application (installed and licensed)   |                         |
| Circuit breaker; 1-pole; C 10 A; 10 kA   |                         |
| Electrical circuit breaker; 1-pole; 24 VDC; 1 ... 8 A  |                         |
| Set of wall-mount lugs   |                         |
| Cable grips M16; M20; M25  |                         |
| Connectors (plug and socket) for power supply  |                         |

|  |  |
|--|--|
| Communication                            | ETHERNET;<br>RS-232 interface;<br>RS-485 interface;<br>MQTT                      |
| ETHERNET protocols                       | DHCP, DNS, FTP, FTPS, HTTP, HTTPS,<br>SSH  |
| Transmission rate                        | ETHERNET: 10/100 Mbit/s  |
| Visualization                            | Web-Visu   |
| Services                                 | GPRS connection to Internet  |
| Wireless technology                      | GSM/UMTS/LTE   |
| Frequency band                           | GSM dual band (B3; B8); E-UTRA bands<br>(B1; B3; B5; B7; B8; B20; B38; B40; B41) |
| Dimensions W x H x D                     | 300 x 300 x 210  |
| Power supply (AC)                        | 230 VAC (L/N/GND); 50 Hz   |
| Weight                                   | 7.5 kg   |
| Color                                    | Light gray (RAL7035)   |
| Housing material                         | Metal  |
| Conformity marking                       | CE   |
| Surrounding air temperature (operation)  | 0 ... 45 °C  |
| Surrounding air temperature (storage)    | -40 ... +85 °C   |
| Protection type                          | IP20/IP65; (IP65 only applies when both<br>power and LAN cables are locked)      |
| Pollution degree                         | I  |
| Relative humidity (without condensation) | 95 %   |
| Mounting type                            | Wall-mount   |

## WAGO IoT Box; MES 4G with Controller PFC200 (750-8217)



Integrating machines and systems into the "Internet of Things" is incredibly quick and easy with the WAGO IoT Box MES 4G. This IoT Box also offers a wide range of communication and bus protocols for communicating with production control systems. The complete system is ready for immediate use and offers all the functions required for digitalization, from signal acquisition to cloud connectivity.

The IoT Box was designed as a plug-and-play device – no hardware engineering is needed. Collected data is transferred to the desired IoT application with just a few parameter settings.

The hardware includes a controller with its own communication interface, I/O modules with analog and digital inputs/outputs and a 24 V power supply unit.

The integrated 4G cellular modem provides a wireless connection to the Internet and includes a radio license for EU countries.

Depending on the application, additional I/O modules can be added later to adapt the system to specific requirements.

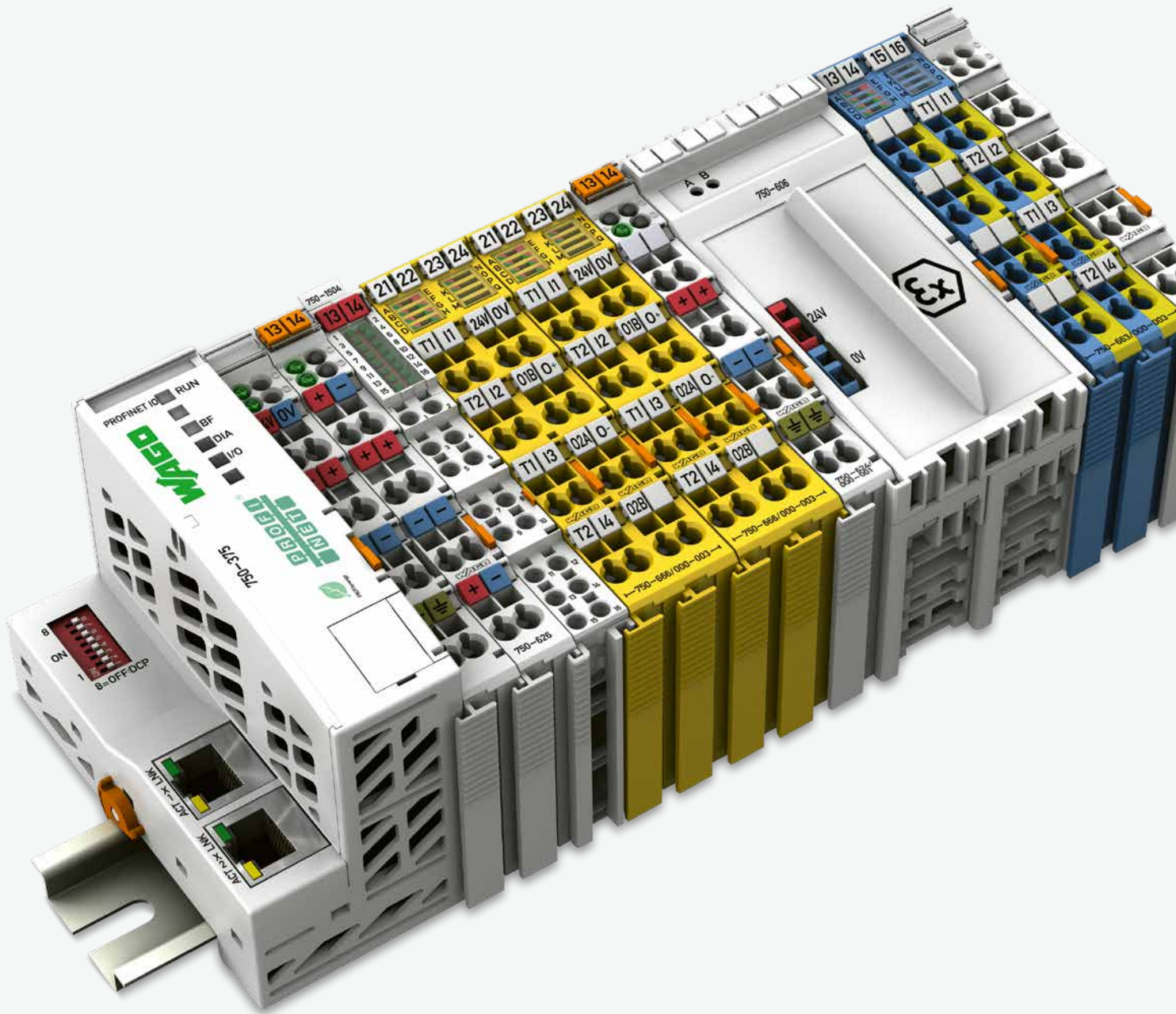
### Manufacturing Execution Systems (MES)

| Item Description | Item No.         |
|------------------|------------------|
| IoT Box; MES 4G  | 2854-099/000-004 |

#### This IoT Box includes:

|  |                  |
|--|------------------|
| Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, 4G cellular module                                       | 750-8217         |
| Magnetic-Mount Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 698-960, 1400-1518, 1710-2700 MHz | 758-975          |
| Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 2 A; NEC Class 2; DC OK signal   | 787-1606         |
| 8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection   | 750-1415         |
| 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection   | 750-1515         |
| 8-Channel Analog Input; Resistance Measurement; Adjustable   | 750-451          |
| 4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics                                      | 750-471          |
| End Module   | 750-600          |
| SD Memory Card; pSLC-NAND; 8 GB<br>Temperature range: -40 ... +90 °C   | 758-879/000-2108 |
| Energy Data Management (EDM) application (installed and licensed)  |                  |
| Circuit breaker; 1-pole; C 10 A; 10 kA   |                  |
| Electrical circuit breaker; 1-pole; 24 VDC; 1 ... 8 A  |                  |
| Set of wall-mount lugs   |                  |
| Cable grips M16; M20; M25  |                  |
| Connectors (plug and socket) for power supply  |                  |

|  |   |
|--|---|
| Communication                            | ETHERNET;<br>Modbus (TCP, UDP); Modbus RTU;<br>RS-232 interface;<br>RS-485 interface;<br>MQTT |
| ETHERNET protocols                       | DHCP, DNS, FTP, FTPS, HTTP, HTTPS,<br>SSH   |
| Transmission rate                        | ETHERNET: 10/100 Mbit/s   |
| Visualization                            | Web-Visu  |
| Services                                 | GPRS connection to Internet   |
| Wireless technology                      | GSM/UMTS/LTE  |
| Frequency band                           | GSM dual band (B3; B8); E-UTRA bands<br>(B1; B3; B5; B7; B8; B20; B38; B40; B41)              |
| Dimensions W x H x D                     | 300 x 300 x 210   |
| Power supply (AC)                        | 230 VAC (L/N/GND); 50 Hz  |
| Weight                                   | 7.5 kg  |
| Color                                    | Light gray (RAL7035)  |
| Housing material                         | Metal   |
| Conformity marking                       | CE  |
| Surrounding air temperature (operation)  | 0 ... 45 °C   |
| Surrounding air temperature (storage)    | -40 ... +85 °C  |
| Protection type                          | IP20/IP65; (IP65 only applies when both<br>power and LAN cables are locked)                   |
| Pollution degree                         | I   |
| Relative humidity (without condensation) | 95 %  |
| Mounting type                            | Wall-mount  |



# I/O System – 750 and 753 Series

## I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

## I/O System – 750 XTR Series

- For demanding applications in which the following are critical:
- Extreme temperature resistance
  - Immunity to electromagnetic interference and impulse voltages
  - Vibration and shock resistance

Section 8 ▶

## I/O System Field






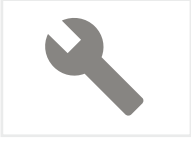
- Automate and Network Modular Machines for the Future
- Ethernet-based fieldbus standards (EtherCAT®, EtherNet/IP™, PROFINET)
  - Integrated Bluetooth® interface (Android/iOS App), OPC UA Server, Webserver
  - IO-Link Master and Devices

Section 9 ▶▶



# I/O System – 750 and 753 Series

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# I/O System – 750 and 753 Series — One System for Every Application

## General Product Information

### One System for Every Application

The WAGO I/O System 750/753 is distinguished by its universal use and extensive product portfolio. With more than 500 different modules, it is versatile and flexible enough to cover virtually any requirement in a huge variety of industries.

#### Industrial Automation

The comprehensive selection of I/O modules for different potentials and signal types saves time and money because the sensors/actuators can be wired directly – even in safety-related applications.

#### Building Automation

The broad portfolio enables flexible, cellar-to-ceiling solutions with conventional I/O modules, standardized industry-specific fieldbus protocols and subsystems for typical applications in lighting, shading, HVAC and much more.

#### Marine and Onshore/Offshore Automation

International approvals coupled with industry-specific features permit use in marine applications and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for both interference immunity and emission, along with superior mechanical performance in these sensitive areas, the WAGO I/O System will readily meet the needs of other industries.

#### Process Automation

Even under the harshest environmental conditions, use is possible with special approvals. Potential hazardous area applications include oil and gas production, the chemical industry and power generation. The WAGO I/O System can be installed in Zone 2/22 with its intrinsically safe I/O modules, making it possible to connect sensors/actuators in Zones 1/21 and 0/20.

### Maximum Fieldbus Independence

The system's modularity is also reflected in its support for numerous fieldbus systems and ETHERNET standards. Depending on the application, it is possible to choose between fieldbus couplers and communication modules for different protocols.

### Easy to Use

A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools. The streamlined design prevents installation errors. Additionally, proven CAGE CLAMP® technology ensures that all connections made in the field are quick, vibration-proof and maintenance-free. Depending on the I/O module's granularity, field peripherals can be directly wired using 1-, 2-, 3- or 4-wire technology.

### Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use. These approvals even include the rigorous operating conditions that ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous other marine certifications apply to.



### Extremely Compact

WAGO's patented mechanical design leads to extremely compact I/O nodes. In fact, it can accommodate up to 16 channels in a module width of 12 mm (1/2").

- Finely granular I/O modules provide node customization.
- Space-saving design permits high-density wiring and direct connection.

### Maximum Reliability and Ruggedness

The WAGO I/O System is engineered and tested for use in the most demanding environments and to the highest standards, e.g., those required in marine applications. The system differs from other products that are solely intended for industrial use through its:

- Greatly increased vibration rating
- Significantly greater immunity to interference (ESD)
- Lower emission of interference
- Larger voltage fluctuation range
- Greater durability for continuous operation in upper temperature ranges

In addition, CAGE CLAMP® spring pressure connections ensure superior reliability. Integrated QA measures in the production process and 100% function testing ensure consistent quality.

### Clear Identification

Module functionality is identified via marker carriers (integrated or optional). Terminal assignment and technical data are printed onto the side of the I/O module. WAGO's WSB Marking System also allows for module- and channel-related identification.

### Advantages:

- Fieldbus-independent – compatible with all prominent fieldbus protocols and ETHERNET standards
- Flexible platform adapts to diverse applications and environments
- Tested and approved worldwide
- Extensive range of accessories for marking systems and connection technologies
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

## I/O System – 750 and 753 Series Variants

### Pluggable Connector



The pluggable connectors of the WAGO I/O System 753 allow quick and safe replacement. Optional coding pins prevent plugging a connector into the wrong I/O module. Replacing and connecting the I/O module requires no further action and eliminates possible errors – essentially serving as permanent wiring.

Alternatively, field wiring is possible via interface modules that can be connected to the WAGO I/O System using a ribbon cable (see "Types").

### Extended Temperature Range



Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, some applications require an extended temperature range.

For these applications, WAGO offers a line of WAGO I/O System 750 products for temperatures ranging from –20°C to +60°C.

For extreme applications, where even this extended temperature range is not sufficient, the WAGO I/O System 750 XTR is available.

### Functional Safety



In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for protecting the "life and limb" of workers within a machine's operating area.

The required risk assessment is based on harmonized standards (e.g., EN 13849) and identifies existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functions can be implemented, e.g., by presence detection or protection zone violations, using secure switches or light arrays to shut down the "risk" immediately. For this purpose, the safety signals are detected by the "yellow" safety modules and transmitted via "PROFIsafe" to the fail-safe PLC for additional processing. The result is then executed via safe actuator (e.g., output module or controller).

The unique safety characteristics of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PLe according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.

The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules. Specific power supply features must be considered, which are described in the corresponding manuals.

### Use in Hazardous Areas



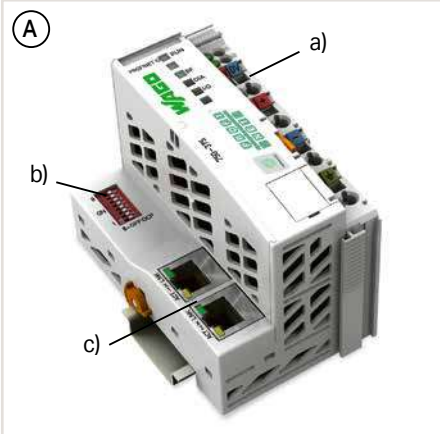
In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. This is why electrical equipment must be explosion-proof to avoid injuries to personnel and damage to facilities.

The modules within the WAGO I/O System 750 are designed for use in both non-hazardous and hazardous areas.

The direct application of fieldbus technology in hazardous areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the I/O System 750 offers a safe, easy and economical connection to the sensors/actuators of Zones 0/20 and 1/21. The "blue" Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO I/O System 750 is also approved for mining applications.

## I/O System – 750 and 753 Series

### Interfaces and Types

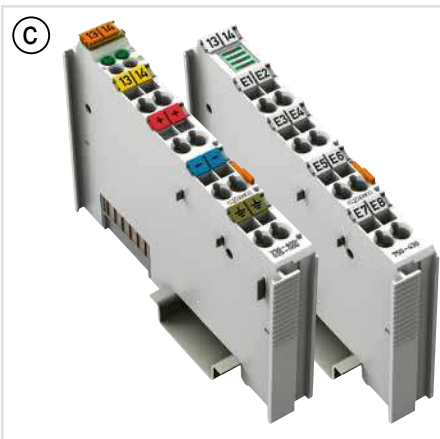
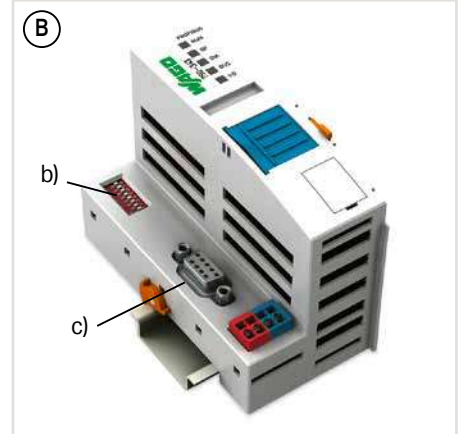


#### Housing Design: Fieldbus Coupler (A)

- Includes a supply module (a) to power downstream I/O modules
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- W x H x D (mm) 50.5 x 100 x 71.1 or
- W x H x D (mm): 61.5 x 100 x 71.9

#### Housing Design: Fieldbus Coupler Eco (B)

- Restriction on power supply and data width
- W x H x D (mm): 49.5 x 96.8 x 71.9

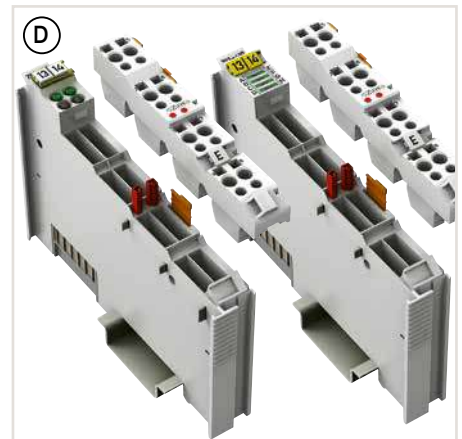


#### Housing Design: 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 69.8 x 100 (4 LEDs)
- W x H x D (mm) 12 x 67.8 x 100 (8 LEDs)

#### Housing Design: 753 (D)

- Pluggable connector
- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 100 x 69.8 (4 LEDs)
- W x H x D (mm) 12 x 100 x 69 (8 LEDs)
- Pluggable connectors and coding fingers are not included.



#### Housing Design: 750 (E)

- 16 connection points (Push-in CAGE CLAMP®)
- W x H x D (mm): 12 x 100 x 69

#### Housing Design (F)

- For time-saving wiring between I/O system and interface modules
- Ribbon cable connection to interface modules (289 and 704 Series) and interface adapter
- W x H x D (mm): 12 x 100 x 74.1

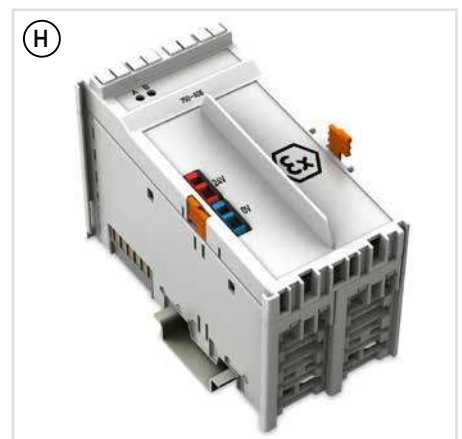


#### Housing Design: Double Width (G)

- Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.
- W x H x D (mm): 24 x 100 x 69.8

#### Specialty Housing Design (H)

- Some modules are integrated into a specialty housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog pages.



# I/O System – 750 and 753 Series Marking and Mounting Accessories

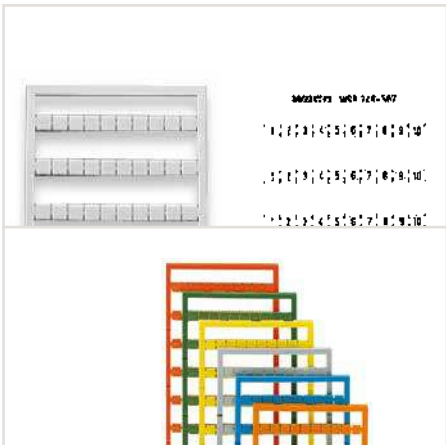


Transparent group marker carriers indicate module type by color.



Removable group marker carriers are available for all 750 and 753 Series I/O Modules with a maximum of four LEDs, as well as all fieldbus couplers with a supply module.

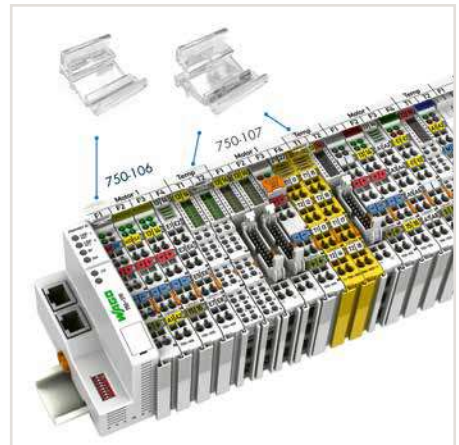
7



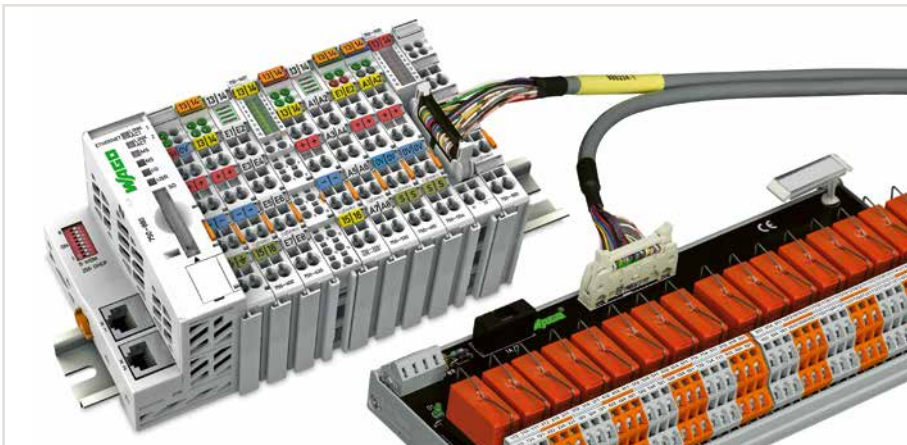
Mini-WSB marking cards (blank, pre-marked or colored) are suitable for all 750 and 753 Series I/O Modules.



Marker carrier for a single I/O module (suitable for all 750 and 753 Series I/O Modules); the marker carrier can be accommodated in the upper Mini-WSB marker slot.



Marker carrier for one I/O node; both models (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.



Interface modules for system wiring



WAGO system cables

# I/O System – 750 and 753 Series

## Application and Installation Instructions

### Power Supply

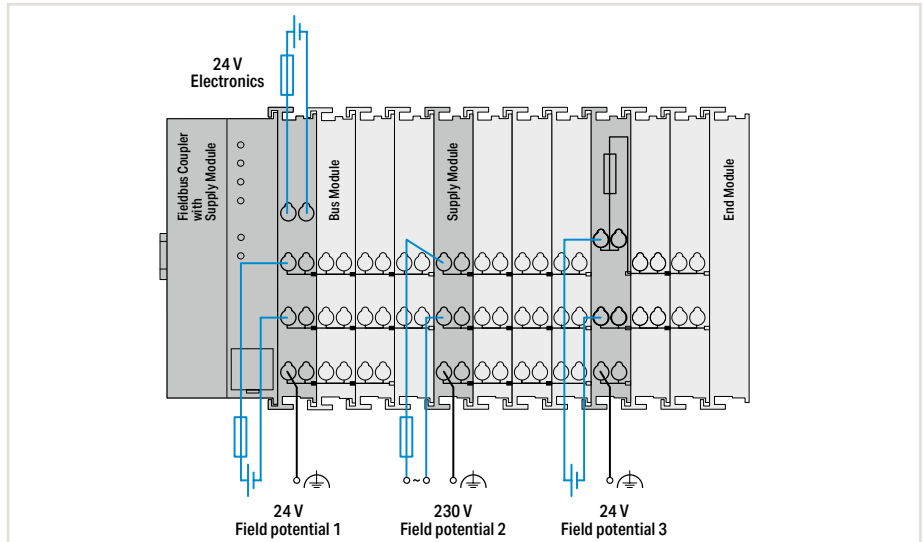
The fieldbus coupler powers the internal electronics. The field-side power supply is electrically isolated via the supply module on the coupler or a separate power supply module. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node.

Power supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.

### Interference-Free in Safety-Related Applications

To easily and safely perform a cost-effective and centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



#### Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

#### Notes:

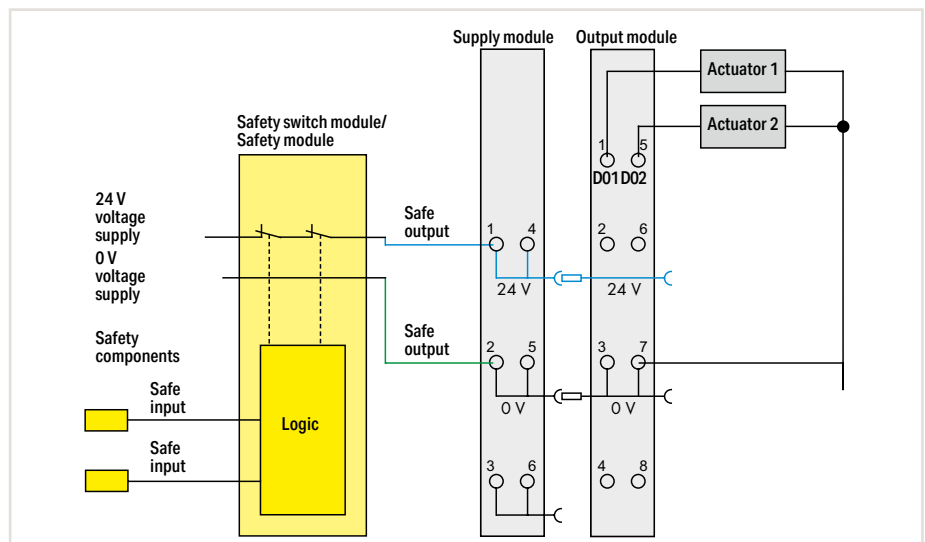
Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.

A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.

Additionally, both supply modules and field-side power supply filters are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

For the 24 VDC power supply of electronics and field, PELV/SELV power supply units are recommended. As part of safety-related applications, they are mandatory. The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules. Please refer to the manual for details about the power supply's design.



Example: 2-channel, double-pole power supply disconnection

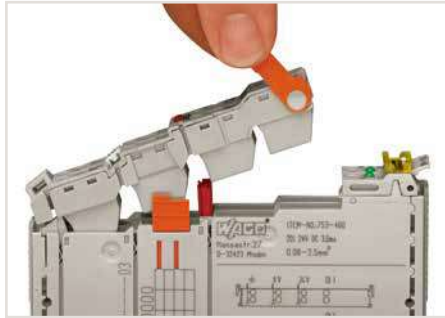
7

# I/O System – 750 and 753 Series

## Application and Installation Instructions



Securing/removing a module from the DIN-rail



Removing a pluggable connector



Optional protection against mismatching of a pluggable connector via coding elements

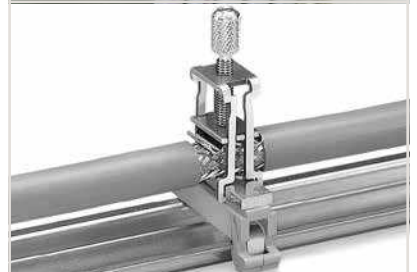


Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

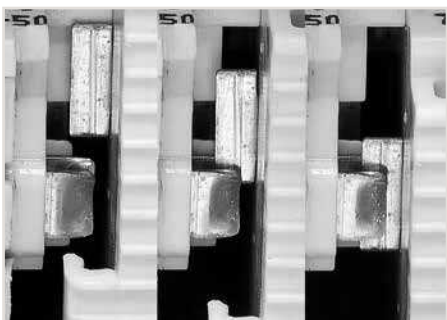
**Notice:**

Some I/O modules do not provide all power jumper contacts. Therefore, a module with three power jumper contacts (e.g., 2-channel digital input) cannot be connected to a module that does not have all power jumper contacts.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail via a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.



Wide range of accessories available for EMC-compliant installation, including shield connection



Secure, automatic power supply connection via self-cleaning blade contacts



Secure, automatic data and electronics power supply connection via gold-plated pressure contacts

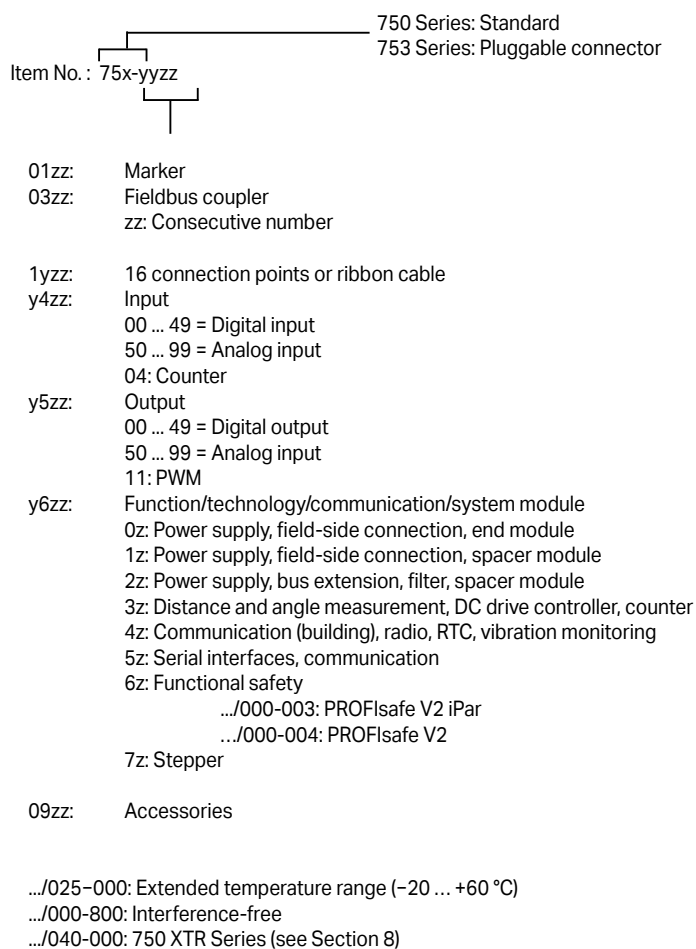


Securing a cable to the connector

## I/O System – 750 and 753 Series

### Item Number Key

Explanation of an item number key's components:





## I/O System – 750 and 753 Series Standards and Rated Conditions

| General Technical Data  |   |
|---|---|
| System supply voltage   | 24 VDC (-25 % ... +30 %)*; *for all marine-certified fieldbus couplers and I/O modules  |
| Isolation   | 500 V (system/supply)   |
| Surrounding air temperature (operation)   | 0 ... +55 °C  |
| Surrounding air temperature (operation) for versions with an extended temperature range | -20 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Surrounding air temperature (storage) for versions with an extended temperature range   | -40 ... +85 °C  |
| Relative humidity   | 95 % (non-condensing)   |
| Relative humidity for versions with an extended temperature range                       | Max. 95 %; short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of -20 to +60 °C into consideration (except wind-driven precipitation, water and ice formation) |
| Operating altitude  | 0 ... 2000 m / 0 ... 6562 ft  |
| Pollution degree  | 2 per IEC 61131-2   |
| Vibration resistance  | 0.5g (4g for all marine-certified fieldbus couplers and I/O modules) per IEC 60068-2-6  |
| Shock resistance  | 15g per IEC 60068-2-27  |
| EMC immunity to interference  | Per EN 61000-6-2  |
| EMC emission of interference  | Per EN 61000-6-3; EN 61000-6-4  |
| Protection class  | IP20  |
| Mounting type   | DIN-35 rail mounting  |
| Housing material  | Polycarbonate; polyamide 6.6  |
| Exposure to pollutants  | Per IEC 60068-2-42 and IEC 60068-2-43   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity < 75 %     | 25 ppm  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity < 75 %    | 10 ppm  |
| Connection technology   | CAGE CLAMP®   |
| Conductor cross-section; strip length for:  |   |
| Standard modules and couplers   | 0.08 ... 2.5 mm <sup>2</sup> /28 ... 14 AWG; 8 ... 9 mm/0.31 ... 0.35 inch  |
| I/O modules (753 Series)  | 0.08 ... 2.5 mm <sup>2</sup> /28 ... 14 AWG; 9 ... 10 mm/0.35 ... 0.39 inch   |
| Fieldbus couplers (ECO)   | 0.08 ... 1.5 mm <sup>2</sup> /28 ... 16 AWG; 5 ... 6 mm/0.2 ... 0.24 inch   |
| Connection technology   | Push-in CAGE CLAMP®   |
| Conductor cross-section; strip length for:  |   |
| I/O modules with 16 connection points   | Solid: 0.08 ... 1.5 mm <sup>2</sup> /28 ... 16 AWG,<br>Fine-stranded: 0.25 ... 1.5 mm <sup>2</sup> /22 ... 16 AWG;<br>8 ... 9 mm/0.31 ... 0.35 inch   |
| Current carrying capacity (power jumper contacts)                                       | 10 A  |

7

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).



# Fieldbus Couplers

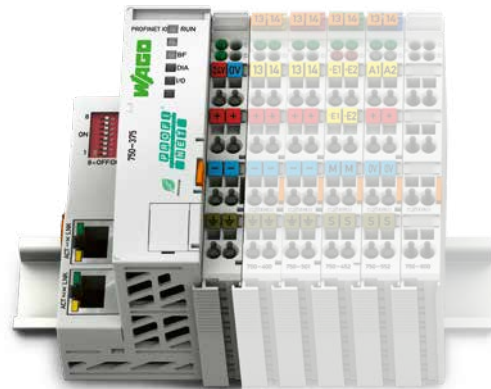
## Housing Design I with Field Supply

|  |  |
|--|--|
| Dimensions W x H x D                                   | 50.5 x 100 x 71.1 mm                         |
| Height from upper edge of DIN-rail                     | 63.9 mm                                      |
| Connection technology (system supply and field supply) | CAGE CLAMP®                                  |
| Conductor cross-section                                | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length   | 8 ... 9 mm / 0.33 inch                       |



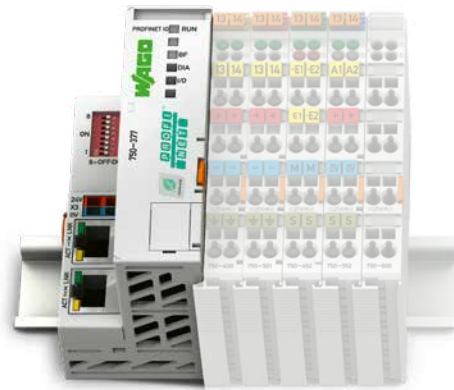
## Housing Design II with Field Supply

|  |  |
|--|--|
| Dimensions W x H x D                                   | 61.5 x 100 x 71.9 mm                         |
| Height from upper edge of DIN-rail                     | 64.7 mm                                      |
| Connection technology (system supply and field supply) | CAGE CLAMP®                                  |
| Conductor cross-section                                | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length   | 8 ... 9 mm / 0.33 inch                       |



## Housing Design without Field Supply

|                                       |  |
|---------------------------------------|--|
| Dimensions W x H x D                  | 49.5 x 96.8 x 71.9 mm                        |
| Height from upper edge of DIN-rail    | 64.7 mm                                      |
| Connection technology (system supply) | CAGE CLAMP®                                  |
| Conductor cross-section               | 0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG |
| Strip length                          | 5 ... 6 mm / 0.22 inch                       |
















## Housing Design "Eco" (without Field Supply)

|                                       |  |
|---------------------------------------|--|
| Dimensions W x H x D                  | 49.5 x 96.8 x 71.9 mm                        |
| Height from upper edge of DIN-rail    | 64.7 mm                                      |
| Connection technology (system supply) | CAGE CLAMP®                                  |
| Conductor cross-section               | 0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG |
| Strip length                          | 5 ... 6 mm / 0.22 inch                       |



# I/O System – 750 and 753 Series, Fieldbus Couplers

## Contents

| Fieldbus System   | Housing Design  |   |   |   | Description   | Item No.        | Page |
|---|---|---|---|---|---|-----------------|------|
|   | With Field Supply   |   | Without Field Supply  | Eco   |   |                 |      |
|   |  |  |  |  |   |                 |      |
|    |   | <input type="checkbox"/>  |   |   | PROFINET IO; 3rd Generation; Advanced                       | 750-375         | 202  |
|   |   | <input type="checkbox"/>  |   |   | PROFINET IO; 3rd Generation; Ext. Temperature; Advanced     | 750-375/025-000 | 202  |
|   |   |   | <input type="checkbox"/>  |   | PROFINET IO; 3rd Generation; Eco Advanced                   | 750-377         | 203  |
|   |   |   | <input type="checkbox"/>  |   | PROFINET IO; 3rd Generation; Ext. Temperature; Eco Advanced | 750-377/025-000 | 203  |
|    | <input type="checkbox"/>  |   |   |   | PROFIBUS DP; 1st Generation; 12 MBd                         | 750-303         | 204  |
|   | <input type="checkbox"/>  |   |   |   | PROFIBUS DP; 2nd Generation; 12 MBd                         | 750-333*        | 205  |
|   | <input type="checkbox"/>  |   |   |   | PROFIBUS DP; 2nd Generation; 12 MBd; Ext. Temperature       | 750-333/025-000 | 205  |
|   |   |   |   | <input type="checkbox"/>  | PROFIBUS DP; 12 MBd; Eco                                    | 750-343         | 206  |
|   | <input type="checkbox"/>  |   |   |   | PROFIBUS DP; Fiber-Optic Connection; 1.5 MBd                | 750-331         | 207  |
| MODBUS/TCP  |   |   | <input type="checkbox"/>  |   | Modbus TCP; 4th Generation                                  | 750-362*        | 208  |
|  |   | <input type="checkbox"/>  |   |   | Modbus TCP; 4. Generation                                   | 750-362/000-001 | 208  |
|   |   | <input type="checkbox"/>  |   |   | EtherNet/IP™; 4th Generation; Device Level Ring             | 750-366         | 209  |
|   |   |   | <input type="checkbox"/>  |   | EtherNet/IP™; 4th Generation; ECO                           | 750-363*        | 210  |
|   | <input type="checkbox"/>  |   |   |   | ETHERNET; 1st Generation                                    | 750-342         | 211  |
|  |   | <input type="checkbox"/>  |   |   | BACnet/IP   | 750-332         | 212  |
|  |   |   | <input type="checkbox"/>  |   | EtherCAT®   | 750-354         | 213  |
|   |   |   | <input type="checkbox"/>  |   | EtherCAT®; ID Switch  | 750-354/000-001 | 214  |
|   |   |   | <input type="checkbox"/>  |   | EtherCAT®; ID Switch; Diagnostics                           | 750-354/000-002 | 214  |
| Modbus®   | <input type="checkbox"/>  |   |   |   | Modbus®; RS-485; 115.2 kBd                                  | 750-315/300-000 | 215  |
|   | <input type="checkbox"/>  |   |   |   | Modbus®; RS-232; 115.2 kBd                                  | 750-316/300-000 | 216  |
|  | <input type="checkbox"/>  |   |   |   | DeviceNet   | 750-306         | 217  |
|   |   |   |   | <input type="checkbox"/>  | DeviceNet; Eco  | 750-346         | 218  |
|  | <input type="checkbox"/>  |   |   |   | CANopen; MCS  | 750-337         | 219  |
|   | <input type="checkbox"/>  |   |   |   | CANopen; MCS; Ext. Temperature                              | 750-337/025-000 | 219  |
|   | <input type="checkbox"/>  |   |   |   | CANopen; D-Sub  | 750-338*        | 220  |
|   |   |   |   | <input type="checkbox"/>  | CANopen; MCS; Eco   | 750-347         | 221  |
|   |   |   |   | <input type="checkbox"/>  | CANopen; D-Sub; Eco   | 750-348         | 222  |
|  | <input type="checkbox"/>  |   |   |   | INTERBUS  | 750-304         | 223  |
|   |   |   |   | <input type="checkbox"/>  | INTERBUS; 500 kbit/s; Eco                                   | 750-344         | 224  |
|  | <input type="checkbox"/>  |   |   |   | CC-Link   | 750-310         | 225  |
|   |   | <input type="checkbox"/>  |   |   | CC-Link; 156 kBd ... 10 MBaud                               | 750-325         | 226  |

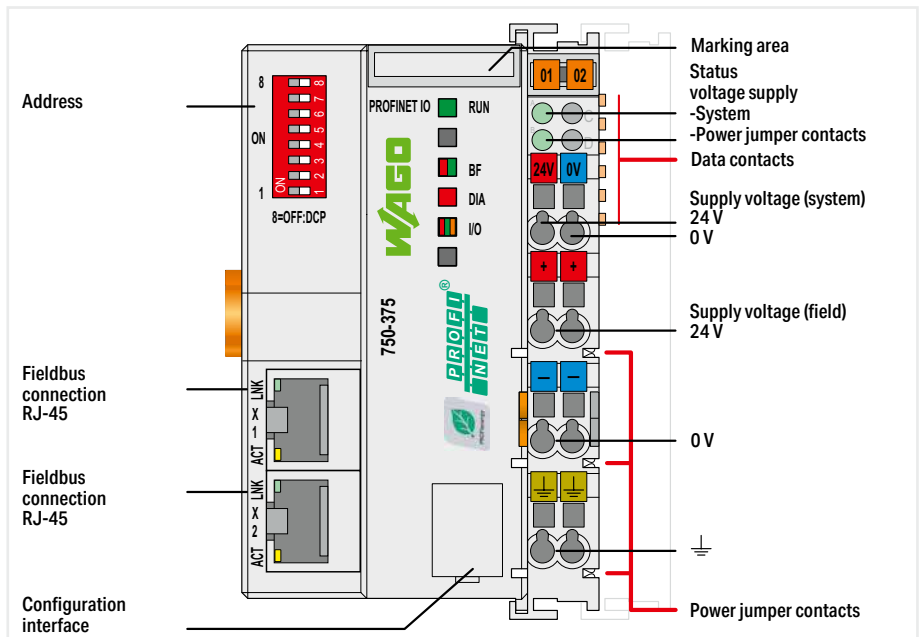
\*This coupler is also available as a 750 XTR Series variant.

See Section 8

# Fieldbus couplers ► PROFINET IO; Advanced



750-375



7.1

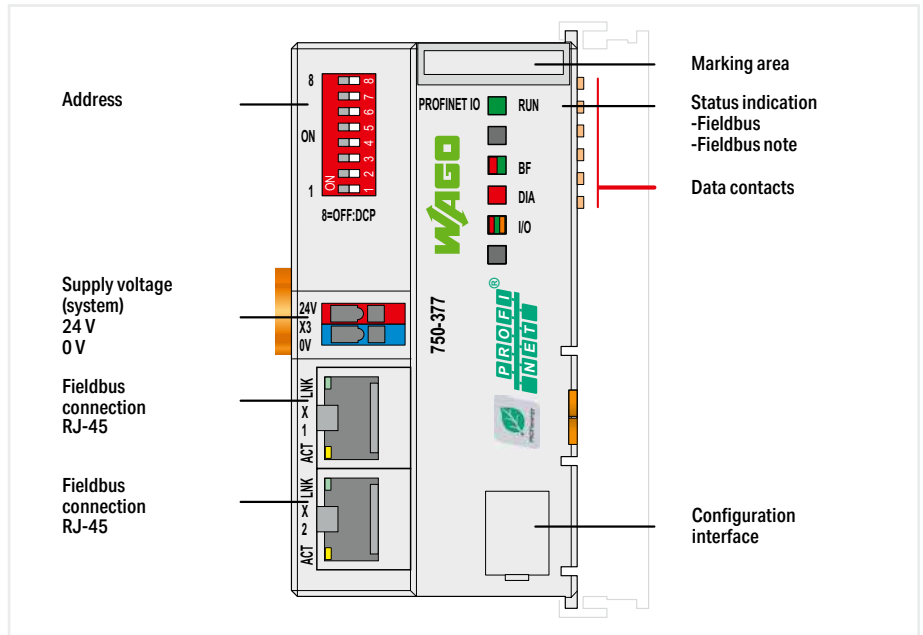
|            |                      |                         |
|------------|----------------------|-------------------------|
| Version    | Standard             | ext. temperature        |
| Item no.   | 750-375              | 750-375/025-000         |
| Order Text | FC PROFINET; G3; Adv | FC PROFINET; G3; T; Adv |

|   |   |  |
|---|---|--|
| Technical data                                  | PROFINET IO   |  |
| Communication                                   | PROFINET IO V2.3 (conformity class C); Topology detection / LLDP; Network diagnostics / SNMP / MIB-2; Media redundancy / MRP; Webserver / HTTP; Shared device                             |  |
| Protocols                                       | PROFINET IO: 2 x RJ-45  |  |
| Connection technology: communication/fieldbus   | Integrierter 2-Port-Switch; Autonegotiation; Auto-MDIX; isochrone Echtzeitkommunikation; Sendetakt: 1 ms (RT); 1, 2, 4 ms (IRT); Gerätetausch ohne Programmiergerät                       |  |
| PROFINET IO features                            | Supported profiles: PROFIsafe V2, PROFlenergy V1.0; ID code: Vendor ID: 0x011D; Device ID: 0x02EE; Module ID: 0x01000177 (firmware version 01, 02), 0x02000177 (from firmware version 03) |  |
| Device-specific                                 | 10/100 Mbit/s (10 Mbit/s (ETHERNET protocols), 100 Mbit/s full duplex (PROFINET IO))  |  |
| Baud rate                                       | Twisted pair S-UTP; 100 Ω; Cat. 5   |  |
| Transmission medium (communication/fieldbus)    | 250   |  |
| Number of modules per node (max.)               | 512 bytes/512 bytes   |  |
| Input and output process image (fieldbus) max.  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |  |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via power jumper contacts   |  |
| Supply voltage (field)                          | 500 mA  |  |
| Input current (typ.) at nominal load (24 V)     | 450 mA  |  |
| Current consumption (5 V system supply)         | 1700 mA   |  |
| Total current (system supply)                   | 0 ... +55 °C  |  |
| Ambient temperature (operation)                 | -20 ... +60 °C  |  |
| Dimensions W x H x D                            | (61.5 x 100 x 71.9) mm  |  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |  |
| For data sheet and additional information, see: | wago.com/750-375  |  |

# Fieldbus couplers ► PROFINET IO; ECO Advanced



750-377



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                          |                             |
|--------------------------|-----------------------------|
| Standard                 | ext. temperature            |
| 750-377                  | 750-377/025-000             |
| FC PROFINET; G3; ECO Adv | FC PROFINET; G3; T; ECO Adv |

|  |
|--|
| Technical data                                 |
| Communication                                  |
| Protocols                                      |
| Connection technology: communication/fieldbus  |
| PROFINET IO features                           |
| Device-specific                                |
| Baud rate                                      |
| Transmission medium (communication/fieldbus)   |
| Number of modules per node (max.)              |
| Input and output process image (fieldbus) max. |
| Supply voltage (system)                        |
| Input current (typ.) at nominal load (24 V)    |
| Current consumption (5 V system supply)        |
| Total current (system supply)                  |
| Ambient temperature (operation)                |
| Dimensions W x H x D                           |
| Approvals                                      |

|   |                |
|---|----------------|
| PROFINET IO   |                |
| PROFINET IO V2.3 (conformity class C); Topology detection / LLDP; Network diagnostics / SNMP / MIB-2; Media redundancy / MRP; Webserver / HTTP  |                |
| PROFINET IO: 2 x RJ-45  |                |
| Integrierter 2-Port-Switch; Autonegotiation; Auto-MDIX; isochrone Echtzeitkommunikation; Sendetakt: 1 ms (RT); 1, 2, 4 ms (IRT); Gerätetausch ohne Programmiergerät                       |                |
| Supported profiles: PROFIsafe V2, PROFIenergy V1.0; ID code: Vendor ID: 0x011D; Device ID: 0x02EE; Module ID: 0x01000177 (firmware version 01, 02), 0x02000177 (from firmware version 03) |                |
| 10/100 Mbit/s (10 Mbit/s (ETHERNET protocols), 100 Mbit/s full duplex (PROFINET IO))  |                |
| Twisted pair S-UTP; 100 Ω; Cat. 5   |                |
| 64  |                |
| 256 bytes/256 bytes   |                |
| 24 VDC (-25 ... +30 %); via pluggable connector   |                |
| 280 mA  |                |
| 450 mA  |                |
| 700 mA  |                |
| 0 ... +55 °C  | -20 ... +60 °C |
| (49.5 x 96.8 x 71.9) mm   |                |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |                |

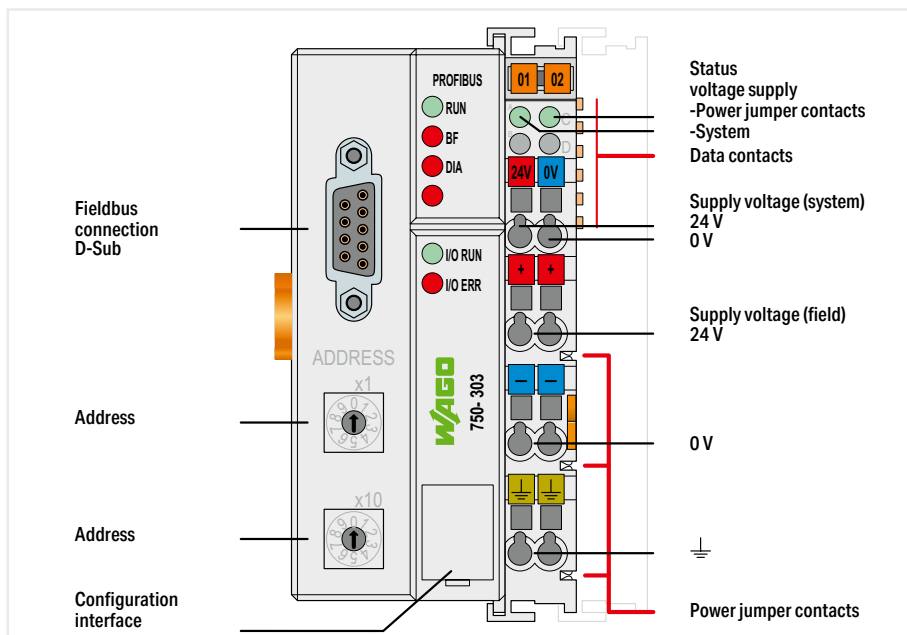
For data sheet and additional information, see:

wago.com/750-377

## Fieldbus couplers ► PROFIBUS DP; 1st generation



750-303

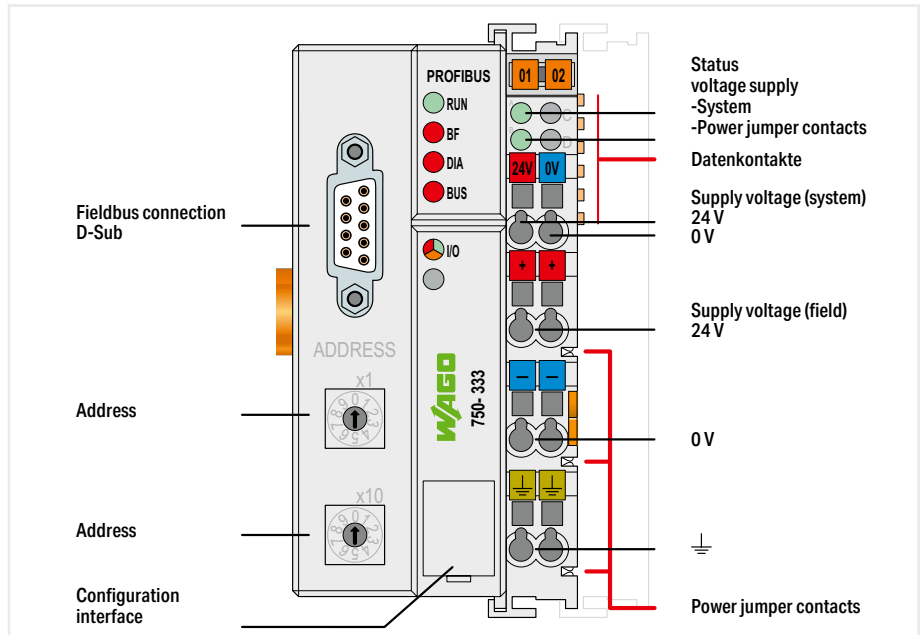


|   |  |
|---|--|
| Version   | Standard   |
| Item no.  | 750-303  |
| Order Text                                      | FC PROFIBUS; G1; 12MBd   |
| Technical data                                  |  |
| Communication                                   | PROFIBUS   |
| Protocols                                       | PROFIBUS DP/FMS  |
| Connection technology: communication/fieldbus   | PROFIBUS: 1 x D-sub 9 socket   |
| Number of fieldbus nodes on master (max.)       | 96   |
| Baud rate                                       | 9.6 kBd ... 12 MBd   |
| Transmission medium (communication/fieldbus)    | Cu cable per EN 50170  |
| Number of modules per node (max.)               | 64   |
| Input and output process image (fieldbus) max.  | 128 bytes/128 bytes  |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)     | 500 mA   |
| Current consumption (5 V system supply)         | 350 mA   |
| Total current (system supply)                   | 1650 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (50.5 x 100 x 71.1) mm   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |
| For data sheet and additional information, see: | wago.com/750-303   |

# Fieldbus couplers ► PROFIBUS DP; 2nd generation



750-333



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                        |                           |
|------------------------|---------------------------|
| <b>Standard</b>        | <b>ext. temperature</b>   |
| 750-333                | 750-333/025-000           |
| FC PROFIBUS; G2; 12MBd | FC PROFIBUS; G2; 12MBd; T |

|  |  |
|--|--|
| Technical data                                 |  |
| Communication                                  | PROFIBUS   |
| Protocols                                      | PROFIBUS DP/V1   |
| Connection technology: communication/fieldbus  | PROFIBUS: 1 x D-sub 9 socket   |
| Number of fieldbus nodes on master (max.)      | 96   |
| Baud rate                                      | 9.6 kBd ... 12 MBd   |
| Transmission medium (communication/fieldbus)   | Cu cable per EN 50170  |
| Number of modules per node (max.)              | 63   |
| Input and output process image (fieldbus) max. | 244 bytes/244 bytes  |
| Supply voltage (system)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                         | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)    | 500 mA   |
| Current consumption (5 V system supply)        | 200 mA   |
| Total current (system supply)                  | 1800 mA  |
| Ambient temperature (operation)                | 0 ... +55 °C   -20 ... +60 °C  |
| Dimensions W x H x D                           | (50.5 x 100 x 71.1) mm   |
| Approvals                                      | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |

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|--|--|
|  |  |
| PROFIBUS   |  |
| PROFIBUS DP/V1   |  |
| PROFIBUS: 1 x D-sub 9 socket   |  |
| 96   |  |
| 9.6 kBd ... 12 MBd   |  |
| Cu cable per EN 50170  |  |
| 63   |  |
| 244 bytes/244 bytes  |  |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |  |
| 24 VDC (-25 ... +30 %); via power jumper contacts                        |  |
| 500 mA   |  |
| 200 mA   |  |
| 1800 mA  |  |
| 0 ... +55 °C   -20 ... +60 °C  |  |
| (50.5 x 100 x 71.1) mm   |  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |  |

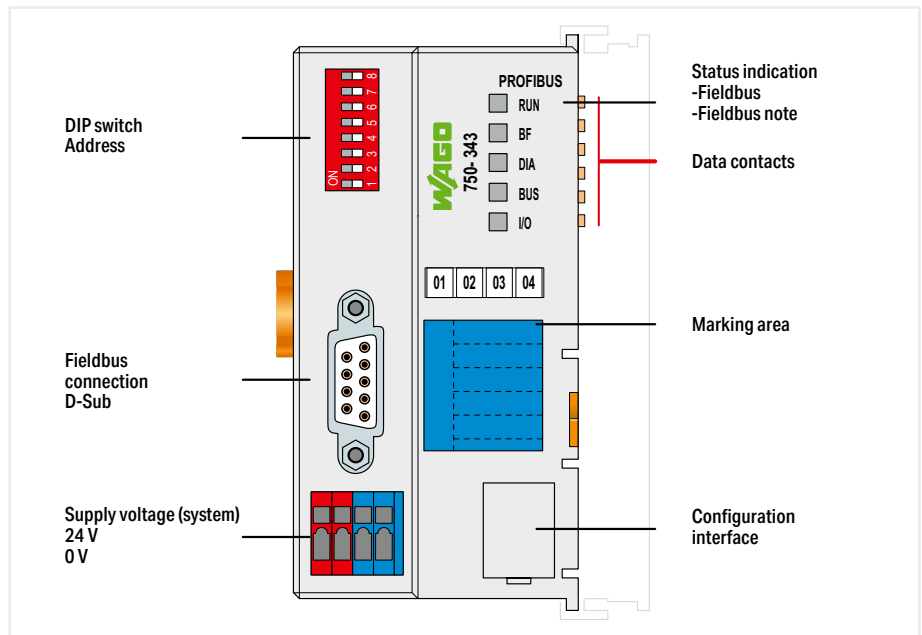
For data sheet and additional information, see:

wago.com/750-333

## Fieldbus couplers ► PROFIBUS DP; ECO



750-343



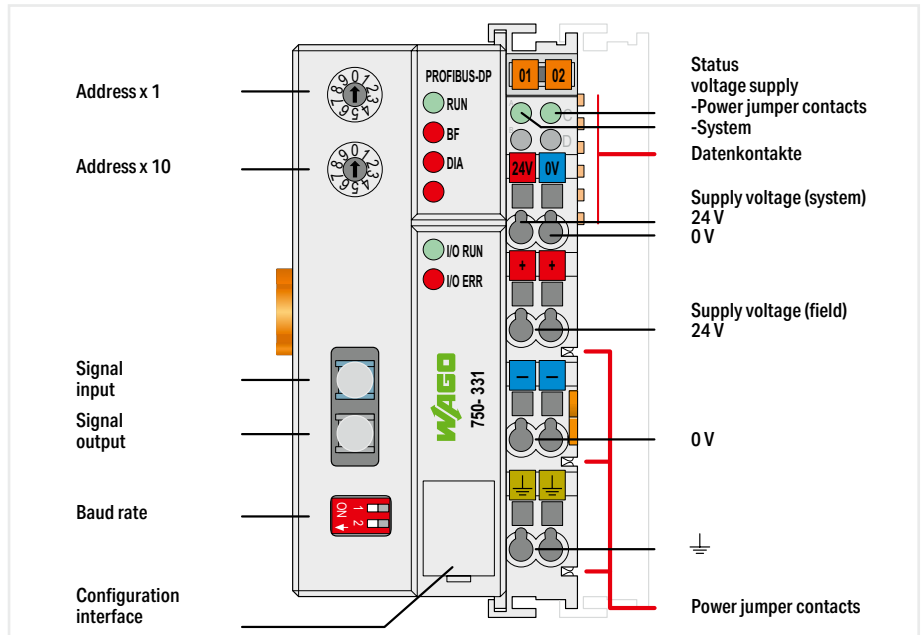
|   |   |
|---|---|
| Version   | Standard  |
| Item no.  | 750-343   |
| Order Text                                      | FC PROFIBUS; 12MBd; ECO                         |
| Technical data                                  |   |
| Communication                                   | PROFIBUS  |
| Protocols                                       | PROFIBUS DP                                     |
| Connection technology: communication/fieldbus   | PROFIBUS: 1 x D-sub 9 socket                    |
| Number of fieldbus nodes on master (max.)       | 125   |
| Baud rate                                       | 9.6 kBd ... 12 MBd                              |
| Transmission medium (communication/fieldbus)    | Cu cable per EN 50170                           |
| Number of modules per node (max.)               | 63  |
| Input and output process image (fieldbus) max.  | 32 bytes/32 bytes                               |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector |
| Input current (typ.) at nominal load (24 V)     | 260 mA  |
| Current consumption (5 V system supply)         | 350 mA  |
| Total current (system supply)                   | 650 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C                                    |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm                         |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx        |
| For data sheet and additional information, see: | wago.com/750-343                                |



# Fieldbus couplers ► PROFIBUS DP; fiber-optic connection



750-331



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                          |
|--------------------------|
| Standard                 |
| 750-331                  |
| FC PROFIBUS; FOC; 1.5MBd |

|  |
|--|
| Technical data                                 |
| Communication                                  |
| Protocols                                      |
| Connection technology: communication/fieldbus  |
| Number of fieldbus nodes on master (max.)      |
| Baud rate                                      |
| Transmission medium (communication/fieldbus)   |
| Number of modules per node (max.)              |
| Input and output process image (fieldbus) max. |
| Supply voltage (system)                        |
| Supply voltage (field)                         |
| Input current (typ.) at nominal load (24 V)    |
| Current consumption (5 V system supply)        |
| Total current (system supply)                  |
| Ambient temperature (operation)                |
| Dimensions W x H x D                           |
| Approvals                                      |

|  |
|--|
| PROFIBUS   |
| PROFIBUS DP  |
| PROFIBUS: 1 x HP Simplex, FOC plug included with delivery                |
| 10   |
| 93.75 kBd ... 1.5 MBd  |
| APF (All Plastic Fiber) (1000 µm)  |
| 64   |
| 128 bytes/128 bytes  |
| 24 VDC (-15 ... +20 %); via pluggable connector (CAGE CLAMP® connection) |
| 24 VDC (-15 ... +20 %); via power jumper contacts                        |
| 500 mA   |
| 350 mA   |
| 1650 mA  |
| 0 ... +55 °C   |
| (50.5 x 100 x 71.1) mm   |
| CE;   OrdLoc   |

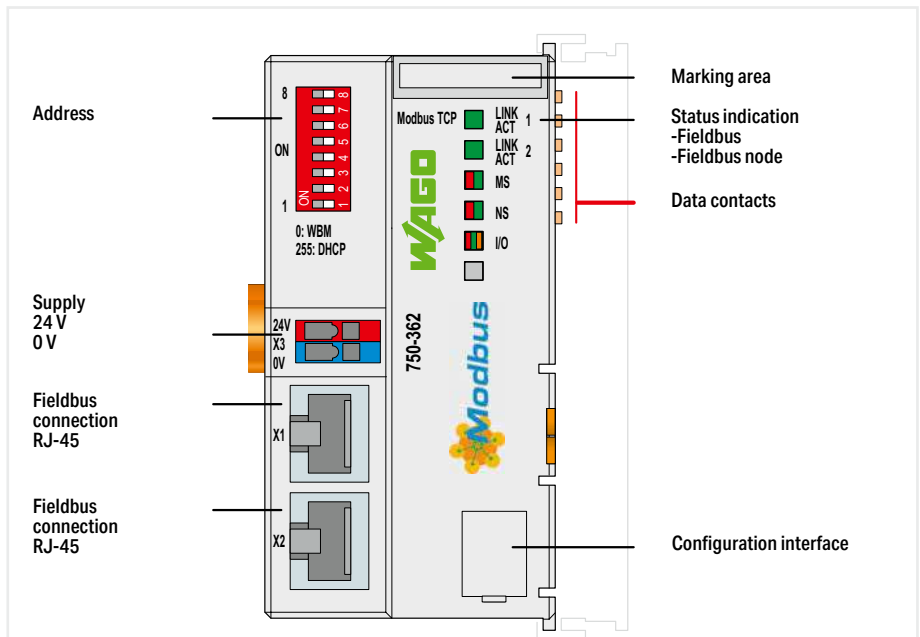
For data sheet and additional information, see:

wago.com/750-331

## Fieldbus couplers ▶ Modbus TCP; ECO



750-362



|            |                   |                 |
|------------|-------------------|-----------------|
| Version    | Standard          | BootP is preset |
| Item no.   | 750-362           | 750-362/000-001 |
| Order Text | FC Modbus TCP; G4 |                 |

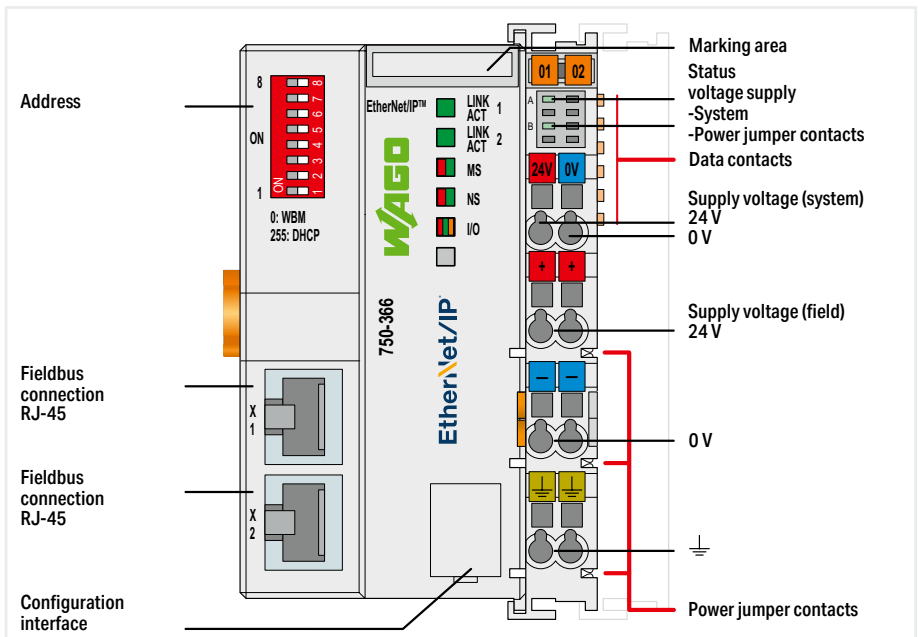
|   |   |
|---|---|
| Technical data                                  |   |
| Communication                                   | Modbus (TCP, UDP)   |
| ETHERNET protocols                              | HTTP(S); BootP; DHCP; DNS; SNTP; FTP(S); SNMP                 |
| Connection technology: communication/fieldbus   | Modbus (TCP, UDP); 2 x RJ-45                                  |
| Baud rate                                       | 10/100 Mbit/s   |
| Transmission medium (communication/fieldbus)    | Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length |
| Transmission performance                        | Class D per EN 50173  |
| Number of modules per node (max.)               | 250   |
| Input and output process image (fieldbus) max.  | 1020 words/1020 words   |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector               |
| Input current (typ.) at nominal load (24 V)     | 280 mA  |
| Current consumption (5 V system supply)         | 350 mA  |
| Total current (system supply)                   | 700 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm                                       |
| Approvals                                       | CE, Marine; OrdLoc/HazLoc; ATEX/IECEX                         |
| For data sheet and additional information, see: | wago.com/750-362  |

7.1

# Fieldbus couplers ▶ EtherNet/IP™



750-366



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                          |  |
|--------------------------|--|
| Standard                 |  |
| 750-366                  |  |
| FC EtherNet/IP™; G4; DLR |  |

|  |  |
|--|--|
| Technical data                                 |  |
| Communication                                  |  |
| ETHERNET protocols                             |  |
| Connection technology: communication/fieldbus  |  |
| Baud rate                                      |  |
| Transmission medium (communication/fieldbus)   |  |
| Transmission performance                       |  |
| Number of modules per node (max.)              |  |
| Input and output process image (fieldbus) max. |  |
| Supply voltage (system)                        |  |
| Supply voltage (field)                         |  |
| Input current (typ.) at nominal load (24 V)    |  |
| Current consumption (5 V system supply)        |  |
| Total current (system supply)                  |  |
| Ambient temperature (operation)                |  |
| Dimensions W x H x D                           |  |
| Approvals                                      |  |

|  |  |
|--|--|
|  | EtherNet/IP™   |
|  | HTTP(S); BootP; DHCP; DNS; FTP(S); SNMP                                  |
|  | EtherNet/IP™: 2 x RJ-45  |
|  | 10/100 Mbit/s  |
|  | Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length            |
|  | Class D per EN 50173   |
|  | 250  |
|  | 1020 words/1020 words  |
|  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
|  | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
|  | 480 mA   |
|  | 300 mA   |
|  | 1700 mA  |
|  | 0 ... +55 °C   |
|  | (62 x 100 x 71.9) mm   |
|  | CE; Marine; OrdLoc/HazLoc  |

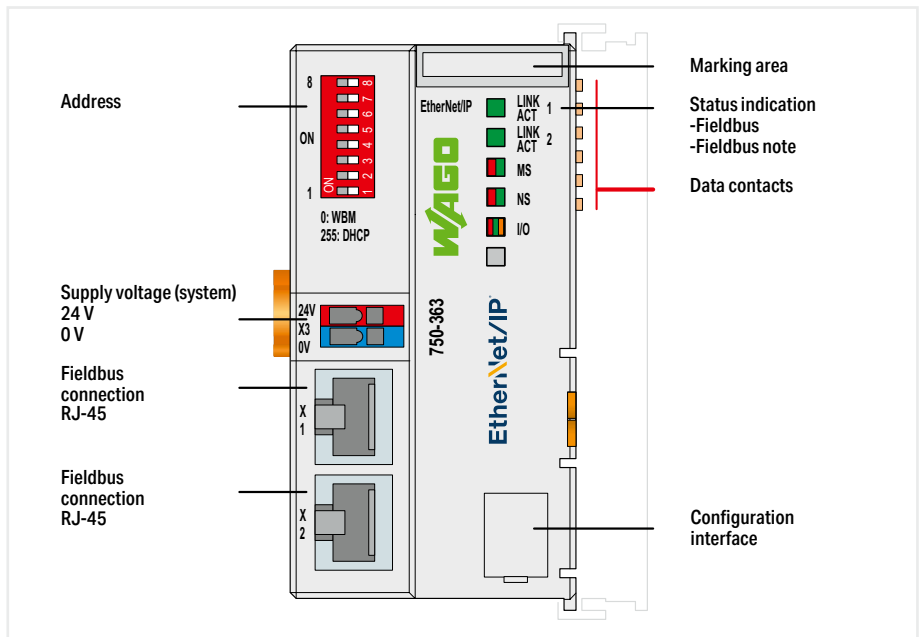
For data sheet and additional information, see:

wago.com/750-366

## Fieldbus couplers ▶ EtherNet/IP™; ECO



750-363



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                 |  |
|-----------------|--|
| Standard        |  |
| 750-363         |  |
| FC EtherNet/IP™ |  |

7.1

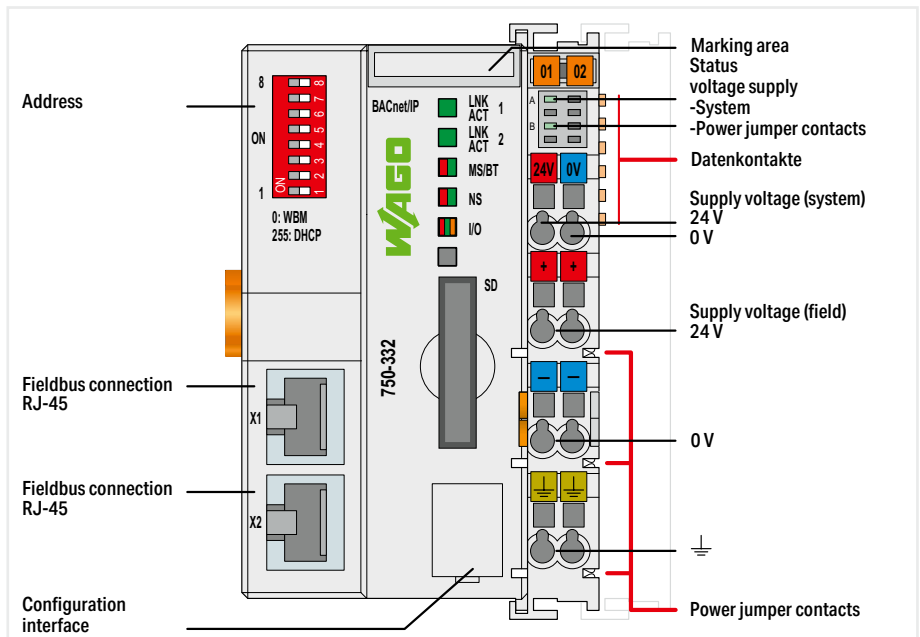
|   |   |
|---|---|
| Technical data                                  |   |
| Communication                                   | EtherNet/IP™  |
| ETHERNET protocols                              | HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP                 |
| Connection technology: communication/fieldbus   | EtherNet/IP™: 2 x RJ-45                                       |
| Baud rate                                       | 10/100 Mbit/s   |
| Transmission medium (communication/fieldbus)    | Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length |
| Transmission performance                        | Class D per EN 50173  |
| Number of modules per node (max.)               | 250   |
| Input and output process image (fieldbus) max.  | 1020 words/1020 words   |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector               |
| Input current (typ.) at nominal load (24 V)     | 280 mA  |
| Current consumption (5 V system supply)         | 350 mA  |
| Total current (system supply)                   | 700 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm                                       |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                         |
| For data sheet and additional information, see: | wago.com/750-363  |



## Fieldbus couplers ▶ BACnet/IP; SD card slot



750-332



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|              |
|--------------|
| Standard     |
| 750-332      |
| FC BACnet/IP |

7.1

|  |
|--|
| Technical data                                 |
| Communication                                  |
| Protocols                                      |
| Connection technology: communication/fieldbus  |
| Device-specific                                |
| Baud rate                                      |
| Transmission medium (communication/fieldbus)   |
| Transmission performance                       |
| Type of memory card                            |
| Number of modules per node (max.)              |
| Input and output process image (fieldbus) max. |
| Supply voltage (system)                        |
| Supply voltage (field)                         |
| Input current (typ.) at nominal load (24 V)    |
| Current consumption (5 V system supply)        |
| Total current (system supply)                  |
| Ambient temperature (operation)                |
| Dimensions W x H x D                           |
| Approvals                                      |

|  |
|--|
| BACnet/IP; Modbus (TCP, UDP)   |
| HTTP(S), BootP, DHCP, DNS, (S)FTP, SNMP  |
| BACnet/IP: 2 x RJ-45; Modbus (TCP, UDP): 2 x RJ-45                                   |
| BACnet device profile: B-BC (BACnet building controller); BACnet revision: 12        |
| 10/100 Mbit/s  |
| Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length                        |
| Class D per EN 50173   |
| SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO Memory Card) |
| 250  |
| 1020 words/1020 words  |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)             |
| 24 VDC (-25 ... +30 %); via power jumper contacts                                    |
| 500 mA   |
| 440 mA   |
| 1700 mA  |
| 0 ... +55 °C   |
| (61.5 x 100 x 71.9) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| wago.com/750-332   |

For data sheet and additional information, see:

|   |
|---|
| Accessories   |
| Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C |

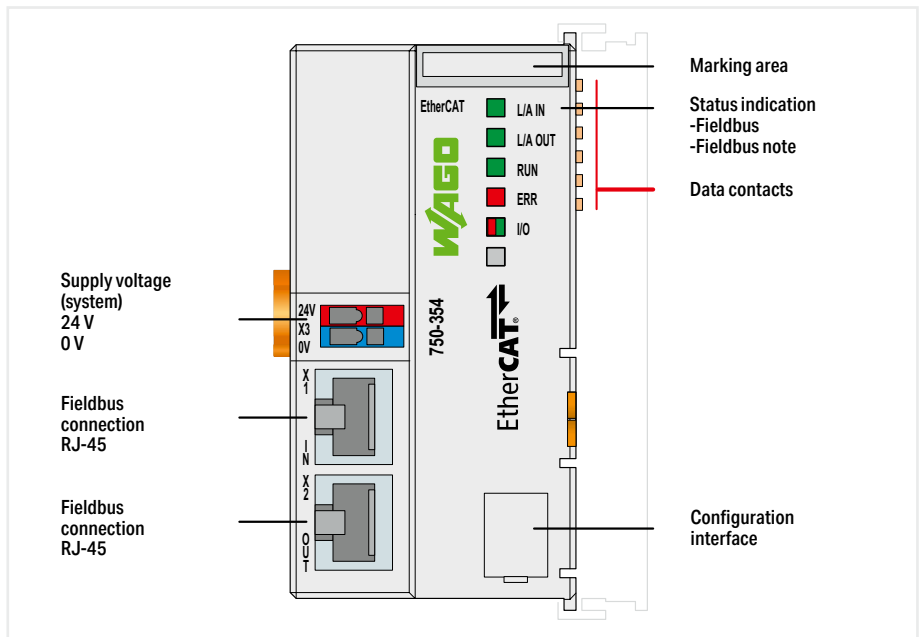
|                  |
|------------------|
| Item no.         |
| 758-879/000-2108 |



## Fieldbus couplers ▶ EtherCAT



750-354



7.1

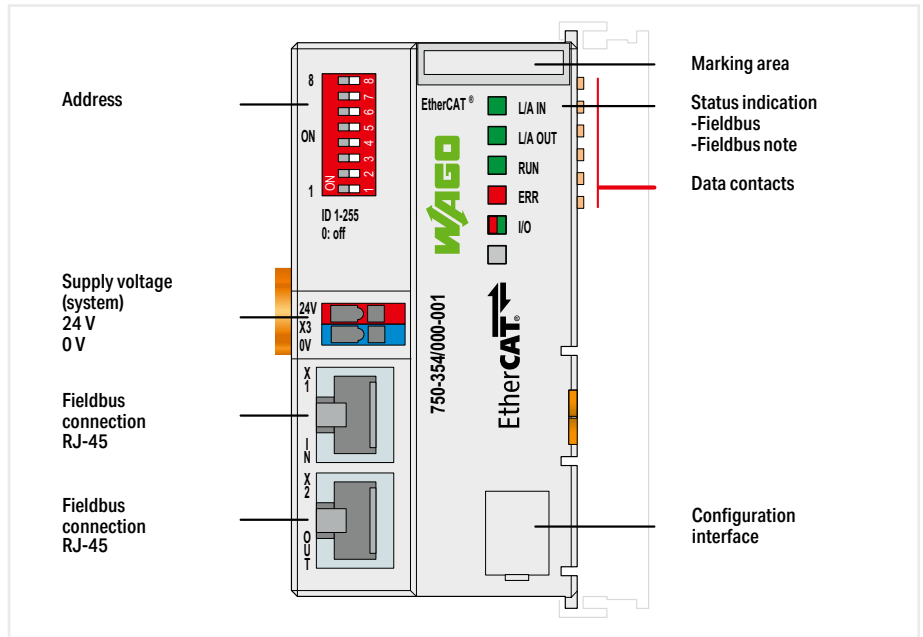
|   |   |
|---|---|
| Version   | Standard  |
| Item no.  | 750-354   |
| Order Text                                      | FC EtherCAT   |
| Technical data                                  |   |
| Communication                                   | EtherCAT®   |
| Protocols                                       | EtherCAT® (direct mode)                                     |
| Connection technology: communication/fieldbus   | EtherCAT: 2 x RJ-45   |
| Baud rate                                       | 100 Mbit/s  |
| Transmission medium (communication/fieldbus)    | Shielded twisted pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6 |
| Transmission performance                        | Class D per EN 50173  |
| Number of modules per node (max.)               | 64  |
| Input and output process image (fieldbus) max.  | 1024 bytes/1024 bytes                                       |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector             |
| Input current (typ.) at nominal load (24 V)     | 250 mA  |
| Current consumption (5 V system supply)         | 300 mA  |
| Total current (system supply)                   | 700 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm                                     |
| Approvals                                       | CE,  OrdLoc/HazLoc,  ATEX/IECEx                             |
| For data sheet and additional information, see: | wago.com/750-354  |



## Fieldbus couplers ▶ EtherCAT®; ID switch



750-354/000-001

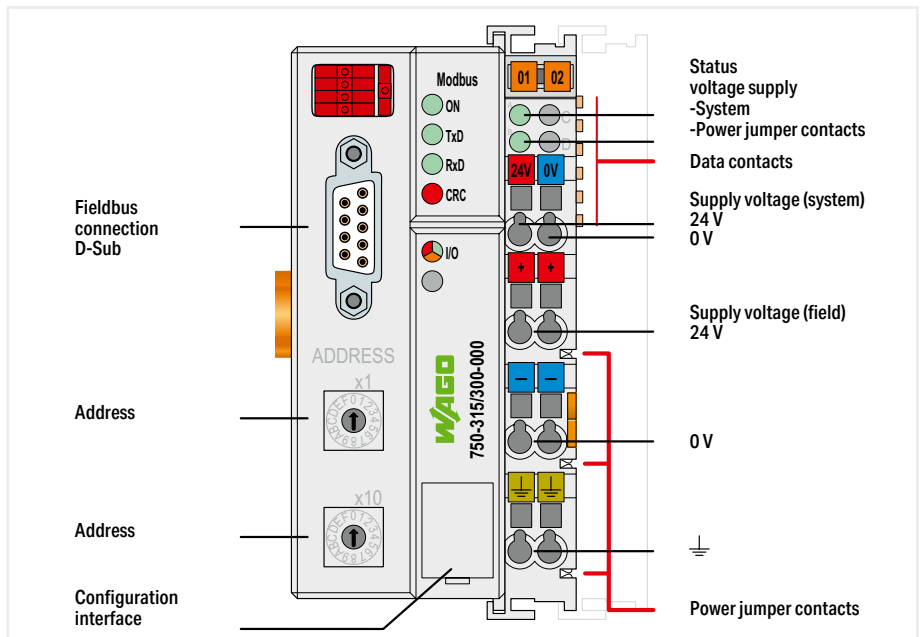


| Version   | Standard  | Diagnostics                              |
|---|---|--|
| Item no.  | 750-354/000-001   | 750-354/000-002                          |
| Order Text                                      | FC EtherCAT; ID-Switch  | FC EtherCAT; ID-Switch; 100Mbit/s; Diagn |
| Technical data                                  |   |  |
| Communication                                   | EtherCAT®   |  |
| Protocols                                       | EtherCAT® (direct mode)   |  |
| Connection technology: communication/fieldbus   | EtherCAT: 2 x RJ-45   |  |
| Baud rate                                       | 100 Mbit/s  |  |
| Transmission medium (communication/fieldbus)    | Shielded twisted pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6   |  |
| Transmission performance                        | Class D per EN 50173  |  |
| Number of modules per node (max.)               | 64  |  |
| Input and output process image (fieldbus) max.  | 1024 bytes/1024 bytes   |  |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector   |  |
| Input current (typ.) at nominal load (24 V)     | 250 mA  |  |
| Current consumption (5 V system supply)         | 300 mA  |  |
| Total current (system supply)                   | 700 mA  |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |  |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm   |  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |  |
| For data sheet and additional information, see: | CE;  OrdLoc/HazLoc;  ATEX/IECEX<br><a href="http://wago.com/750-354/000-001">wago.com/750-354/000-001</a> |  |

## Fieldbus couplers ► MODBUS; RS-485; 115.2 kBd



750-315/300-000



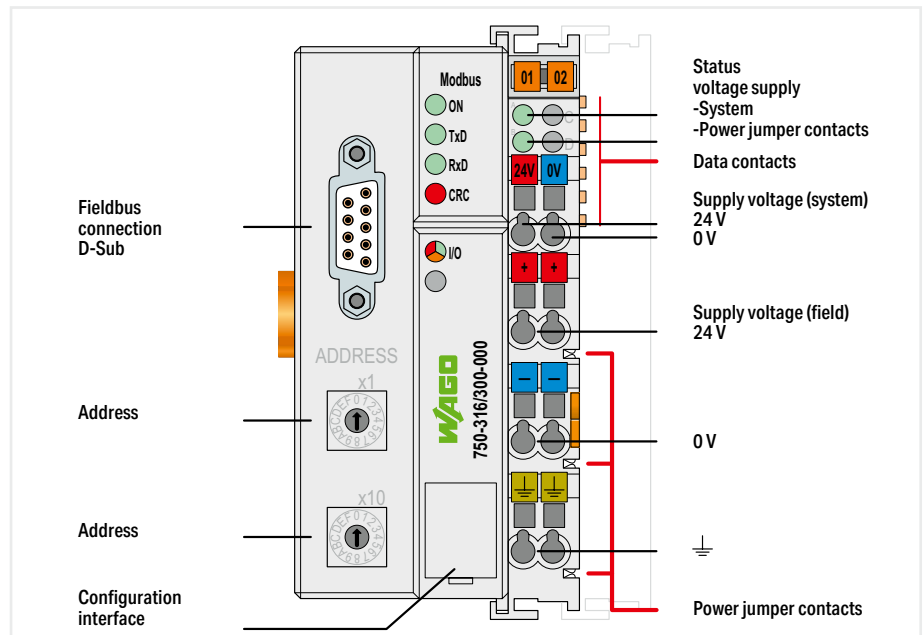
|   |  |
|---|--|
| Version   | Standard   |
| Item no.  | 750-315/300-000  |
| Order Text                                      | FC MODBUS; RS485; 115.2kBd   |
| Technical data                                  |  |
| Communication                                   | Modbus® RTU  |
| Connection technology: communication/fieldbus   | Modbus® RTU: 1 x D-sub 9 socket  |
| Number of fieldbus nodes on master (max.)       | 247  |
| Baud rate                                       | 150 Bd ... 115.2 kBd   |
| Transmission medium (communication/fieldbus)    | Shielded Cu cable 2 (4) x 0.25 mm²                                       |
| Number of modules per node (max.)               | 64   |
| Input and output process image (fieldbus) max.  | 512 bytes/512 bytes  |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)     | 500 mA   |
| Current consumption (5 V system supply)         | 350 mA   |
| Total current (system supply)                   | 1650 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (50.5 x 100 x 71.1) mm   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                    |
| For data sheet and additional information, see: | wago.com/750-315/300-000   |

7.1

## Fieldbus couplers ► MODBUS; RS-232; 115.2 kBd



750-316/300-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                            |
|----------------------------|
| Standard                   |
| 750-316/300-000            |
| FC MODBUS; RS232; 115.2kBd |

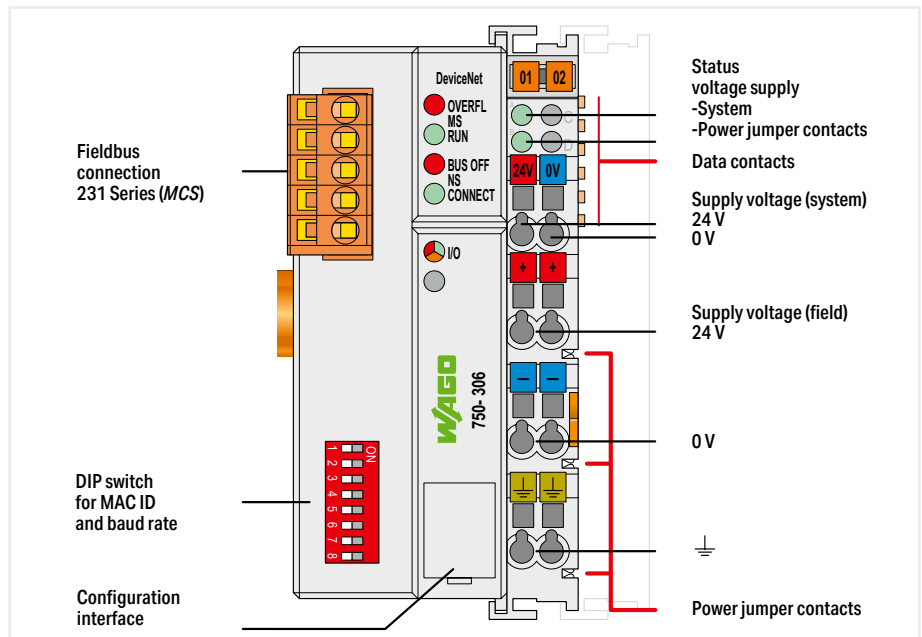
|   |
|---|
| Technical data                                  |
| Communication                                   |
| Connection technology: communication/fieldbus   |
| Number of fieldbus nodes on master (max.)       |
| Baud rate                                       |
| Transmission medium (communication/fieldbus)    |
| Number of modules per node (max.)               |
| Input and output process image (fieldbus) max.  |
| Supply voltage (system)                         |
| Supply voltage (field)                          |
| Input current (typ.) at nominal load (24 V)     |
| Current consumption (5 V system supply)         |
| Total current (system supply)                   |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|  |
|--|
| Modbus® RTU  |
| Modbus® RTU: 1 x D-sub 9 socket  |
| 247  |
| 150 Bd ... 115.2 kBd   |
| Shielded Cu cable 2 (4) x 0.25 mm <sup>2</sup>                           |
| 64   |
| 512 bytes/512 bytes  |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| 500 mA   |
| 350 mA   |
| 1650 mA  |
| 0 ... +55 °C   |
| (50.5 x 100 x 71.1) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |
| wago.com/750-316/300-000   |

## Fieldbus couplers ▶ DeviceNet



750-306



|            |              |
|------------|--------------|
| Version    | Standard     |
| Item no.   | 750-306      |
| Order Text | FC DeviceNet |

|            |              |
|------------|--------------|
| Version    | Standard     |
| Item no.   | 750-306      |
| Order Text | FC DeviceNet |

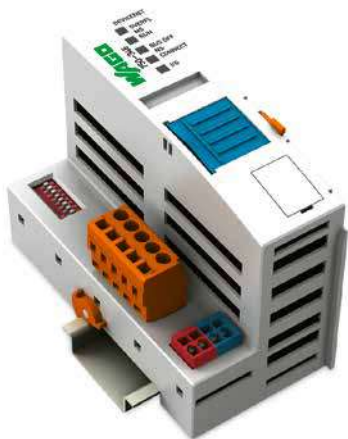
|  |  |
|--|--|
| Technical data                                 |  |
| Communication                                  | DeviceNet  |
| Connection technology: communication/fieldbus  | DeviceNet: 1 x Male connector; 5-pole  |
| Number of fieldbus nodes on master (max.)      | 64   |
| Number of I/O points                           | 6000   |
| Bus segment length (max.)                      | 500 m  |
| Baud rate                                      | 500 kBd (125 kBd, 250 kBd, 500 kBd)  |
| Transmission medium (communication/fieldbus)   | Shielded Cu cable; Remote bus cable: 2 x 0.82 mm <sup>2</sup> + 2 x 1.7 mm <sup>2</sup> ; Drop cable: 2 x 0.2 mm <sup>2</sup> + 2 x 0.32 mm <sup>2</sup> |
| Number of modules per node (max.)              | 64   |
| Input and output process image (fieldbus) max. | 512 bytes/512 bytes  |
| Supply voltage (system)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Supply voltage (field)                         | 24 VDC (-25 ... +30 %); via power jumper contacts  |
| Input current (typ.) at nominal load (24 V)    | 500 mA   |
| Input current via DeviceNet interface at 11 V  | 120 mA   |
| Current consumption (5 V system supply)        | 350 mA   |
| Total current (system supply)                  | 1650 mA  |
| Ambient temperature (operation)                | 0 ... +55 °C   |
| Dimensions W x H x D                           | (50.5 x 100 x 71.1) mm   |
| Approvals                                      | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |

For data sheet and additional information, see:

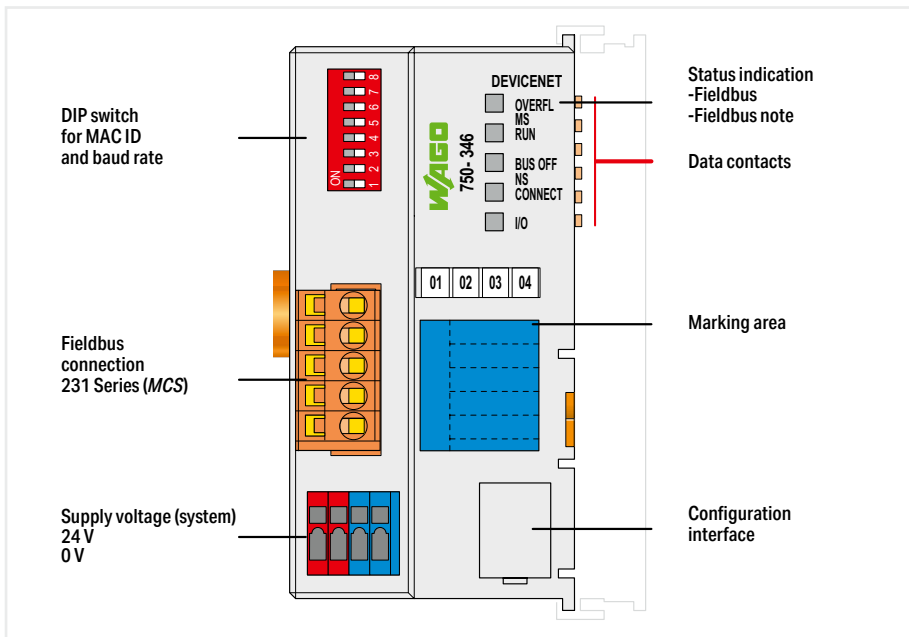
wago.com/750-306

7.1

# Fieldbus couplers ▶ DeviceNet; ECO



750-346



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                   |
|-------------------|
| Standard          |
| 750-346           |
| FC DeviceNet; ECO |

|   |
|---|
| Technical data                                  |
| Communication                                   |
| Connection technology: communication/fieldbus   |
| Number of fieldbus nodes on master (max.)       |
| Number of I/O points                            |
| Bus segment length (max.)                       |
| Baud rate                                       |
| Transmission medium (communication/fieldbus)    |
| Number of modules per node (max.)               |
| Input and output process image (fieldbus) max.  |
| Supply voltage (system)                         |
| Input current (typ.) at nominal load (24 V)     |
| Input current via DeviceNet interface at 11 V   |
| Current consumption (5 V system supply)         |
| Total current (system supply)                   |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

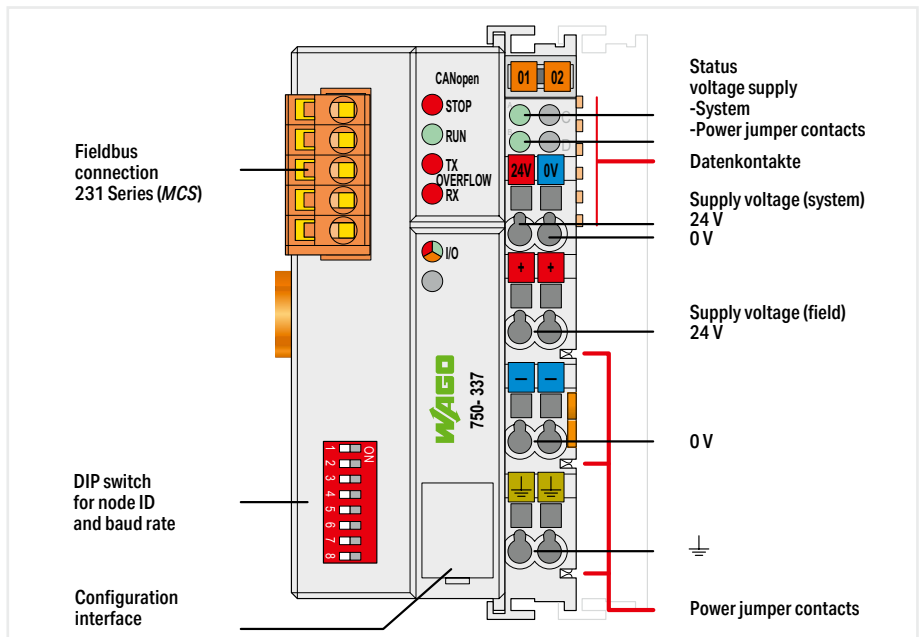
|  |
|--|
| DeviceNet  |
| DeviceNet: 1 x Male connector; 5-pole  |
| 64   |
| 6000   |
| 500 m  |
| 500 kBd (125 kBd, 250 kBd, 500 kBd)  |
| Shielded Cu cable; Remote bus cable: 2 x 0.82 mm <sup>2</sup> + 2 x 1.7 mm <sup>2</sup> ; Drop cable: 2 x 0.2 mm <sup>2</sup> + 2 x 0.32 mm <sup>2</sup> |
| 64   |
| 32 bytes/32 bytes  |
| 24 VDC (-15 ... +20 %); via pluggable connector  |
| 260 mA   |
| 120 mA   |
| 350 mA   |
| 650 mA   |
| 0 ... +55 °C   |
| (49.5 x 96.8 x 71.9) mm  |
| CE;  OrdLoc;  ATEX/IECEx   |
| wago.com/750-346   |

7.1  
Fieldbus  
Couplers

## Fieldbus couplers ▶ CANopen; MCS



750-337



7.1

|            |                 |                    |
|------------|-----------------|--------------------|
| Version    | Standard        | ext. temperature   |
| Item no.   | 750-337         | 750-337/025-000    |
| Order Text | FC CANopen; MCS | FC CANopen; MCS; T |

|  |   |                |
|--|---|----------------|
| Technical data                                 |   |                |
| Communication                                  | CANopen   |                |
| Connection technology: communication/fieldbus  | CANopen: 1 x Male connector; 5-pole   |                |
| Number of fieldbus nodes on master (max.)      | 110   |                |
| Bus segment length (max.)                      | 1000 m  |                |
| Baud rate                                      | 10 kBd ... 1 MBd  |                |
| Transmission medium (communication/fieldbus)   | Shielded Cu cable 3 x 0.25 mm <sup>2</sup>  |                |
| Number of modules per node (max.)              | 64  |                |
| Input and output process image (fieldbus) max. | 512 bytes/512 bytes   |                |
| Number of PDOs                                 | 32 Tx / 32 Rx   |                |
| Number of SDOs                                 | 2 SDO servers   |                |
| Communication profile                          | DS-301 V4.1   |                |
| Device profile                                 | DS-401 V2.0; Limit value monitoring ; Edge-triggered PDOs; Configurable response in the event of an error |                |
| Supply voltage (system)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)                                  |                |
| Supply voltage (field)                         | 24 VDC (-25 ... +30 %); via power jumper contacts   |                |
| Input current (typ.) at nominal load (24 V)    | 500 mA  |                |
| Current consumption (5 V system supply)        | 350 mA  |                |
| Total current (system supply)                  | 1650 mA   |                |
| Ambient temperature (operation)                | 0 ... +55 °C  | -20 ... +60 °C |
| Dimensions W x H x D                           | (50.5 x 100 x 71.1) mm  |                |
| Approvals                                      | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |                |

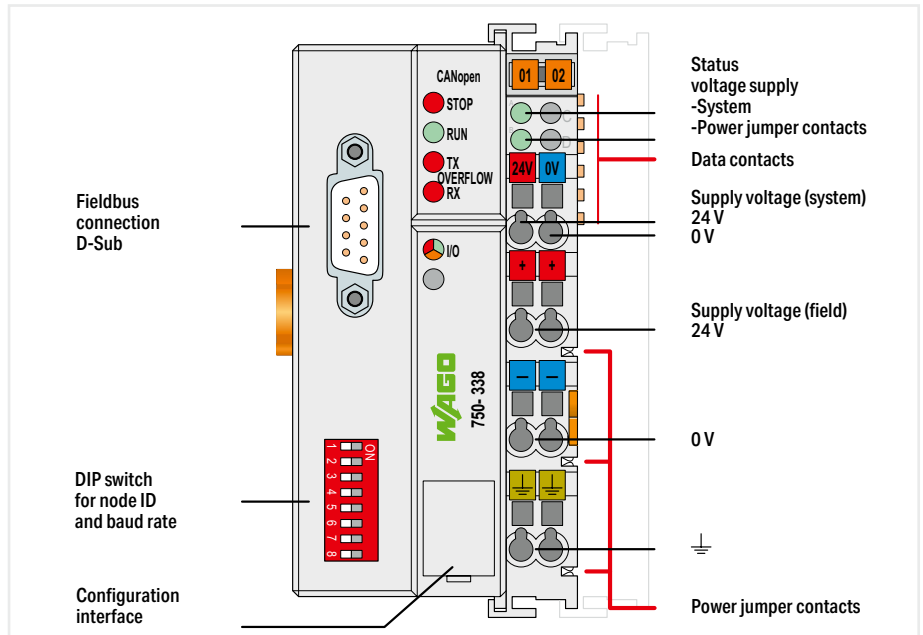
For data sheet and additional information, see:

wago.com/750-337

# Fieldbus couplers ▶ CANopen; D-Sub



750-338



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                  |
|------------------|
| Standard         |
| 750-338          |
| FC CANopen; DSub |

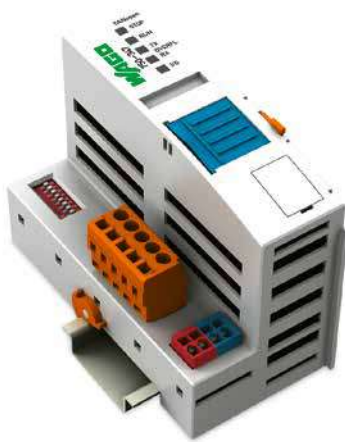
|  |
|--|
| Technical data                                 |
| Communication                                  |
| Connection technology: communication/fieldbus  |
| Number of fieldbus nodes on master (max.)      |
| Bus segment length (max.)                      |
| Baud rate                                      |
| Transmission medium (communication/fieldbus)   |
| Number of modules per node (max.)              |
| Input and output process image (fieldbus) max. |
| Number of PDOs                                 |
| Number of SDOs                                 |
| Communication profile                          |
| Device profile                                 |
| Supply voltage (system)                        |
| Supply voltage (field)                         |
| Input current (typ.) at nominal load (24 V)    |
| Current consumption (5 V system supply)        |
| Total current (system supply)                  |
| Ambient temperature (operation)                |
| Dimensions W x H x D                           |
| Approvals                                      |

|   |
|---|
| CANopen   |
| CANopen: 1 x D-sub 9 plug   |
| 110   |
| 1000 m  |
| 10 kBd ... 1 MBd  |
| Shielded Cu cable 3 x 0.25 mm <sup>2</sup>  |
| 64  |
| 512 bytes/512 bytes   |
| 32 Tx / 32 Rx   |
| 2 SDO servers   |
| DS-301 V4.1   |
| DS-401 V2.0; Limit value monitoring ; Edge-triggered PDOs; Configurable response in the event of an error |
| 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)                                  |
| 24 VDC (-25 ... +30 %); via power jumper contacts   |
| 500 mA  |
| 350 mA  |
| 1650 mA   |
| 0 ... +55 °C  |
| (50.5 x 100 x 71.1) mm  |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

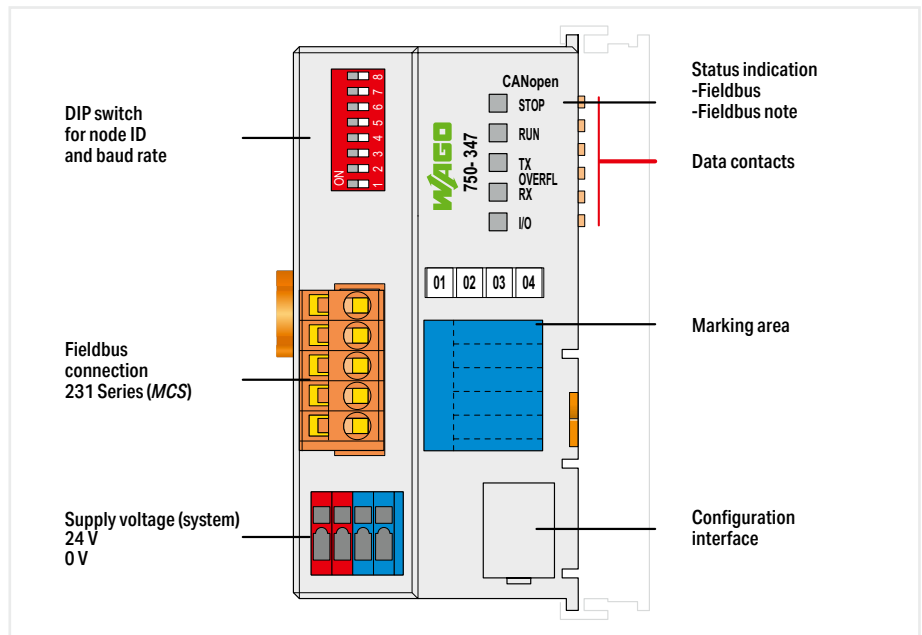
For data sheet and additional information, see:

wago.com/750-338

## Fieldbus couplers ► CANopen; MCS; ECO



750-347



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                      |
|----------------------|
| Standard             |
| 750-347              |
| FC CANopen; MCS; ECO |

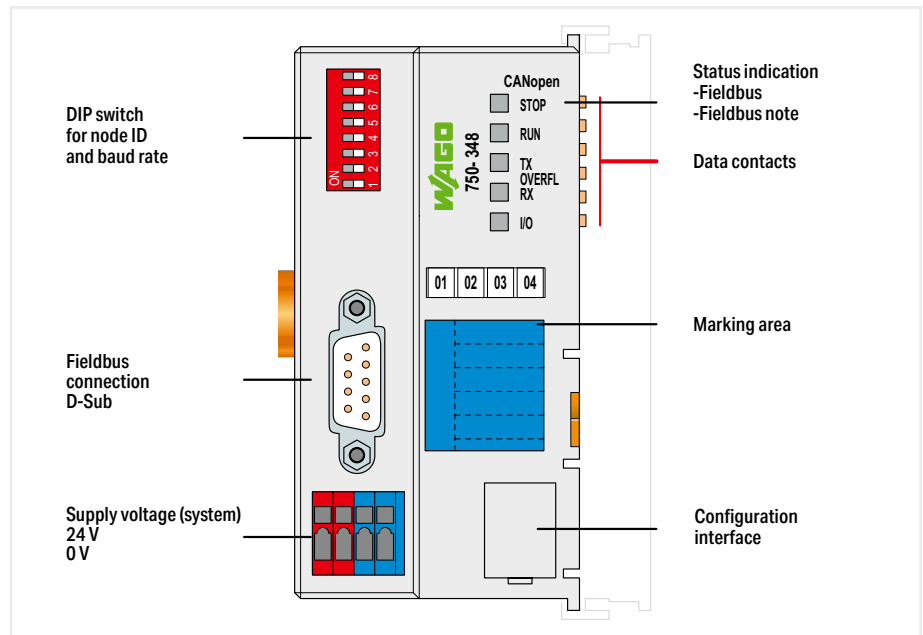
| Technical data                                  |   |
|---|---|
| Communication                                   | CANopen   |
| Connection technology: communication/fieldbus   | CANopen: 1 x Male connector; 5-pole                         |
| Number of fieldbus nodes on master (max.)       | 110   |
| Bus segment length (max.)                       | 1000 m  |
| Baud rate                                       | 10 kBd ... 1 MBd  |
| Transmission medium (communication/fieldbus)    | Shielded Cu cable 3 x 0.25 mm <sup>2</sup>                  |
| Number of modules per node (max.)               | 64  |
| Input and output process image (fieldbus) max.  | 32 bytes/32 bytes   |
| Number of PDOs                                  | 5 Tx / 5 Rx   |
| Number of SDOs                                  | 1 SDO server  |
| Communication profile                           | DS-301 V4.1   |
| Device profile                                  | DS-401 V2.0; Configurable response in the event of an error |
| Supply voltage (system)                         | 24 VDC (-25 ... +30 %); via pluggable connector             |
| Input current (typ.) at nominal load (24 V)     | 260 mA  |
| Current consumption (5 V system supply)         | 350 mA  |
| Total current (system supply)                   | 650 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (49.5 x 96.8 x 71.9) mm                                     |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX                    |
| For data sheet and additional information, see: | wago.com/750-347  |



## Fieldbus couplers ► CANopen; D-Sub; ECO



750-348



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                       |
|-----------------------|
| Standard              |
| 750-348               |
| FC CANopen; DSub; ECO |

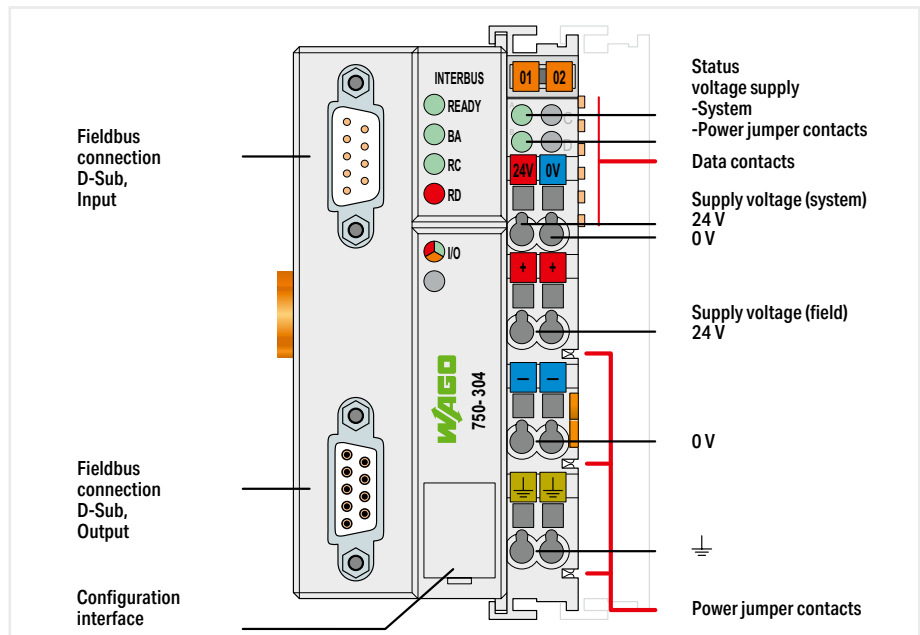
|   |
|---|
| Technical data                                  |
| Communication                                   |
| Connection technology: communication/fieldbus   |
| Number of fieldbus nodes on master (max.)       |
| Bus segment length (max.)                       |
| Baud rate                                       |
| Transmission medium (communication/fieldbus)    |
| Number of modules per node (max.)               |
| Input and output process image (fieldbus) max.  |
| Number of PDOs                                  |
| Number of SDOs                                  |
| Communication profile                           |
| Device profile                                  |
| Supply voltage (system)                         |
| Input current (typ.) at nominal load (24 V)     |
| Current consumption (5 V system supply)         |
| Total current (system supply)                   |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| CANopen   |
| CANopen: 1 x D-sub 9 plug                                   |
| 110   |
| 1000 m  |
| 10 kBd ... 1 MBd  |
| Shielded Cu cable 3 x 0.25 mm <sup>2</sup>                  |
| 64  |
| 32 bytes/32 bytes   |
| 5 Tx / 5 Rx   |
| 1 SDO server  |
| DS-301 V4.1   |
| DS-401 V2.0; Configurable response in the event of an error |
| 24 VDC (-25 ... +30 %); via pluggable connector             |
| 260 mA  |
| 350 mA  |
| 650 mA  |
| 0 ... +55 °C  |
| (49.5 x 96.8 x 71.9) mm                                     |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX                    |
| wago.com/750-348  |

## Fieldbus couplers ► INTERBUS



750-304



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

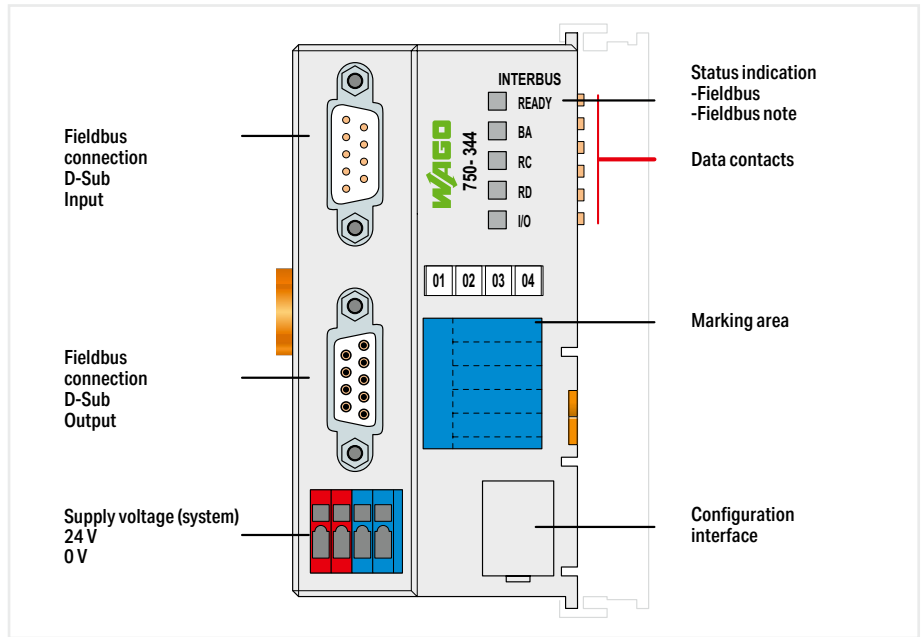
|             |
|-------------|
| Standard    |
| 750-304     |
| FC INTERBUS |

|   |  |
|---|--|
| Technical data                                  |  |
| Communication                                   | INTERBUS   |
| Connection technology: communication/fieldbus   | INTERBUS: 1 x D-sub 9 plug/socket  |
| Number of fieldbus nodes on master (max.)       | 256  |
| Number of I/O points                            | 4096   |
| Bus segment length (max.)                       | 400 m  |
| Baud rate                                       | 500 kBd  |
| Transmission medium (communication/fieldbus)    | Certified Cu cable   |
| Number of modules per node (max.)               | 64   |
| Input and output process image (fieldbus) max.  | 64 bytes/64 bytes  |
| Supply voltage (system)                         | 24 VDC (-15 ... +20 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)     | 500 mA   |
| Current consumption (5 V system supply)         | 300 mA   |
| Total current (system supply)                   | 1700 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (50.5 x 100 x 71.1) mm   |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see: | wago.com/750-304   |

# Fieldbus couplers ► INTERBUS; ECO



750-344



|            |  |
|------------|--|
| Version    |  |
| Item no.   |  |
| Order Text |  |

|                             |  |
|-----------------------------|--|
| Standard                    |  |
| 750-344                     |  |
| FC INTERBUS; 500kbit/s; ECO |  |

|  |   |
|--|---|
| Technical data                                 |   |
| Communication                                  | INTERBUS  |
| Connection technology: communication/fieldbus  | INTERBUS: 1 x D-sub 9 plug/socket               |
| Number of fieldbus nodes on master (max.)      | 256   |
| Number of I/O points                           | 4096  |
| Bus segment length (max.)                      | 400 m   |
| Baud rate                                      | 500 kBd   |
| Transmission medium (communication/fieldbus)   | Certified Cu cable                              |
| Number of modules per node (max.)              | 64  |
| Input and output process image (fieldbus) max. | 20 bytes/20 bytes                               |
| Supply voltage (system)                        | 24 VDC (-15 ... +20 %); via pluggable connector |
| Input current (typ.) at nominal load (24 V)    | 260 mA  |
| Current consumption (5 V system supply)        | 350 mA  |
| Total current (system supply)                  | 650 mA  |
| Ambient temperature (operation)                | 0 ... +55 °C                                    |
| Dimensions W x H x D                           | (49.5 x 96.8 x 71.9) mm                         |
| Approvals                                      | CE, OrdLoc/HazLoc, ATEX/IECEx                   |

|  |   |
|--|---|
|  |   |
|  | INTERBUS  |
|  | INTERBUS: 1 x D-sub 9 plug/socket               |
|  | 256   |
|  | 4096  |
|  | 400 m   |
|  | 500 kBd   |
|  | Certified Cu cable                              |
|  | 64  |
|  | 20 bytes/20 bytes                               |
|  | 24 VDC (-15 ... +20 %); via pluggable connector |
|  | 260 mA  |
|  | 350 mA  |
|  | 650 mA  |
|  | 0 ... +55 °C                                    |
|  | (49.5 x 96.8 x 71.9) mm                         |
|  | CE, OrdLoc/HazLoc, ATEX/IECEx                   |

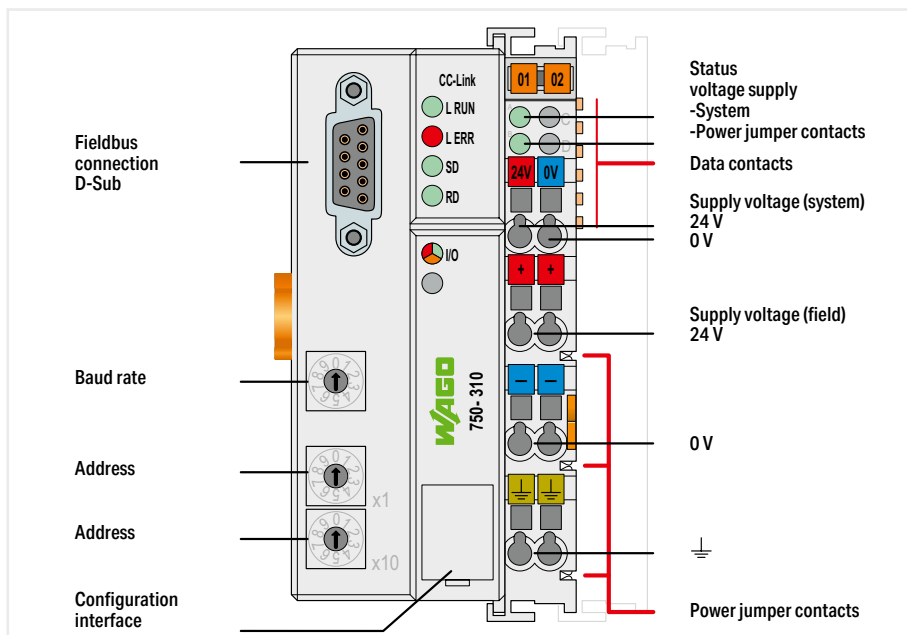
For data sheet and additional information, see:

wago.com/750-344

## Fieldbus couplers ► CC-Link; D-Sub



750-310



|            |            |
|------------|------------|
| Version    | Standard   |
| Item no.   | 750-310    |
| Order Text | FC CC-Link |

|  |  |
|--|--|
| Technical data                                 |  |
| Communication                                  | CC-Link  |
| Connection technology: communication/fieldbus  | CC-Link: 1 x D-sub 9 socket  |
| Number of fieldbus nodes on master (max.)      | 64   |
| Baud rate                                      | 156 kBd ... 10 MBd   |
| Transmission medium (communication/fieldbus)   | Shielded Cu cable 2 / 3 x 0.5 mm <sup>2</sup>                            |
| Number of modules per node (max.)              | 64   |
| Station addresses                              | 4/1 ... 4  |
| Input and output process image (fieldbus) max. | 48 bytes/48 bytes  |
| Input process image (note)                     | 14-byte digital, 2-byte system, 32-byte analog                           |
| Output process image (note)                    | 14-byte digital, 2-byte system, 32-byte analog                           |
| Supply voltage (system)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Supply voltage (field)                         | 24 VDC (-25 ... +30 %); via power jumper contacts                        |
| Input current (typ.) at nominal load (24 V)    | 500 mA   |
| Current consumption (5 V system supply)        | 300 mA   |
| Total current (system supply)                  | 1700 mA  |
| Ambient temperature (operation)                | 0 ... +55 °C   |
| Dimensions W x H x D                           | (50.5 x 100 x 71.1) mm   |
| Approvals                                      | CE;  OrdLoc/HazLoc;  ATEX/IECEx  |

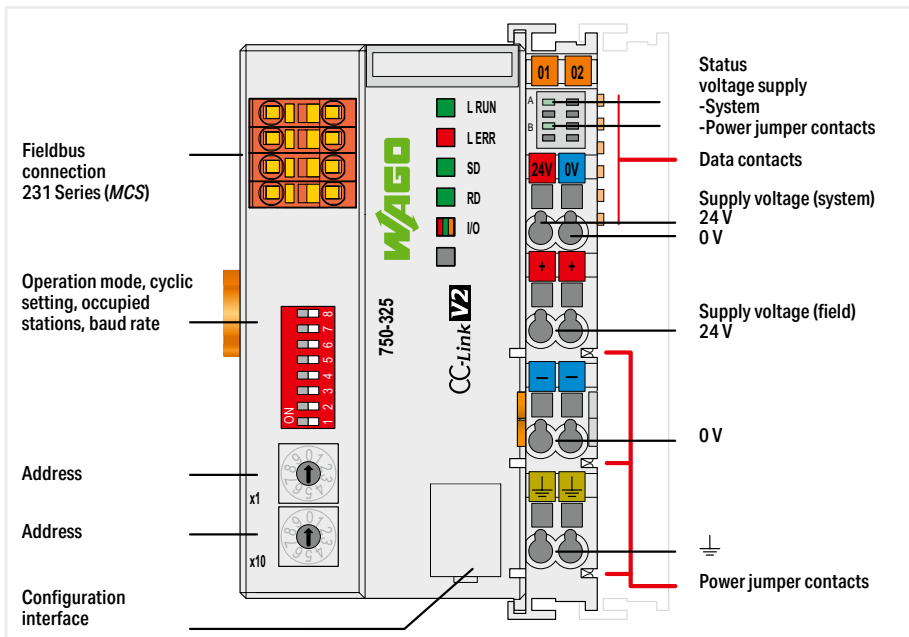
For data sheet and additional information, see:

wago.com/750-310

# Fieldbus couplers ▶ CC-Link; MCS



750-325



|            |            |
|------------|------------|
| Version    | Standard   |
| Item no.   | 750-325    |
| Order Text | FC CC-Link |

|   |  |
|---|--|
| Technical data                                |  |
| Communication                                 | CC-Link  |
| Connection technology: communication/fieldbus | CC-Link: 1 x Male connector; 4-pole  |
| Device-specific                               | Operating mode: CC-Link V2.0 (default setting)/V1.1; Advanced cycle setting: 1, 2, 4 (default setting), 8 cycles   |
| Number of fieldbus nodes on master (max.)     | 64   |
| Baud rate                                     | 156 kBd ... 10 MBd   |
| Transmission medium (communication/fieldbus)  | Shielded Cu cable 2 / 3 x 0.5 mm <sup>2</sup>  |
| Number of modules per node (max.)             | 64   |
| Station addresses                             | 1 ... 4 / 4 (default setting)  |
| Input process image (note)                    | RX (digital inputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and 16 bits per system area; RWr (analog inputs): V1.1: 4, 8, 12, 16 words (16 bits); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles)   |
| Output process image (note)                   | RY (digital outputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and 16 bits per system area; RWw (analog outputs): V1.1: 4, 8, 12, 16 words (16 bits); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles) |
| Supply voltage (system)                       | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts  |
| Input current (typ.) at nominal load (24 V)   | 600 mA   |
| Current consumption (5 V system supply)       | 200 mA   |
| Total current (system supply)                 | 1800 mA  |
| Ambient temperature (operation)               | 0 ... +55 °C   |
| Dimensions W x H x D                          | (61.5 x 100 x 71.9) mm   |
| Approvals                                     | CE, OrdLoc/HazLoc, ATEX/IECEx  |

For data sheet and additional information, see:

wago.com/750-325

# Digital Input Modules

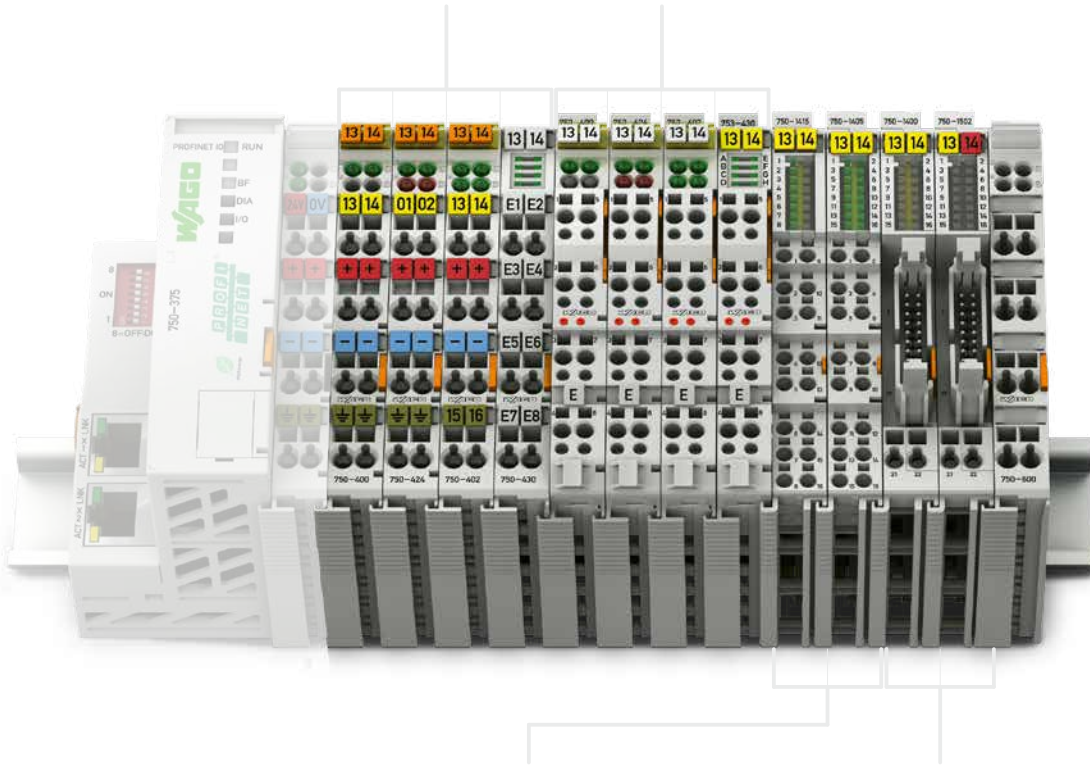


## Housing Design (750 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 60.6 mm                       |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                       |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 69 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 61.8 mm                     |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                     |
| Strip length                      | 9 ... 10 mm / 0.37 inch  |



## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN-rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (750 Series), with Ribbon Cable Connection

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 74.1 mm                           |
| Depth from upper edge of DIN-rail | 66.9 mm                                      |
| Connection technology             | 20-pole male connector + 2 x CAGE CLAMP®     |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch                       |



I/O System -  
750 XTR Series



## I/O System – 750 and 753 Series, Digital Input Modules

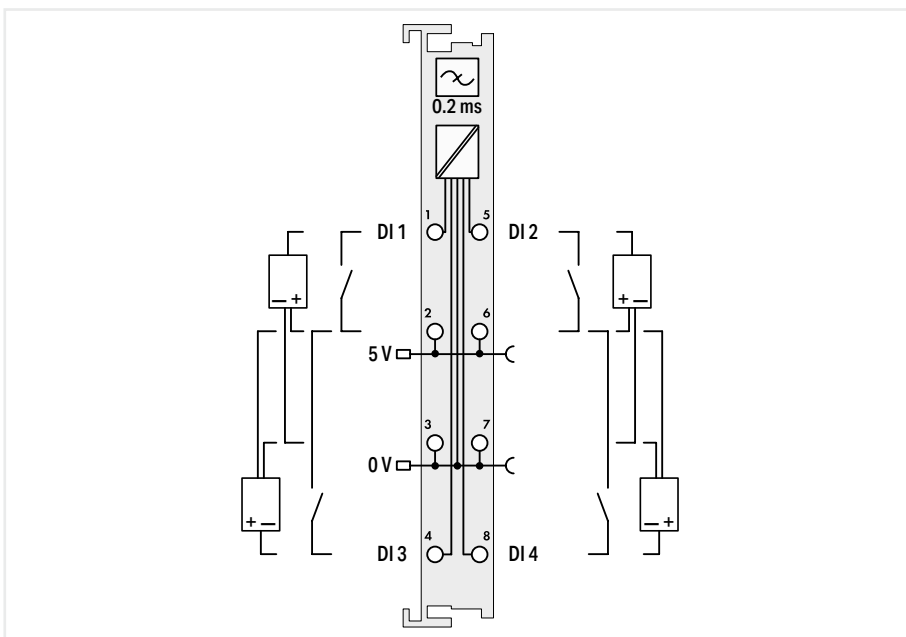
### Contents

| Function   | 2-Channel DI                | 4-Channel DI             | 8-Channel DI             | 16-Channel DI            | 8-Channel DIO   | Description  | Item Number   |                      |                 | Page    |     |
|--|-----------------------------|--------------------------|--------------------------|--------------------------|---|--|---|----------------------|-----------------|---------|-----|
|  |                             |                          |                          |                          |   |  | Standard  | Extended Temperature | Pluggable       |         |     |
| 5 VDC  | <input type="checkbox"/>    | <input type="checkbox"/> |                          |                          |   | 4-Channel Digital Input; 5 VDC; 0.2 ms   | 750-414   |                      |                 | 230     |     |
| 5/12 VDC   |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; 5/12 VDC; 0.2 ms                                      |   |                      | 753-434         | 231     |     |
| 24 VDC   | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 24 VDC; 3 ms; Acknowledgment; Diagnostics             | 750-418   |                      | 753-418         | 232     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 24 VDC; 3 ms; Diagnostics                             | 750-421   |                      | 753-421         | 232     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 24 VDC; 3 ms  | 750-400   | 750-400/025-000      | 753-400         | 233     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 3 ms  | 750-402   | 750-402/025-000      | 753-402         | 234     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 3 ms; 2-Wire Connection                       | 750-432   |                      | 753-432         | 235     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 3 ms; 3-Wire Connection                       | 750-1420  |                      |                 | 236     |     |
|  |                             |                          |                          | <input type="checkbox"/> |   |  | 8-Channel Digital Input; 24 VDC; 3 ms                       | 750-430*             | 750-430/025-000 | 753-430 | 237 |
|  |                             |                          |                          | <input type="checkbox"/> |   |  | 8-Channel Digital Input; 24 VDC; 3 ms; 2-Wire Connection    | 750-1415*            |                 |         | 238 |
|  |                             |                          |                          |                          | <input type="checkbox"/>                                  |  | 16-Channel Digital Input; 24 VDC; 3 ms                      | 750-1405*            |                 |         | 239 |
|  |                             |                          |                          |                          | <input type="checkbox"/>                                  |  | 16-Channel Digital Input; 24 VDC; 3 ms; Ribbon Cable        | 750-1400             |                 |         | 240 |
|  |                             |                          |                          |                          | <input type="checkbox"/>                                  |  | 8-Channel Digital Input/Output; 24 VDC; 0.5 A               | 750-1506             |                 |         | 241 |
|  |                             |                          |                          |                          | <input type="checkbox"/>                                  |  | 8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon Cable | 750-1502             |                 |         | 242 |
|  | 0.2 ms; High-Side Switching | <input type="checkbox"/> |                          |                          |   |  | 2-Channel Digital Input; 24 VDC; 0.2 ms                     | 750-401              |                 | 753-401 | 243 |
|  |                             | <input type="checkbox"/> |                          |                          |   |  | 4-Channel Digital Input; 24 VDC; 0.2 ms                     | 750-403              |                 | 753-403 | 244 |
|  |                             | <input type="checkbox"/> |                          |                          |   |  | 4-Channel Digital Input; 24 VDC; 0.2 ms; 2-Wire Connection  | 750-433              |                 | 753-433 | 245 |
|  |                             | <input type="checkbox"/> |                          |                          |   |  | 4-Channel Digital Input; 24 VDC; 0.2 ms; 3-Wire Connection  | 750-1421             |                 |         | 246 |
| <input type="checkbox"/>   |                             |                          |                          | <input type="checkbox"/> |   | 8-Channel Digital Input; 24 VDC; 0.2 ms  | 750-431*  |                      | 753-431         | 247     |     |
| <input type="checkbox"/>   |                             |                          |                          | <input type="checkbox"/> |   | 8-Channel Digital Input; 24 VDC; 0.2 ms; 2-Wire Connection                     | 750-1416*   |                      |                 | 248     |     |
| 3 ms; Low-Side Switching   |                             |                          |                          | <input type="checkbox"/> |   | 16-Channel Digital Input; 24 VDC; 0.2 ms                                       | 750-1406  |                      |                 | 249     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching                      | 750-408   | 750-408/025-000      | 753-408         | 250     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching; 3-Wire Connection   | 750-1422  |                      |                 | 251     |     |
|  |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching                      | 750-436   |                      | 753-436         | 252     |     |
|  |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching; 2-Wire Connection   | 750-1417*   |                      |                 | 253     |     |
| 0.2 ms; Low-Side Switching   |                             |                          |                          | <input type="checkbox"/> |   | 16-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching                     | 750-1407  |                      |                 | 254     |     |
|  |                             |                          |                          | <input type="checkbox"/> |   | 16-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching; Ribbon Cable       | 750-1402  |                      |                 | 255     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 0.2 ms; Low-Side Switching                    | 750-409   |                      | 753-409         | 256     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VDC; 0.2 ms; Low-Side Switching; 3-Wire Connection | 750-1423  |                      |                 | 257     |     |
|  |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; 24 VDC; 0.2 ms; Low-Side Switching                    | 750-437   |                      | 753-437         | 258     |     |
|  |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; 24 VDC; 0.2 ms; Low-Side Switching; 2-Wire Connection | 750-1418  |                      |                 | 259     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 24 VDC; 3 ms; Proximity Sensor                        | 750-410   |                      | 753-410         | 260     |     |
| <input type="checkbox"/>   |                             |                          |                          |                          | 2-Channel Digital Input; 24 VDC; 0.2 ms; Proximity Sensor | 750-411  |   | 753-411              | 261             |         |     |
| <input type="checkbox"/>   |                             |                          |                          |                          | 2-Channel Digital Input; NAMUR                            | 750-425  |   | 753-425              | 262             |         |     |
| <input type="checkbox"/>   |                             |                          |                          |                          | 2-Channel Digital Input; Intruder Detection               | 750-424  |   | 753-424              | 263             |         |     |
| <input type="checkbox"/>   |                             |                          |                          |                          | 4-Channel Digital Input; 24 VDC; Pulse Extension          | 750-422  |   | 753-422              | 264             |         |     |
| 24 VAC/DC  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VAC/DC; 50 ms                                      | 750-423   |                      | 753-423         | 265     |     |
|  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VAC/DC; 20 ms                                      | 750-415   |                      | 753-415         | 266     |     |
| 42 VAC/DC  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 24 VAC/DC; 20 ms                                      | 750-428   |                      | 753-428         | 267     |     |
| 48 VDC   | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 48 VDC; 3 ms  | 750-412   |                      | 753-412         | 268     |     |
| 60 VDC   | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 60 VDC; 3 ms  | *   |                      | 753-429         | 269     |     |
| 110 VDC  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 110 VDC; High-Side/Low-Side Switching                 | 750-427*  |                      | 753-427         | 270     |     |
| 220 VDC  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 220 VDC   | 750-407*  |                      |                 | 271     |     |
| 120 VAC  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 120 VAC   | 750-406   |                      | 753-406         | 272     |     |
| 230 VAC  | <input type="checkbox"/>    |                          |                          |                          |   | 2-Channel Digital Input; 230 VAC   | 750-405   |                      | 753-405         | 273     |     |
| 120/230 VAC  | <input type="checkbox"/>    |                          |                          |                          |   | 4-Channel Digital Input; 120/230 VAC   |   |                      | 753-440         | 274     |     |
| PTC  |                             |                          | <input type="checkbox"/> |                          |   | 8-Channel Digital Input; PTC   | 750-1425  |                      |                 | 275     |     |
| <b>Functional Safety</b>   |                             |                          |                          |                          |   |  | See Section 7.8   |                      |                 |         |     |
| <b>Ex i</b>  |                             |                          |                          |                          |   |  | See Section 7.9   |                      |                 |         |     |
| *This module is also available as a variant of the 750 XTR Series. |                             |                          |                          |                          |   |  | See Section 8   |                      |                 |         |     |

## Digital input ▶ 5 VDC ▶ high-side switching ▶ 0.2 ms



750-414



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 5 VDC; 0.2 ms |
| Version          | Standard                               |
| Item no.         | 750-414                                |
| Order Text       | 4DI; 5 VDC; 0.2ms                      |

## Technical data

|   |   |
|---|---|
| Pluggable connector                             | fixed   |
| Number of digital inputs                        | 4   |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 5 VDC   |
| Voltage range for signal (0)                    | 0 ... 0.8 VDC   |
| Voltage range for signal (1)                    | 2.4 ... 5 VDC   |
| Sensor connection                               | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |
| Input characteristic                            | high-side switching   |
| Input filter (digital)                          | 0.2 ms  |
| Input current per channel for signal (1) typ.   | 0.05 mA   |
| Supply voltage (sensor)                         | 5 VDC   |
| Supply voltage (field)                          | 5 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)                        |
| Current consumption (5 V system supply)         | 5 mA  |
| Input data width (internal) max.                | 4 bits  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE, UL, OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/750-414  |

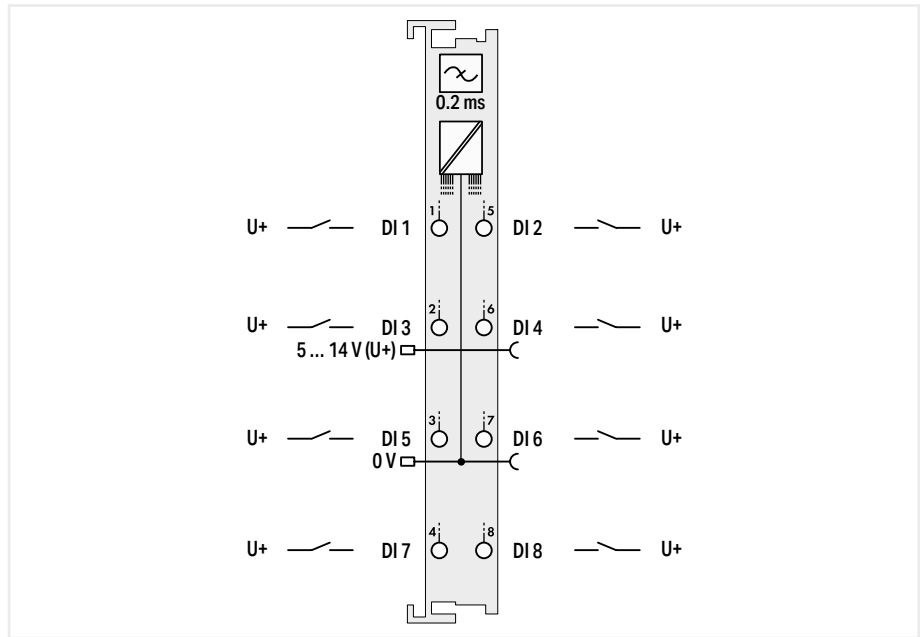
Notice: An additional supply module must be added for 5 VDC supply!



Digital input ▶ 5 VDC ▶ high-side switching ▶ 0.2 ms



753-434



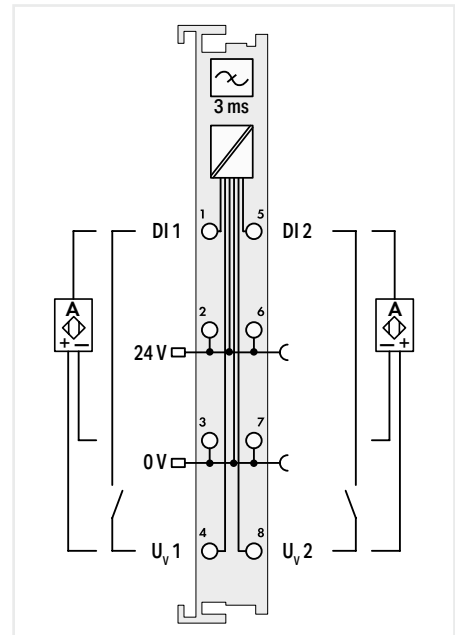
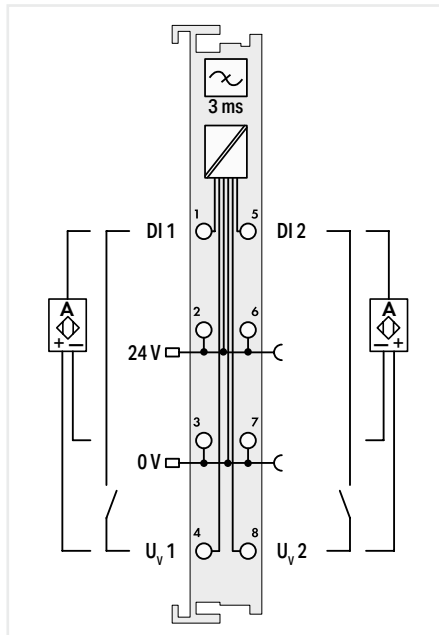
|   |  |
|---|--|
| Item description                                | 8-Channel Digital Input; 5/12 VDC; 0.2 ms                                    |
| Version   | pluggable (delivery without connector)                                       |
| Item no.  | 753-434  |
| Order Text                                      | 8DI; 5/12 VDC; 0.2ms   |
| Technical data                                  |  |
| Pluggable connector                             | pluggable  |
| Number of digital inputs                        | 8  |
| Signal type                                     | Digital  |
| Signal type (voltage)                           | 5 VDC; 12 VDC  |
| Voltage range for signal (0)                    | -3 ... 0.2 x U <sub>v</sub> DC   |
| Voltage range for signal (1)                    | 0.5 x U <sub>v</sub> ... 1.1 x U <sub>v</sub> DC                             |
| Sensor connection                               | 8 x (1-wire)   |
| Input characteristic                            | high-side switching  |
| Input filter (digital)                          | 0.2 ms   |
| Input current at specific input voltage         | 0.06 mA at 12 V  |
| Supply voltage (field)                          | 14 VDC; via power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 4 mA   |
| Input data width (internal) max.                | 8 bits   |
| Isolation                                       | 500 V system/field   |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (12 x 100 x 69) mm   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/753-434   |
| Accessories                                     |  |
| Plug  | 753-110  |

Notice: An additional supply module must be added for 5–14 VDC supply!

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-418



|                  |
|------------------|
| Diagnostics      |
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| Short circuit, active acknowledgment after error rectified         |  |
| 2-Channel Digital Input; 24 VDC; 3 ms; Acknowledgment; Diagnostics |  |
| Standard   | pluggable (delivery without connector) |
| 750-418  | 753-418                                |
| 2DI; 24 VDC; 3ms; Acknol; Diagn                                    | 2DI; 24 VDC; 3ms; Acknol; Diagn        |

|   |  |
|---|--|
| Short circuit, automatic acknowledgment after error rectified |  |
| 2-Channel Digital Input; 24 VDC; 3 ms; Diagnostics            |  |
| Standard  | pluggable (delivery without connector) |
| 750-421   | 753-421                                |
| 2DI; 24 VDC; 3ms; Diagn                                       | 2DI; 24 VDC; 3ms; Diagn                |

### 7.2

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Number of digital inputs                        |
| Signal type                                     |
| Signal type (voltage)                           |
| Voltage range for signal (0)                    |
| Voltage range for signal (1)                    |
| Sensor connection                               |
| Input characteristic                            |
| Input filter (digital)                          |
| Input current per channel for signal (1) typ.   |
| Output current per channel                      |
| Diagnostics                                     |
| Supply voltage (sensor)                         |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Input data width (internal) max.                |
| Output data width (internal) max.               |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |
| Accessories                                     |
| Plug  |

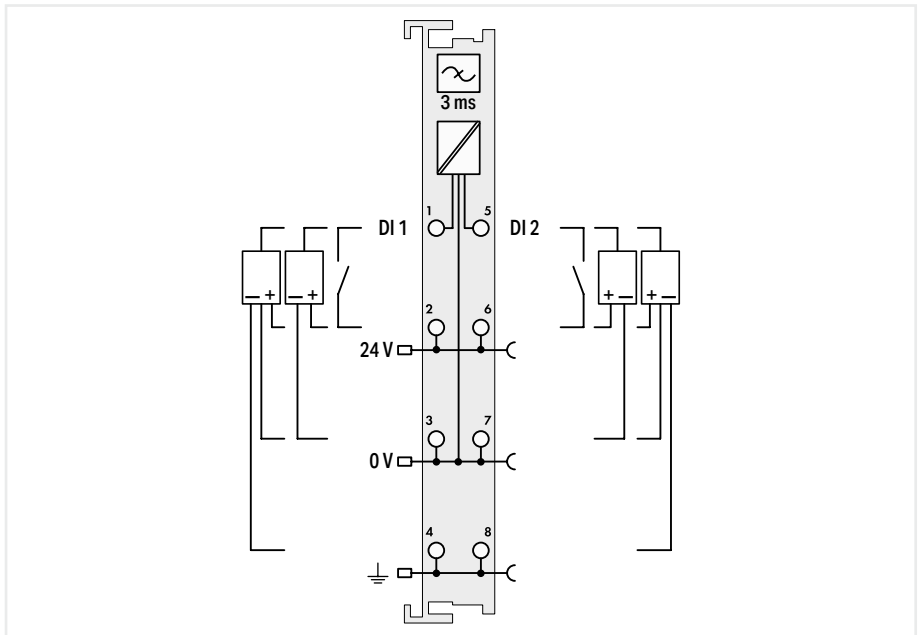
|  |   |                      |
|--|---|----------------------|
|  | fixed   | pluggable            |
|  |   | 2                    |
|  |   | Digital              |
|  |   | 24 VDC               |
|  |   | -3 ... +5 VDC        |
|  |   | 15 ... 30 VDC        |
|  |   | 2 x (2-wire, 3-wire) |
|  |   | high-side switching  |
|  |   | 3 ms                 |
|  |   | 3.7 mA               |
|  |   | 0.5 A                |
|  | Short circuit, active acknowledgment after error rectified  |                      |
|  | 24 VDC; Each channel is supplied separately with a short-circuit-protected voltage. A short circuit to ground is indicated as an error/fieldbus failure and a message is sent to the supervisory control. The error is canceled via the controller after it has been rectified (active acknowledgment by a user). |                      |
|  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)   |                      |
|  |   | 12 mA                |
|  |   | 4 bits               |
|  |   | 4 bits               |
|  |   | 500 V system/field   |
|  |   | 0 ... +55 °C         |
|  |   | (12 x 100 x 69.8) mm |
|  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |                      |
|  | wago.com/750-418  | wago.com/753-418     |
|  | Item no.  | Item no.             |
|  | -   | 753-110              |

|  |  |                      |
|--|--|----------------------|
|  | fixed  | pluggable            |
|  |  | 2                    |
|  |  | Digital              |
|  |  | 24 VDC               |
|  |  | -3 ... +5 VDC        |
|  |  | 15 ... 30 VDC        |
|  |  | 2 x (2-wire, 3-wire) |
|  |  | high-side switching  |
|  |  | 3 ms                 |
|  |  | 3.7 mA               |
|  |  | 0.5 A                |
|  | Short circuit, automatic acknowledgment after error rectified  |                      |
|  | 24 VDC; Each channel is supplied separately with a short-circuit-protected voltage. A short circuit to ground is indicated as an error/fieldbus failure and a message is sent to the supervisory control. The error is canceled automatically after it has been rectified. |                      |
|  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)  |                      |
|  |  | 12 mA                |
|  |  | 4 bits               |
|  |  | -                    |
|  |  | 500 V system/field   |
|  |  | 0 ... +55 °C         |
|  |  | (12 x 100 x 69.8) mm |
|  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |                      |
|  | wago.com/750-421   | wago.com/753-421     |
|  | Item no.   | Item no.             |
|  | -  | 753-110              |

Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-400



|                  |                                       |                     |  |
|------------------|---------------------------------------|---------------------|--|
| Item description | 2-Channel Digital Input; 24 VDC; 3 ms |                     |  |
| Version          | Standard                              | ext. temperature    | pluggable (delivery without connector) |
| Item no.         | 750-400                               | 750-400/025-000     | 753-400                                |
| Order Text       | 2DI; 24 VDC; 3ms                      | 2DI; 24 VDC; 3ms; T | 2DI; 24 VDC; 3ms                       |

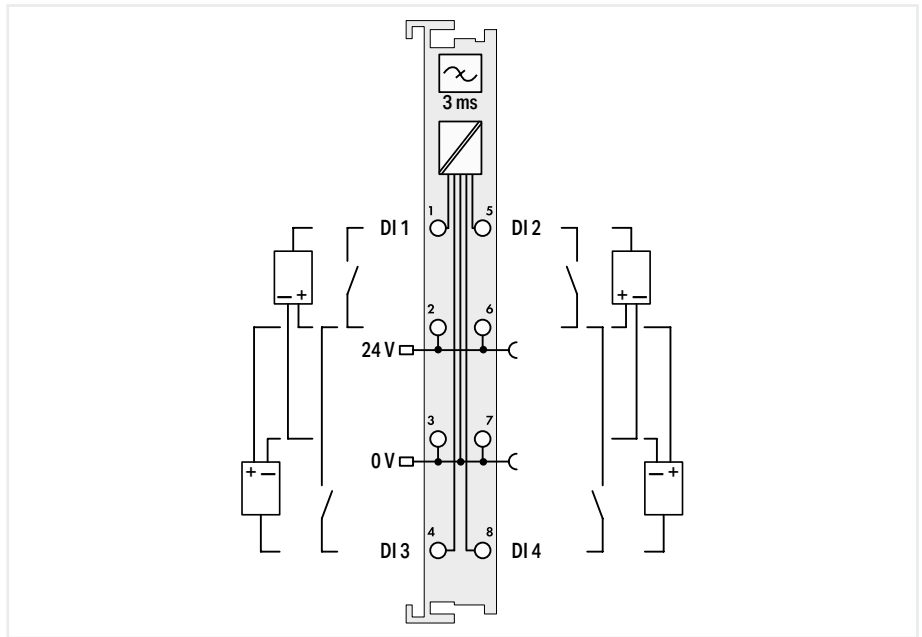
| Technical data                                  | fixed   |                | pluggable        |
|---|---|----------------|------------------|
|   | Pluggable connector   |                |                  |
| Number of digital inputs                        | 2   |                |                  |
| Signal type                                     | Digital   |                |                  |
| Signal type (voltage)                           | 24 VDC  |                |                  |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |                |                  |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |                |                  |
| Sensor connection                               | 2 x (2-wire, 3-wire, 4-wire)  |                |                  |
| Input characteristic                            | high-side switching   |                |                  |
| Input filter (digital)                          | 3 ms  |                |                  |
| Input current per channel for signal (1) typ.   | 4.5 mA  |                |                  |
| Supply voltage (sensor)                         | 24 VDC  |                |                  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                |                  |
| Current consumption (5 V system supply)         | 3.7 mA  |                |                  |
| Input data width (internal) max.                | 2 bits  |                |                  |
| Isolation                                       | 500 V system/field  |                |                  |
| Ambient temperature (operation)                 | 0 ... +55 °C  | -20 ... +60 °C | 0 ... +55 °C     |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |                |                  |
| Approvals                                       | CE,  Marine,  OrdLoc/HazLoc,  ATEX/IECEx  |                |                  |
| For data sheet and additional information, see: | wago.com/750-400  |                | wago.com/753-400 |
| Accessories                                     | Item no.  | Item no.       | Item no.         |
| Plug  | -   | -              | 753-110          |

7.2 Digital Input Modules

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-402



|                  |  |                     |  |
|------------------|--|---------------------|--|
| Item description | <b>4-Channel Digital Input; 24 VDC; 3 ms</b> |                     |  |
| Version          | Standard                                     | ext. temperature    | pluggable (delivery without connector) |
| Item no.         | 750-402                                      | 750-402/025-000     | 753-402                                |
| Order Text       | 4DI; 24 VDC; 3ms                             | 4DI; 24 VDC; 3ms; T | 4DI; 24 VDC; 3ms                       |

Technical data

|   |   |                |
|---|---|----------------|
| Pluggable connector                           | fixed   | pluggable      |
| Number of digital inputs                      | 4   |                |
| Signal type                                   | Digital   |                |
| Signal type (voltage)                         | 24 VDC  |                |
| Voltage range for signal (0)                  | -3 ... +5 VDC   |                |
| Voltage range for signal (1)                  | 15 ... 30 VDC   |                |
| Sensor connection                             | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |                |
| Input characteristic                          | high-side switching   |                |
| Input filter (digital)                        | 3 ms  |                |
| Input current per channel for signal (1) typ. | 4.5 mA  |                |
| Supply voltage (sensor)                       | 24 VDC  |                |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)       |                |
| Current consumption (5 V system supply)       | 7.5 mA  |                |
| Input data width (internal) max.              | 4 bits  |                |
| Isolation                                     | 500 V system/field  |                |
| Ambient temperature (operation)               | 0 ... +55 °C  | -20 ... +60 °C |
| Dimensions W x H x D                          | (12 x 100 x 69.8) mm  |                |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |                |

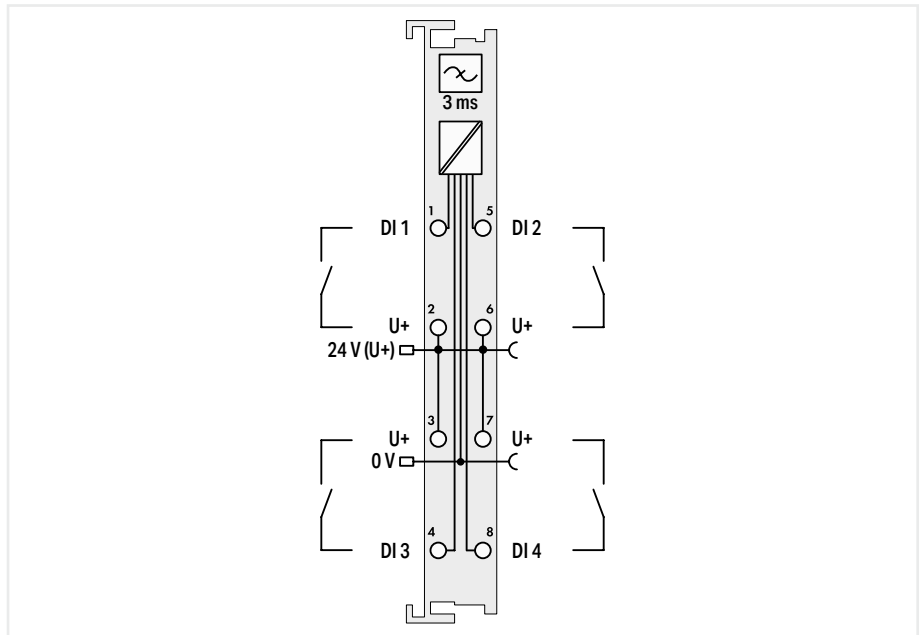
|   |                  |                  |
|---|------------------|------------------|
| For data sheet and additional information, see: | wago.com/750-402 | wago.com/753-402 |
| Accessories                                     | Item no.         | Item no.         |
| Plug  | -                | 753-110          |

7.2

Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-432



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |  |
|---|--|
| <b>4-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection</b> |  |
| Standard  | pluggable (delivery without connector) |
| 750-432   | 753-432                                |
| 4DI; 24 VDC; 3ms; 2-wire  | 4DI; 24 VDC; 3ms; 2-wire               |

|   |  |
|---|--|
| Technical data                                  |  |
| Pluggable connector                             |  |
| Number of digital inputs                        |  |
| Signal type                                     |  |
| Signal type (voltage)                           |  |
| Voltage range for signal (0)                    |  |
| Voltage range for signal (1)                    |  |
| Sensor connection                               |  |
| Input characteristic                            |  |
| Input filter (digital)                          |  |
| Input current per channel for signal (1) typ.   |  |
| Supply voltage (sensor)                         |  |
| Supply voltage (field)                          |  |
| Current consumption (5 V system supply)         |  |
| Input data width (internal) max.                |  |
| Isolation                                       |  |
| Ambient temperature (operation)                 |  |
| Dimensions W x H x D                            |  |
| Approvals                                       |  |
| For data sheet and additional information, see: |  |
| <b>Accessories</b>                              |  |

|                 |                  |   |
|-----------------|------------------|---|
|                 | fixed            | pluggable   |
|                 |                  | 4   |
|                 |                  | Digital   |
|                 |                  | 24 VDC  |
|                 |                  | -3 ... +5 VDC   |
|                 |                  | 15 ... 30 VDC   |
|                 |                  | 4 x (2-wire)  |
|                 |                  | high-side switching   |
|                 |                  | 3 ms  |
|                 |                  | 4.5 mA  |
|                 |                  | 24 VDC  |
|                 |                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
|                 |                  | 5.5 mA  |
|                 |                  | 4 bits  |
|                 |                  | 500 V system/field  |
|                 |                  | 0 ... +55 °C  |
|                 |                  | (12 x 100 x 69.8) mm  |
|                 |                  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
|                 | wago.com/750-432 | wago.com/753-432  |
| <b>Item no.</b> |                  | <b>Item no.</b>   |

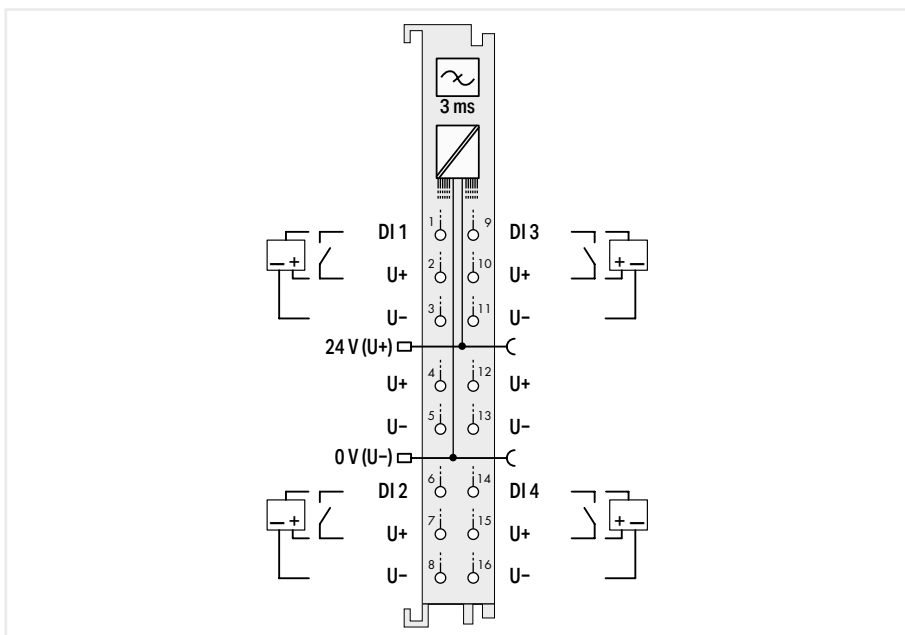
|      |
|------|
| Plug |
|------|

|   |         |
|---|---------|
| - | 753-110 |
|---|---------|

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1420



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 24 VDC; 3 ms; 3-wire connection |
| Version          | Standard with 16 connectors                              |
| Item no.         | 750-1420   |
| Order Text       | 4DI; 24 VDC; 3ms; 3-wire                                 |

## Technical data

|  |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 11 ... 30 VDC   |
| Input characteristic   | Type 3  |
| Sensor connection  | 4 x (3-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Input current per channel for signal (1) typ.                    | 4.5 mA  |
| Input current per channel for signal (0) typ.                    | 1.6 mA  |
| Current consumption, field supply (module with no external load) | 2 mA  |
| Supply voltage (sensor)  | 24 VDC  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                          | 4 mA  |
| Input data width (internal) max.                                 | 4 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |

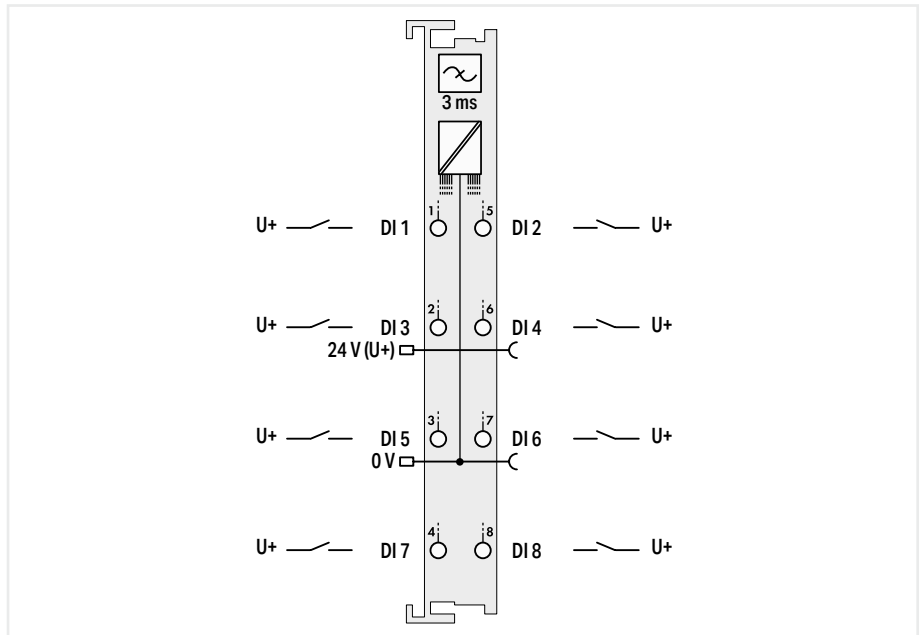
For data sheet and additional information, see:

wago.com/750-1420

Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-430



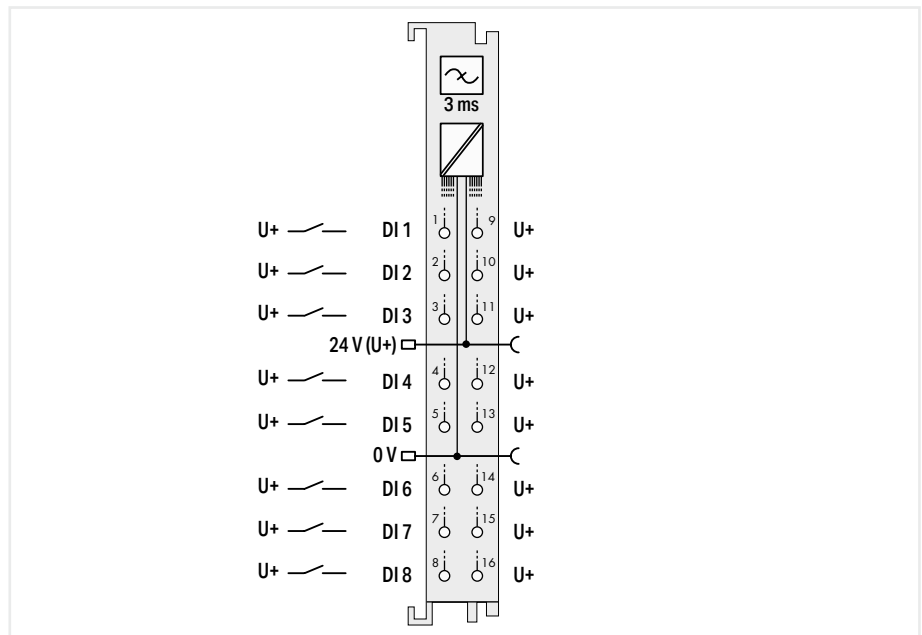
|                  |                                       |                     |  |
|------------------|---------------------------------------|---------------------|--|
| Item description | 8-Channel Digital Input; 24 VDC; 3 ms |                     |  |
| Version          | Standard                              | ext. temperature    | pluggable (delivery without connector) |
| Item no.         | 750-430                               | 750-430/025-000     | 753-430                                |
| Order Text       | 8DI; 24 VDC; 3ms                      | 8DI; 24 VDC; 3ms; T | 8DI; 24 VDC; 3ms                       |

|   |   |                |                    |
|---|---|----------------|--------------------|
| Technical data                                  |   |                |                    |
| Pluggable connector                             | fixed   |                | pluggable          |
| Number of digital inputs                        | 8   |                |                    |
| Signal type                                     | Digital   |                |                    |
| Signal type (voltage)                           | 24 VDC  |                |                    |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |                |                    |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |                |                    |
| Sensor connection                               | 8 x (1-wire)  |                |                    |
| Input characteristic                            | high-side switching   |                |                    |
| Input filter (digital)                          | 3 ms  |                |                    |
| Input current per channel for signal (1) typ.   | 2.8 mA  |                |                    |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                |                    |
| Current consumption (5 V system supply)         | 17 mA   |                |                    |
| Input data width (internal) max.                | 8 bits  |                |                    |
| Isolation                                       | 500 V system/field  |                |                    |
| Ambient temperature (operation)                 | 0 ... +55 °C  | -20 ... +60 °C | 0 ... +55 °C       |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |                | (12 x 100 x 69) mm |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |                |                    |
| For data sheet and additional information, see: | wago.com/750-430  |                | wago.com/753-430   |
| Accessories                                     | Item no.  | Item no.       | Item no.           |
| Plug  | -   | -              | 753-110            |

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1415



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection |
| Version          | Standard with 16 connectors                              |
| Item no.         | 750-1415   |
| Order Text       | 8DI; 24 VDC; 3ms; 2-wire                                 |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 11 ... 30 VDC   |
| Input characteristic   | Type 3  |
| Sensor connection  | 8 x (2-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Input current per channel for signal (1) typ.                    | 4.5 mA  |
| Input current per channel for signal (0) typ.                    | 1.6 mA  |
| Current consumption, field supply (module with no external load) | 2 mA  |
| Supply voltage (sensor)  | 24 VDC  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                          | 6 mA  |
| Input data width (internal) max.                                 | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

For data sheet and additional information, see:

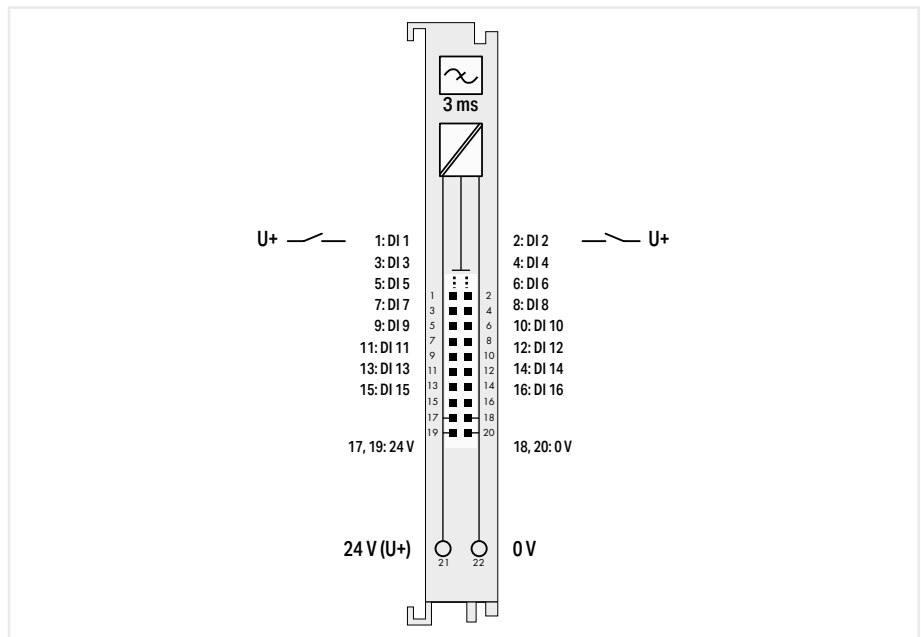
[wago.com/750-1415](http://wago.com/750-1415)



## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1400



|                  |  |
|------------------|--|
| Item description | 16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable |
| Version          | Standard with ribbon cable connector                 |
| Item no.         | 750-1400   |
| Order Text       | 16DI; 24 VDC; 3ms; Ribbon Cable                      |

| Technical data                                |  |
|---|--|
| Pluggable connector                           | fixed  |
| Number of digital inputs                      | 16   |
| Signal type                                   | Digital  |
| Signal type (voltage)                         | 24 VDC   |
| Voltage range for signal (0)                  | -3 ... +5 VDC  |
| Voltage range for signal (1)                  | 15 ... 30 VDC  |
| Sensor connection                             | 16 x (1-wire)  |
| Input characteristic                          | high-side switching  |
| Input filter (digital)                        | 3 ms   |
| Input current per channel for signal (1) typ. | 2.3 mA   |
| Input current per channel for signal (0) typ. | 0.6 mA   |
| Supply voltage (sensor)                       | 24 VDC   |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption (5 V system supply)       | 25 mA  |
| Input data width (internal) max.              | 16 bits  |
| Isolation                                     | 500 V system/field   |
| Ambient temperature (operation)               | 0 ... +55 °C   |
| Dimensions W x H x D                          | (12 x 100 x 74.1) mm   |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                                 |

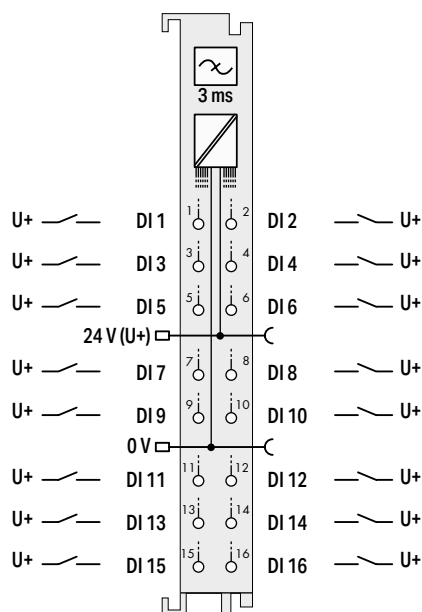
For data sheet and additional information, see:

wago.com/750-1400

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1405

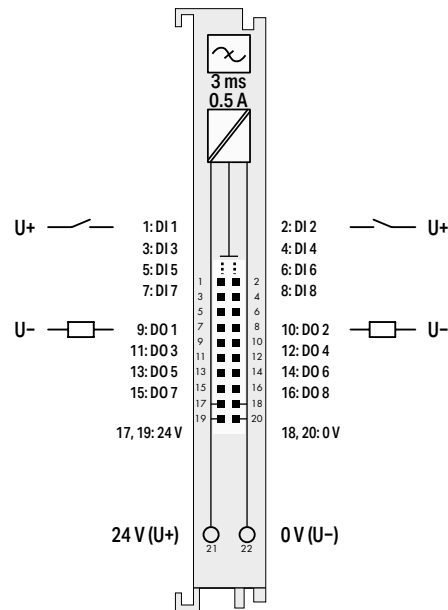


|   |   |
|---|---|
| Item description                                | 16-Channel Digital Input; 24 VDC; 3 ms  |
| Version   | Standard with 16 connectors   |
| Item no.  | 750-1405  |
| Order Text                                      | 16DI; 24 VDC; 3ms   |
| Technical data                                  |   |
| Pluggable connector                             | fixed   |
| Number of digital inputs                        | 16  |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 24 VDC  |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |
| Sensor connection                               | 16 x (1-wire)   |
| Input characteristic                            | high-side switching   |
| Input filter (digital)                          | 3 ms  |
| Input current per channel for signal (1) typ.   | 2.3 mA  |
| Input current per channel for signal (0) typ.   | 0.6 mA  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 25 mA   |
| Input data width (internal) max.                | 16 bits   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-1405   |

## Digital input; Digital output ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1502



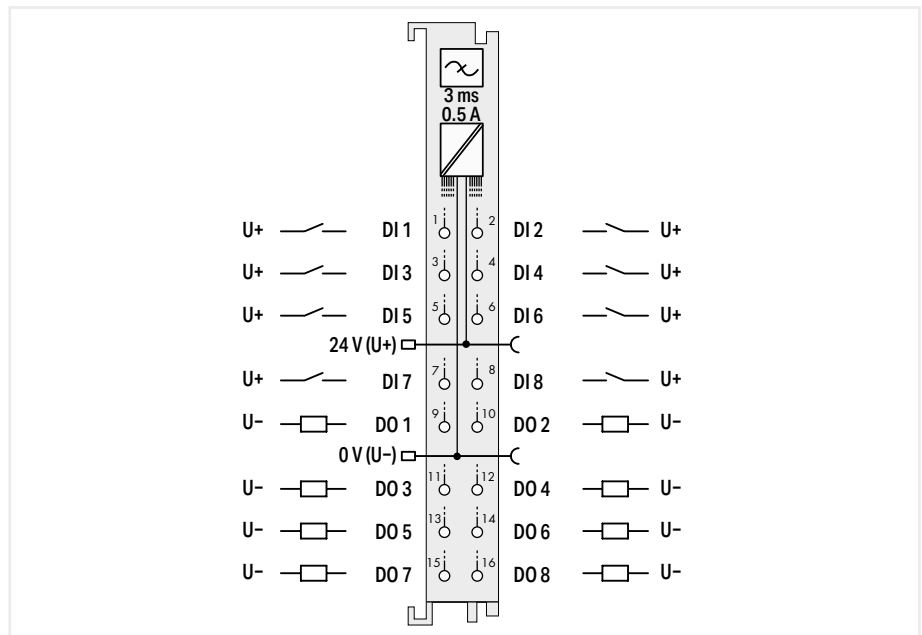
|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable |
| Version          | Standard with ribbon cable connector                        |
| Item no.         | 750-1502  |
| Order Text       | 8DIO; 24 VDC; 0.5A; Ribbon Cable                            |

| Technical data   |  |
|--|--|
| Pluggable connector  | fixed  |
| Number of digital inputs   | 8  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC  |
| Voltage range for signal (1)                                     | 15 ... 30 VDC  |
| Sensor connection  | 8 x (1-wire)   |
| Input characteristic   | high-side switching  |
| Input filter (digital)   | 3 ms   |
| Input current per channel for signal (1) typ.                    | 2.4 mA   |
| Number of digital outputs  | 8  |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Output current per channel                                       | 0.5 A  |
| Output current   | short-circuit-protected  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 8 x (1-wire)   |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption, field supply (module with no external load) | 16 mA  |
| Current consumption (5 V system supply)                          | 30 mA  |
| Input data width (internal) max.                                 | 8 bits   |
| Output data width (internal) max.                                | 8 bits   |
| Isolation  | 500 V system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 74.1) mm   |
| Approvals  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEx                                 |
| For data sheet and additional information, see:                  | wago.com/750-1502  |

## Digital input; Digital output ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1506



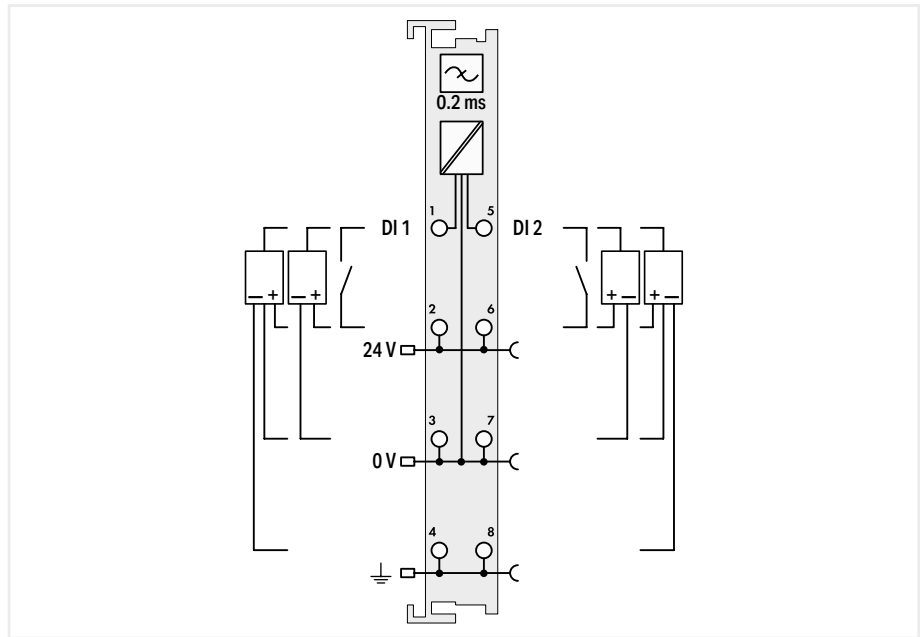
|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; 24 VDC; 0.5 A |
| Version          | Standard with 16 connectors                   |
| Item no.         | 750-1506                                      |
| Order Text       | 8DIO; 24 VDC; 0.5A                            |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 8   |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 15 ... 30 VDC   |
| Sensor connection  | 8 x (1-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Input current per channel for signal (1) typ.                    | 2.4 mA  |
| Number of digital outputs  | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 8 x (1-wire)  |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 16 mA   |
| Current consumption (5 V system supply)                          | 30 mA   |
| Input data width (internal) max.                                 | 8 bits  |
| Output data width (internal) max.                                | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see:                  | wago.com/750-1506   |

Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-401



|                  |   |  |
|------------------|---|--|
| Item description | 2-Channel Digital Input; 24 VDC; 0.2 ms |  |
| Version          | Standard                                | pluggable (delivery without connector) |
| Item no.         | 750-401                                 | 753-401                                |
| Order Text       | 2DI; 24 VDC; 0.2ms                      | 2DI; 24 VDC; 0.2ms                     |

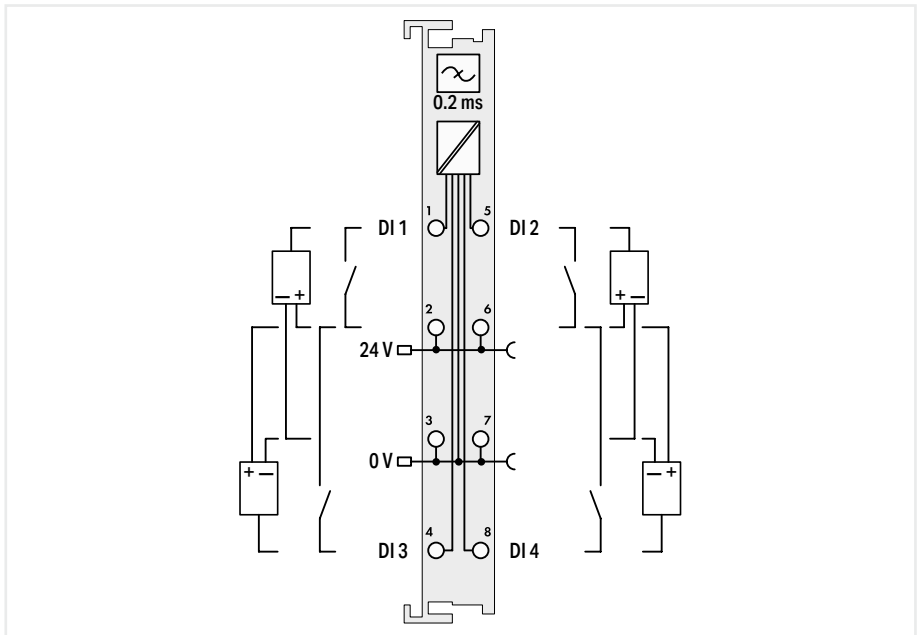
| Technical data                                  | fixed   | pluggable                    |
|---|---|------------------------------|
| Pluggable connector                             |   |                              |
| Number of digital inputs                        |   | 2                            |
| Signal type                                     |   | Digital                      |
| Signal type (voltage)                           |   | 24 VDC                       |
| Voltage range for signal (0)                    |   | -3 ... +5 VDC                |
| Voltage range for signal (1)                    |   | 15 ... 30 VDC                |
| Sensor connection                               |   | 2 x (2-wire, 3-wire, 4-wire) |
| Input characteristic                            |   | high-side switching          |
| Input filter (digital)                          |   | 0.2 ms                       |
| Input current per channel for signal (1) typ.   |   | 4.5 mA                       |
| Supply voltage (sensor)                         |   | 24 VDC                       |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                              |
| Current consumption (5 V system supply)         |   | 3.7 mA                       |
| Input data width (internal) max.                |   | 2 bits                       |
| Isolation                                       |   | 500 V system/field           |
| Ambient temperature (operation)                 |   | 0 ... +55 °C                 |
| Dimensions W x H x D                            |   | (12 x 100 x 69.8) mm         |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                              |
| For data sheet and additional information, see: | wago.com/750-401  | wago.com/753-401             |
| Accessories                                     | Item no.  | Item no.                     |
| Plug  | -   | 753-110                      |

7.2  
Digital Input  
Modules

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-403



|                  |  |  |
|------------------|--|--|
| Item description | <b>4-Channel Digital Input; 24 VDC; 0.2 ms</b> |  |
| Version          | Standard                                       | pluggable (delivery without connector) |
| Item no.         | 750-403  | 753-403                                |
| Order Text       | 4DI; 24 VDC; 0.2ms                             | 4DI; 24 VDC; 0.2ms                     |

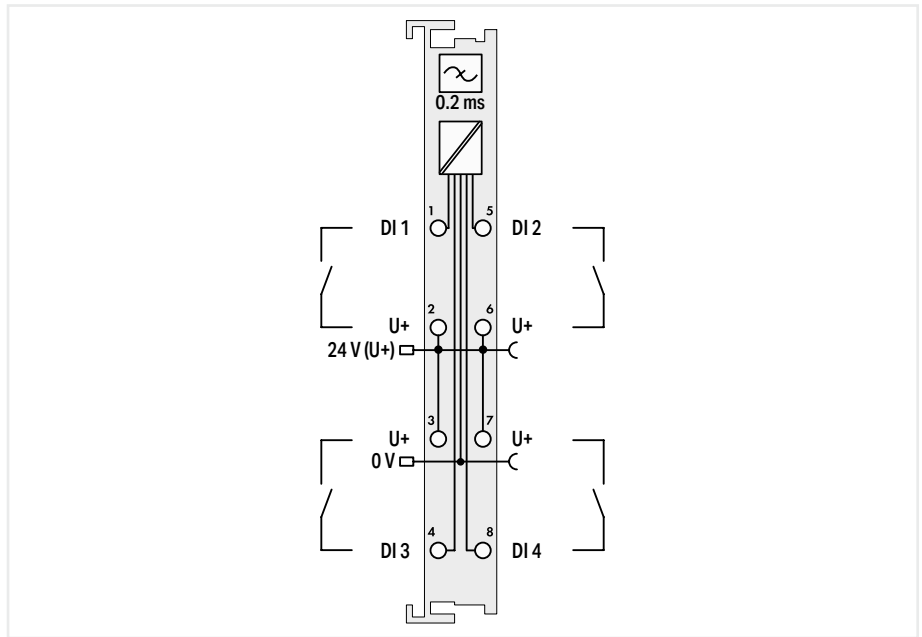
| Technical data                                  |   |                  |
|---|---|------------------|
|   | fixed   | pluggable        |
| Pluggable connector                             |   |                  |
| Number of digital inputs                        |   | 4                |
| Signal type                                     |   | Digital          |
| Signal type (voltage)                           |   | 24 VDC           |
| Voltage range for signal (0)                    |   | -3 ... +5 VDC    |
| Voltage range for signal (1)                    |   | 15 ... 30 VDC    |
| Sensor connection                               | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |                  |
| Input characteristic                            | high-side switching   |                  |
| Input filter (digital)                          | 0.2 ms  |                  |
| Input current per channel for signal (1) typ.   | 4.5 mA  |                  |
| Supply voltage (sensor)                         | 24 VDC  |                  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)       |                  |
| Current consumption (5 V system supply)         | 7.5 mA  |                  |
| Input data width (internal) max.                | 4 bits  |                  |
| Isolation                                       | 500 V system/field  |                  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |                  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |                  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                  |
| For data sheet and additional information, see: | wago.com/750-403  | wago.com/753-403 |
| <b>Accessories</b>                              | <b>Item no.</b>   | <b>Item no.</b>  |
| Plug  | -   | 753-110          |

7.2

Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-433



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| 4-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection |  |
| Standard   | pluggable (delivery without connector) |
| 750-433  | 753-433                                |
| 4DI; 24 VDC; 0.2ms; 2-wire                                 | 4DI; 24 VDC; 0.2ms; 2-wire             |

|   |  |
|---|--|
| Technical data                                  |  |
| Pluggable connector                             |  |
| Number of digital inputs                        |  |
| Signal type                                     |  |
| Signal type (voltage)                           |  |
| Voltage range for signal (0)                    |  |
| Voltage range for signal (1)                    |  |
| Sensor connection                               |  |
| Input characteristic                            |  |
| Input filter (digital)                          |  |
| Input current per channel for signal (1) typ.   |  |
| Supply voltage (sensor)                         |  |
| Supply voltage (field)                          |  |
| Current consumption (5 V system supply)         |  |
| Input data width (internal) max.                |  |
| Isolation                                       |  |
| Ambient temperature (operation)                 |  |
| Dimensions W x H x D                            |  |
| Approvals                                       |  |
| For data sheet and additional information, see: |  |
| Accessories                                     |  |

|          |                  |   |
|----------|------------------|---|
|          | fixed            | pluggable   |
|          |                  | 4   |
|          |                  | Digital   |
|          |                  | 24 VDC  |
|          |                  | -3 ... +5 VDC   |
|          |                  | 15 ... 30 VDC   |
|          |                  | 4 x (2-wire)  |
|          |                  | high-side switching   |
|          |                  | 0.2 ms  |
|          |                  | 4.5 mA  |
|          |                  | 24 VDC  |
|          |                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
|          |                  | 5.5 mA  |
|          |                  | 4 bits  |
|          |                  | 500 V system/field  |
|          |                  | 0 ... +55 °C  |
|          |                  | (12 x 100 x 69.8) mm  |
|          |                  | CE;   Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
|          | wago.com/750-433 | wago.com/753-433  |
| Item no. |                  | Item no.  |

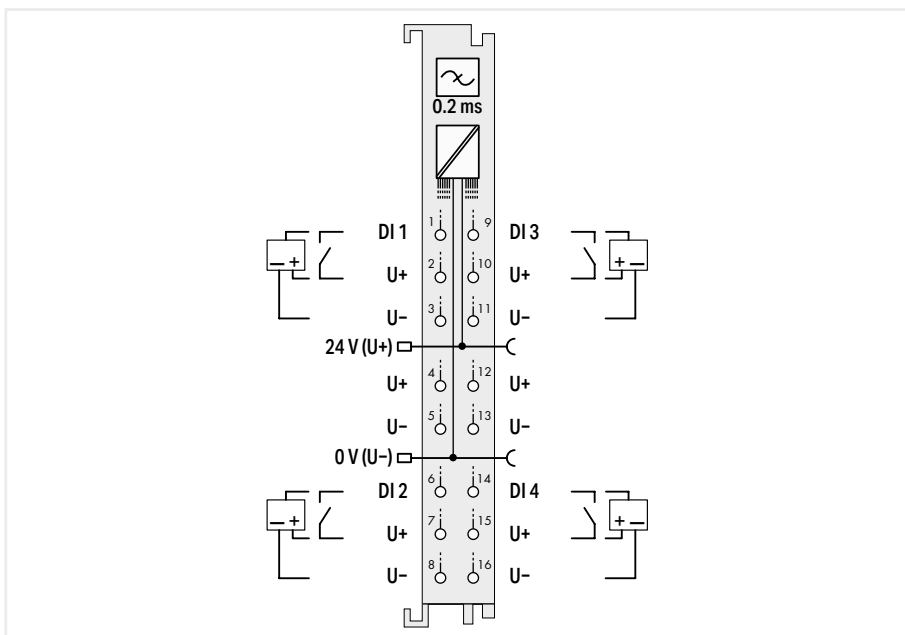
|      |
|------|
| Plug |
|------|

|  |   |         |
|--|---|---------|
|  | - | 753-110 |
|--|---|---------|

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-1421



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 24 VDC; 0.2 ms; 3-wire connection |
| Version          | Standard with 16 connectors                                |
| Item no.         | 750-1421   |
| Order Text       | 4DI; 24 VDC; 0.2ms; 3-wire                                 |

## Technical data

|  |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 11 ... 30 VDC   |
| Input characteristic   | Type 3  |
| Sensor connection  | 4 x (3-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 0.2 ms  |
| Input current per channel for signal (1) typ.                    | 4.5 mA  |
| Input current per channel for signal (0) typ.                    | 1.6 mA  |
| Current consumption, field supply (module with no external load) | 2 mA  |
| Supply voltage (sensor)  | 24 VDC  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                          | 4 mA  |
| Input data width (internal) max.                                 | 4 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

For data sheet and additional information, see:

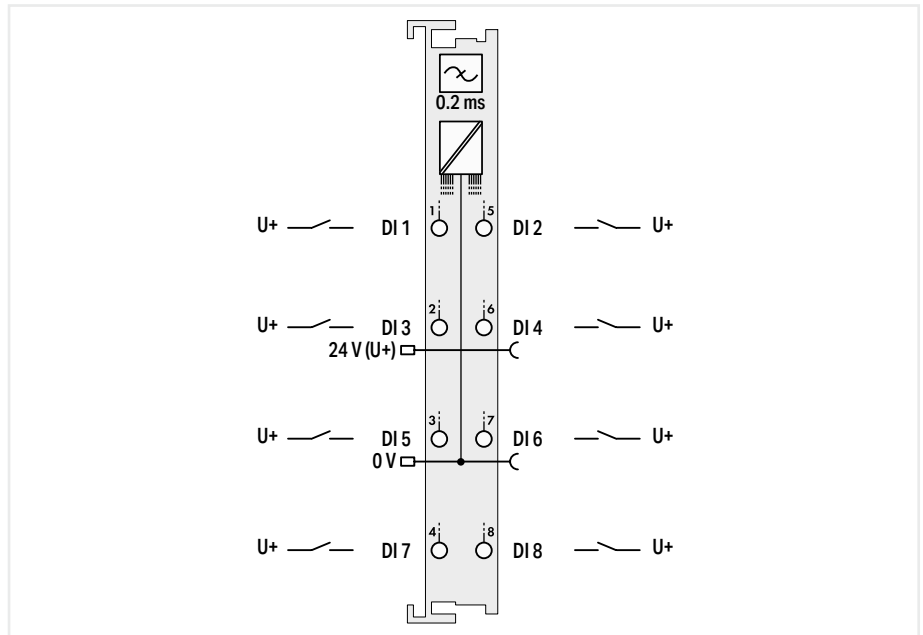
wago.com/750-1421



Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-431



|                  |   |  |
|------------------|---|--|
| Item description | 8-Channel Digital Input; 24 VDC; 0.2 ms |  |
| Version          | Standard                                | pluggable (delivery without connector) |
| Item no.         | 750-431                                 | 753-431                                |
| Order Text       | 8DI; 24 VDC; 0.2ms                      | 8DI; 24 VDC; 0.2ms                     |

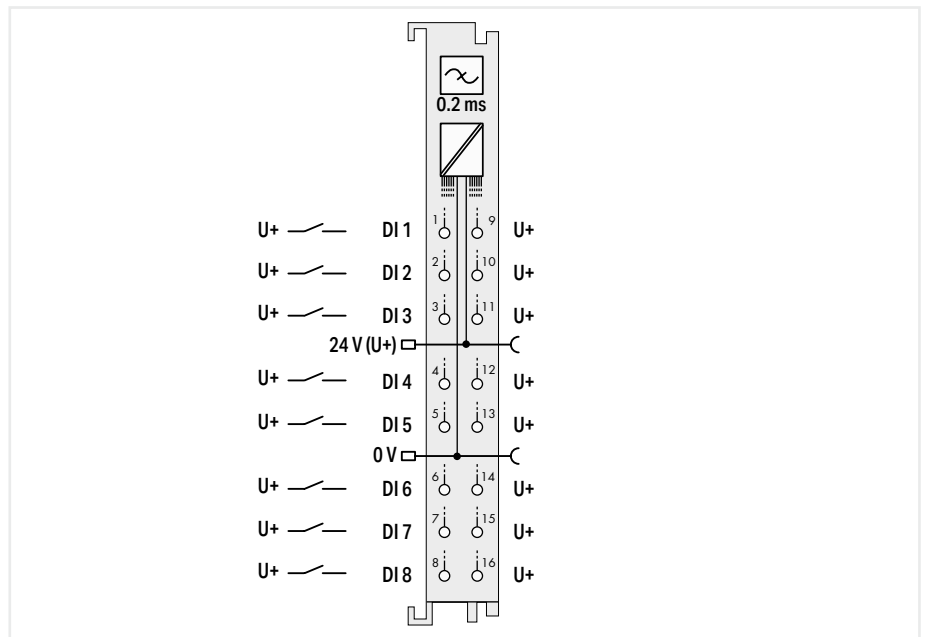
| Technical data                                  | fixed   | pluggable          |
|---|---|--------------------|
| Pluggable connector                             |   |                    |
| Number of digital inputs                        | 8   | 8                  |
| Signal type                                     | Digital   |                    |
| Signal type (voltage)                           | 24 VDC  |                    |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |                    |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |                    |
| Sensor connection                               | 8 x (1-wire)  |                    |
| Input characteristic                            | high-side switching   |                    |
| Input filter (digital)                          | 0.2 ms  |                    |
| Input current per channel for signal (1) typ.   | 2.8 mA  |                    |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| Current consumption (5 V system supply)         | 17 mA   |                    |
| Input data width (internal) max.                | 8 bits  |                    |
| Isolation                                       | 500 V system/field  |                    |
| Ambient temperature (operation)                 | 0 ... +55 °C  |                    |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm |
| Approvals                                       |   |                    |
| For data sheet and additional information, see: | wago.com/750-431  | wago.com/753-431   |
| Accessories                                     | Item no.  | Item no.           |
| Plug  | -   | 753-110            |

7.2  
Digital Input  
Modules

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-1416



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection |
| Version          | Standard with 16 connectors                                |
| Item no.         | 750-1416   |
| Order Text       | 8DI; 24 VDC; 0.2ms; 2-wire                                 |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 11 ... 30 VDC   |
| Input characteristic   | Type 3  |
| Sensor connection  | 8 x (2-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 0.2 ms  |
| Input current per channel for signal (1) typ.                    | 4.5 mA  |
| Input current per channel for signal (0) typ.                    | 1.6 mA  |
| Current consumption, field supply (module with no external load) | 2 mA  |
| Supply voltage (sensor)  | 24 VDC  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                          | 6 mA  |
| Input data width (internal) max.                                 | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

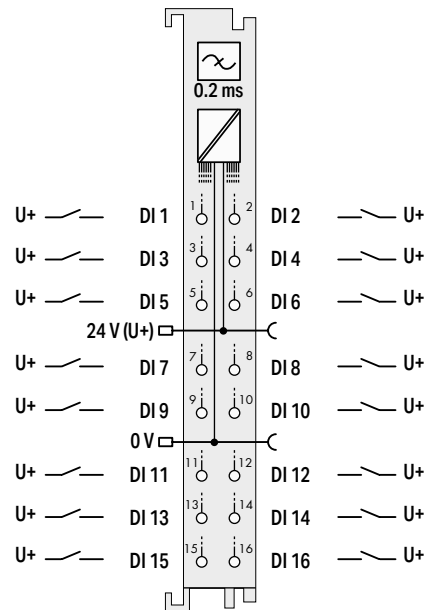
For data sheet and additional information, see:

wago.com/750-1416

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-1406

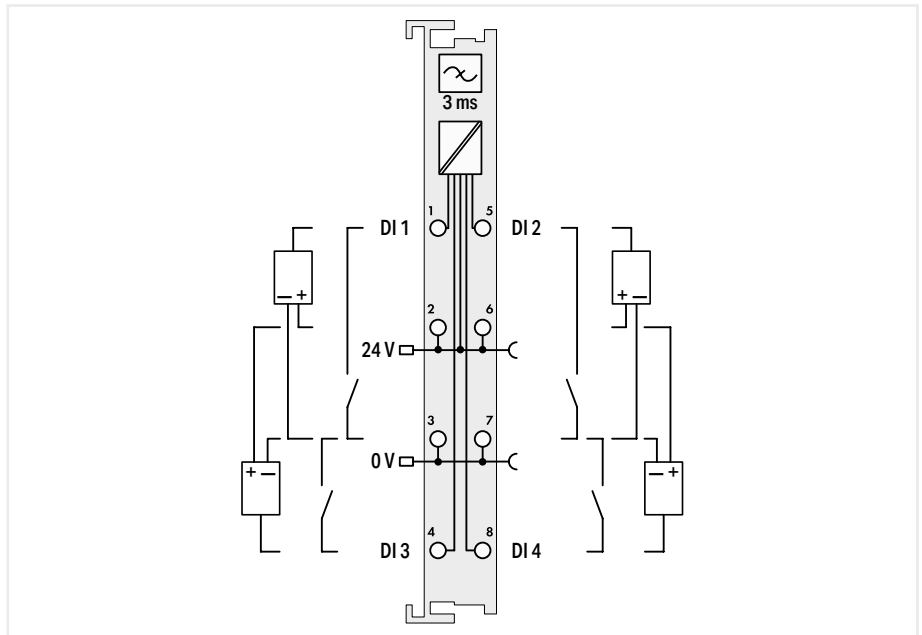


|   |   |
|---|---|
| Item description                                | <b>16-Channel Digital Input; 24 VDC; 0.2 ms</b>   |
| Version   | Standard with 16 connectors   |
| Item no.  | 750-1406  |
| Order Text                                      | 16DI; 24 VDC; 0.2ms   |
| Technical data                                  |   |
| Pluggable connector                             | fixed   |
| Number of digital inputs                        | 16  |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 24 VDC  |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |
| Sensor connection                               | 16 x (1-wire)   |
| Input characteristic                            | high-side switching   |
| Input filter (digital)                          | 0.2 ms  |
| Input current per channel for signal (1) typ.   | 2.3 mA  |
| Input current per channel for signal (0) typ.   | 0.6 mA  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 25 mA   |
| Input data width (internal) max.                | 16 bits   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-1406   |

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-408



|                  |  |                          |  |
|------------------|--|--------------------------|--|
| Item description | <b>4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching</b> |                          |  |
| Version          | Standard   | ext. temperature         | pluggable (delivery without connector) |
| Item no.         | 750-408  | 750-408/025-000          | 753-408                                |
| Order Text       | 4DI; 24 VDC; 3ms; LSS  | 4DI; 24 VDC; 3ms; LSS; T | 4DI; 24 VDC; 3ms; LSS                  |

|   |   |                |              |
|---|---|----------------|--------------|
| Technical data                                |   |                |              |
| Pluggable connector                           | fixed   |                | pluggable    |
| Number of digital inputs                      | 4   |                |              |
| Signal type                                   | Digital   |                |              |
| Signal type (voltage)                         | 24 VDC  |                |              |
| Voltage range for signal (0)                  | $(U_V - 5 V) \dots U_V, DC$   |                |              |
| Voltage range for signal (1)                  | $-3 VDC \dots (U_V - 15 V)$   |                |              |
| Sensor connection                             | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |                |              |
| Input characteristic                          | low-side switching  |                |              |
| Input filter (digital)                        | 3 ms  |                |              |
| Input current per channel for signal (0) typ. | 7 mA  |                |              |
| Supply voltage (sensor)                       | 24 VDC  |                |              |
| Supply voltage (field)                        | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)       |                |              |
| Current consumption (5 V system supply)       | 5 mA  |                |              |
| Input data width (internal) max.              | 4 bits  |                |              |
| Isolation                                     | 500 V system/field  |                |              |
| Ambient temperature (operation)               | 0 ... +55 °C  | -20 ... +60 °C | 0 ... +55 °C |
| Dimensions W x H x D                          | (12 x 100 x 69.8) mm  |                |              |

Approvals: CE, Marine, OrdLoc/HazLoc, ATEX/IECEX

For data sheet and additional information, see: [wago.com/750-408](http://wago.com/750-408) | [wago.com/753-408](http://wago.com/753-408)

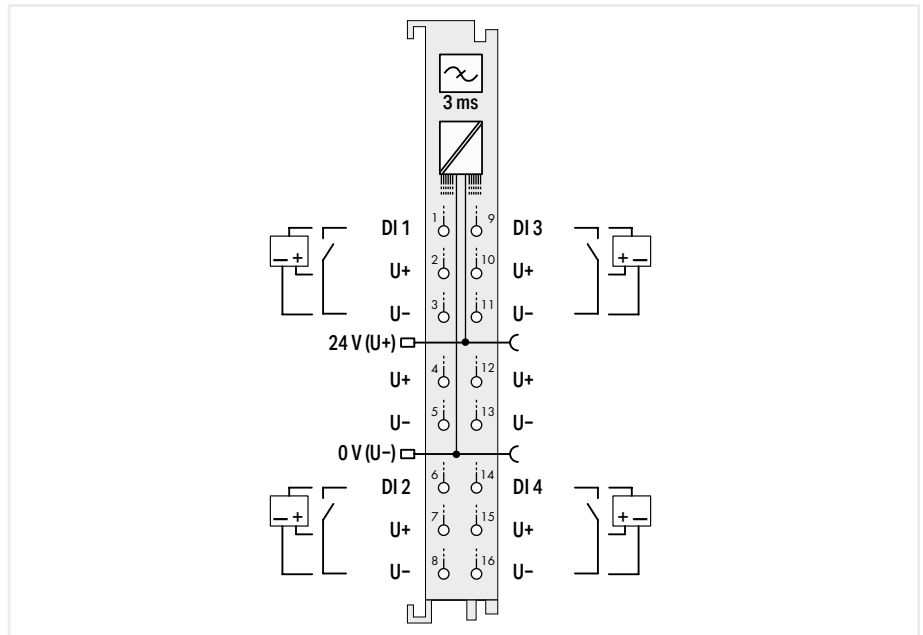
|             |          |          |          |
|-------------|----------|----------|----------|
| Accessories | Item no. | Item no. | Item no. |
| Plug        | -        | -        | 753-110  |

7.2

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-1422



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 3-wire connection |
| Version          | Standard with 16 connectors  |
| Item no.         | 750-1422   |
| Order Text       | 4DI; 24 VDC; 3ms; LSS; 3-wire  |

## Technical data

|   |   |
|---|---|
| Pluggable connector                           | fixed   |
| Number of digital inputs                      | 4   |
| Signal type                                   | Digital   |
| Signal type (voltage)                         | 24 VDC  |
| Voltage range for signal (0)                  | $(U_V - 5 V) \dots U_V$ DC  |
| Voltage range for signal (1)                  | $-3 VDC \dots (U_V - 15 V)$   |
| Sensor connection                             | 4 x (3-wire)  |
| Input characteristic                          | low-side switching  |
| Input filter (digital)                        | 3 ms  |
| Input current per channel for signal (1) typ. | -0.6 mA   |
| Input current per channel for signal (0) typ. | -2.5 mA   |
| Supply voltage (sensor)                       | 24 VDC  |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)       | 7 mA  |
| Input data width (internal) max.              | 4 bits  |
| Isolation                                     | 500 V system/field  |
| Ambient temperature (operation)               | 0 ... +55 °C  |
| Dimensions W x H x D                          | (12 x 100 x 69) mm  |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |

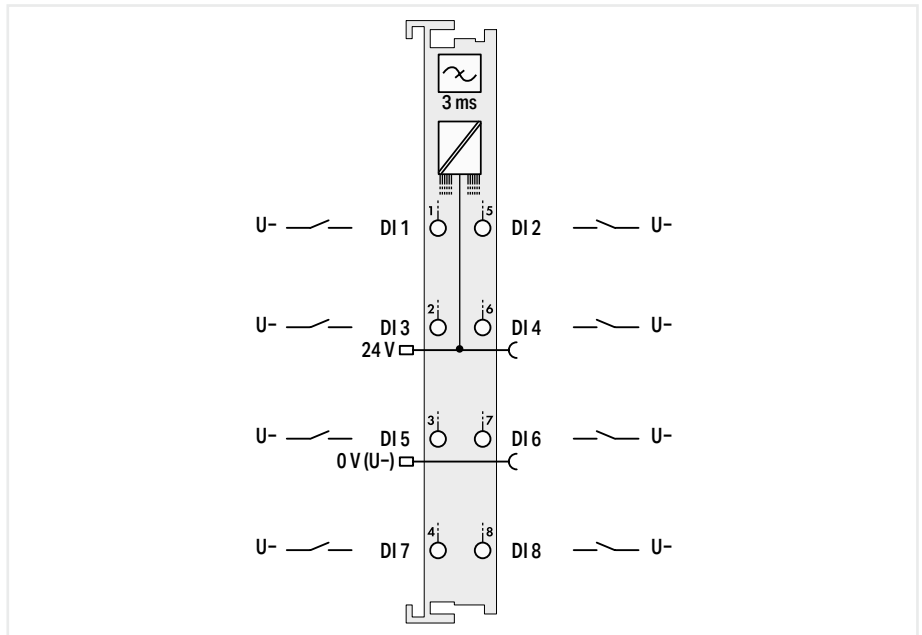
For data sheet and additional information, see:

wago.com/750-1422

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-436



|                  |  |  |
|------------------|--|--|
| Item description | <b>8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching</b> |  |
| Version          | Standard   | pluggable (delivery without connector) |
| Item no.         | 750-436  | 753-436                                |
| Order Text       | 8DI; 24 VDC; 3ms; LSS  | 8DI; 24 VDC; 3ms; LSS                  |

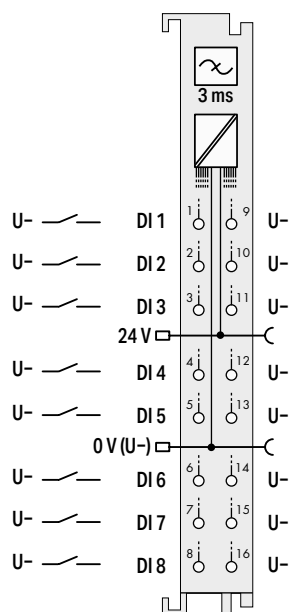
| Technical data                                  | fixed   | pluggable          |
|---|---|--------------------|
| Pluggable connector                             |   |                    |
| Number of digital inputs                        |   | 8                  |
| Signal type                                     |   | Digital            |
| Signal type (voltage)                           |   | 24 VDC             |
| Voltage range for signal (0)                    |   | 15 ... 30 VDC      |
| Voltage range for signal (1)                    |   | -3 ... +5 VDC      |
| Sensor connection                               |   | 8 x (1-wire)       |
| Input characteristic                            |   | low-side switching |
| Input filter (digital)                          |   | 3 ms               |
| Input current per channel for signal (0) typ.   |   | 2.8 mA             |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| Current consumption (5 V system supply)         |   | 13 mA              |
| Input data width (internal) max.                |   | 8 bits             |
| Isolation                                       |   | 500 V system/field |
| Ambient temperature (operation)                 |   | 0 ... +55 °C       |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |                    |
| For data sheet and additional information, see: | wago.com/750-436  | wago.com/753-436   |
| <b>Accessories</b>                              | <b>Item no.</b>   | <b>Item no.</b>    |
| Plug  | -   | 753-110            |

7.2

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-1417



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 2-wire connection |
| Version          | Standard with 16 connectors  |
| Item no.         | 750-1417   |
| Order Text       | 8DI; 24 VDC; 3ms; LSS; 2-wire  |

## Technical data

|   |   |
|---|---|
| Pluggable connector                           | fixed   |
| Number of digital inputs                      | 8   |
| Signal type                                   | Digital   |
| Signal type (voltage)                         | 24 VDC  |
| Voltage range for signal (0)                  | $(U_V - 5 V) \dots U_V$ DC  |
| Voltage range for signal (1)                  | $-3 VDC \dots (U_V - 15 V)$   |
| Sensor connection                             | 8 x (2-wire)  |
| Input characteristic                          | low-side switching  |
| Input filter (digital)                        | 3 ms  |
| Input current per channel for signal (1) typ. | -0.6 mA   |
| Input current per channel for signal (0) typ. | 2.4 mA  |
| Supply voltage (sensor)                       | 24 VDC  |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)       | 12 mA   |
| Input data width (internal) max.              | 8 bits  |
| Isolation                                     | 500 V system/field  |
| Ambient temperature (operation)               | 0 ... +55 °C  |
| Dimensions W x H x D                          | (12 x 100 x 69) mm  |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

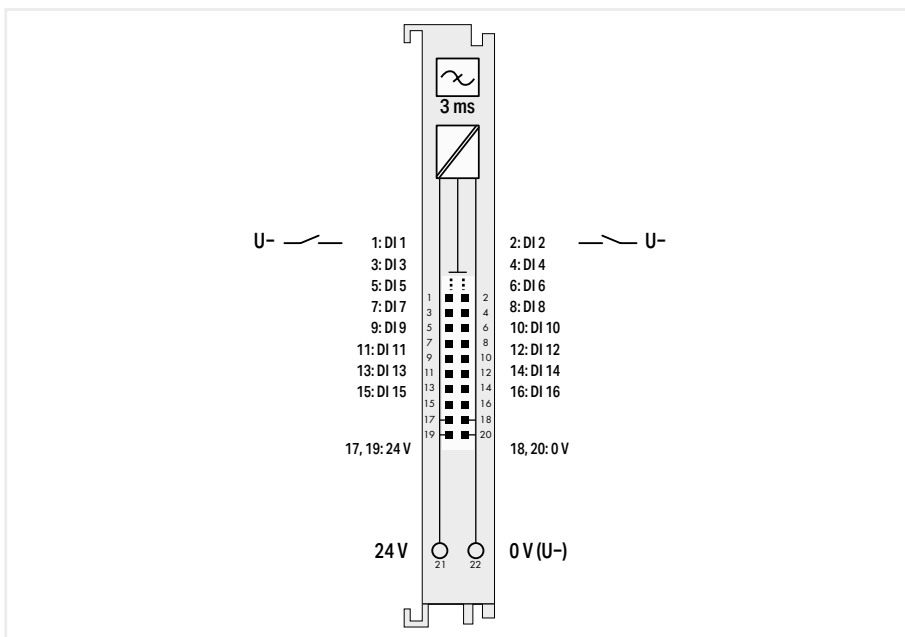
For data sheet and additional information, see:

wago.com/750-1417

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-1402



|                  |  |
|------------------|--|
| Item description | 16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; Ribbon cable |
| Version          | Standard with ribbon cable connector                                     |
| Item no.         | 750-1402   |
| Order Text       | 16DI; 24 VDC; 3ms; LSS; Ribbon Cable                                     |

| Technical data                                |  |
|---|--|
| Pluggable connector                           | fixed  |
| Number of digital inputs                      | 16   |
| Signal type                                   | Digital  |
| Signal type (voltage)                         | 24 VDC   |
| Voltage range for signal (0)                  | $(U_V - 5 V) \dots U_V$ DC   |
| Voltage range for signal (1)                  | $-3 VDC \dots (U_V - 15 V)$  |
| Sensor connection                             | 16 x (1-wire)  |
| Input characteristic                          | low-side switching   |
| Input filter (digital)                        | 3 ms   |
| Input current per channel for signal (1) typ. | -0.6 mA  |
| Input current per channel for signal (0) typ. | 2.3 mA   |
| Supply voltage (sensor)                       | 24 VDC   |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption (5 V system supply)       | 25 mA  |
| Input data width (internal) max.              | 16 bits  |
| Isolation                                     | 500 V system/field   |
| Ambient temperature (operation)               | 0 ... +55 °C   |
| Dimensions W x H x D                          | (12 x 100 x 74.1) mm   |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                                 |

For data sheet and additional information, see:

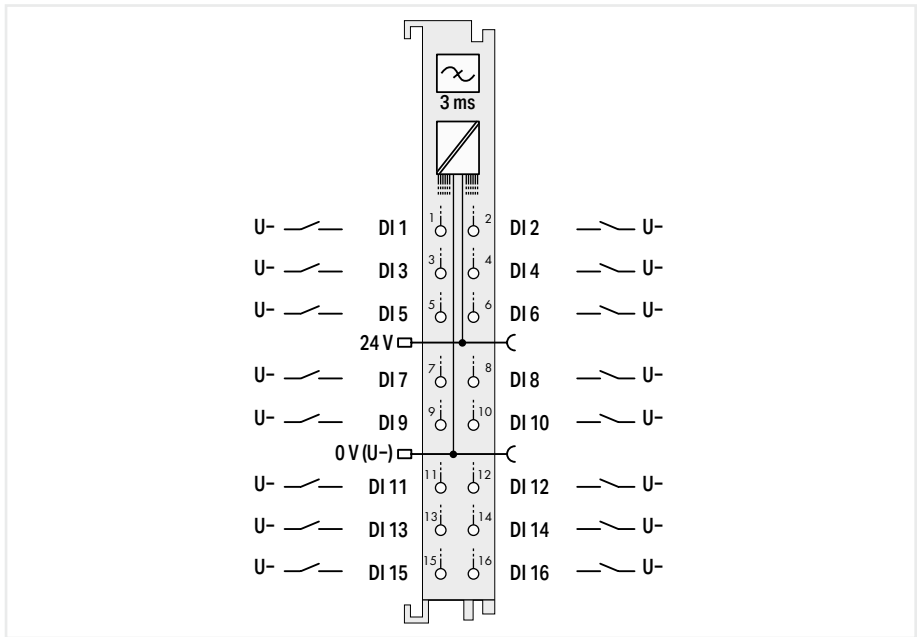
wago.com/750-1402



Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-1407



|                  |                        |
|------------------|------------------------|
| Item description |                        |
| Version          |                        |
| Item no.         | 750-1407               |
| Order Text       | 16DI; 24 VDC; 3ms; LSS |

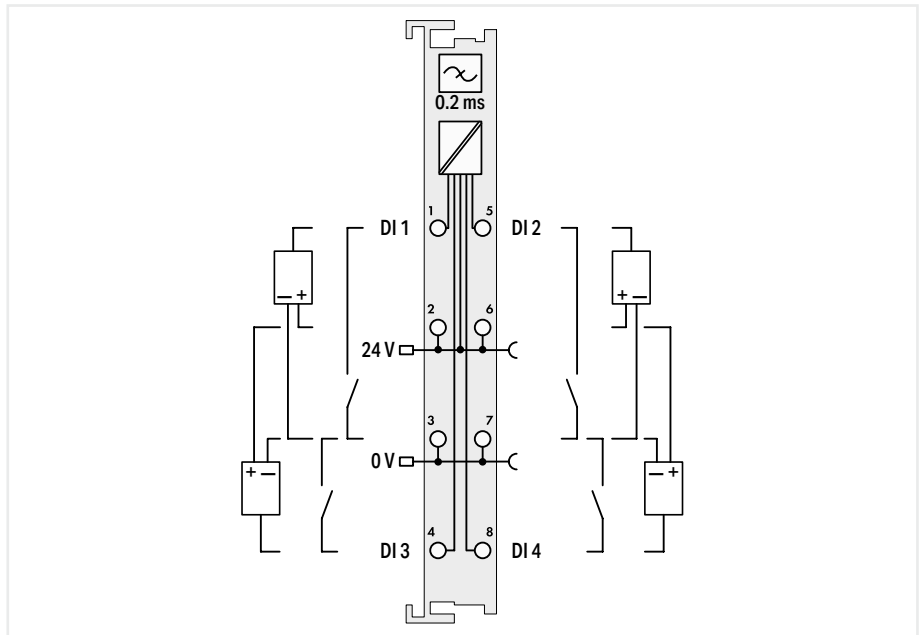
|   |  |
|---|--|
| <b>16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching</b> |  |
| Standard with 16 connectors                                       |  |
| 750-1407  |  |
| 16DI; 24 VDC; 3ms; LSS  |  |

| Technical data                                  |   |
|---|---|
| Pluggable connector                             | fixed   |
| Number of digital inputs                        | 16  |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 24 VDC  |
| Voltage range for signal (0)                    | (U <sub>V</sub> - 5 V) ... U <sub>V</sub> DC  |
| Voltage range for signal (1)                    | -3 VDC ... (U <sub>V</sub> - 15 V)  |
| Sensor connection                               | 16 x (1-wire)   |
| Input characteristic                            | low-side switching  |
| Input filter (digital)                          | 3 ms  |
| Input current per channel for signal (1) typ.   | -0.6 mA   |
| Input current per channel for signal (0) typ.   | 2.3 mA  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 25 mA   |
| Input data width (internal) max.                | 16 bits   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-1407   |

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 0.2 ms



750-409

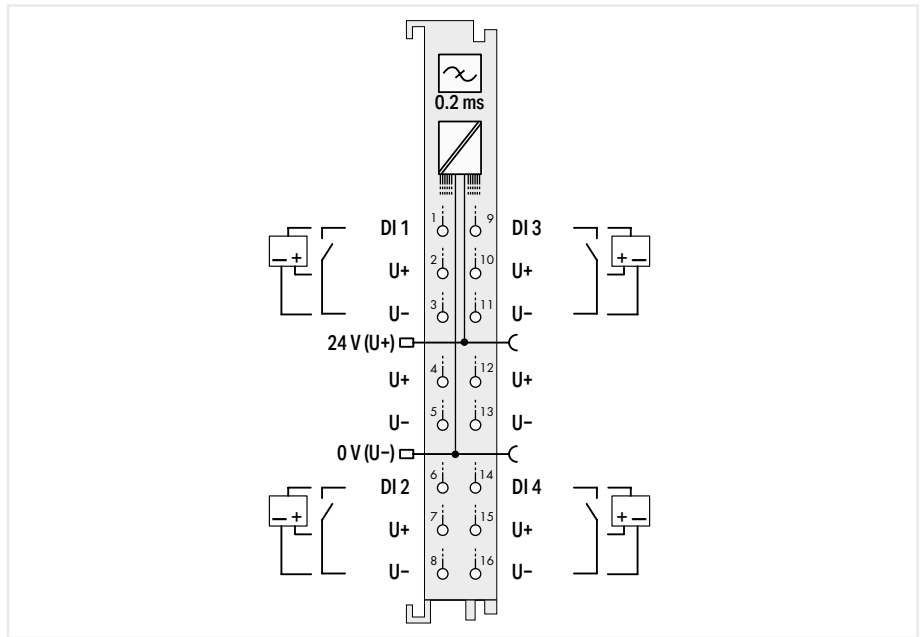


| Item description                                | 4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching   |   |
|---|---|---|
| Version   | Standard  | pluggable (delivery without connector)      |
| Item no.  | 750-409   | 753-409                                     |
| Order Text                                      | 4DI; 24 VDC; 0.2ms; LSS   | 4DI; 24 VDC; 0.2ms; LSS                     |
| Technical data                                  | fixed   | pluggable                                   |
| Pluggable connector                             |   |   |
| Number of digital inputs                        |   | 4   |
| Signal type                                     |   | Digital                                     |
| Signal type (voltage)                           |   | 24 VDC                                      |
| Voltage range for signal (0)                    |   | $(U_V - 5 V) \dots U_V \text{ DC}$          |
| Voltage range for signal (1)                    |   | $-3 \text{ VDC} \dots (U_V - 15 \text{ V})$ |
| Sensor connection                               | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |   |
| Input characteristic                            | low-side switching  |   |
| Input filter (digital)                          | 0.2 ms  |   |
| Input current per channel for signal (0) typ.   | 7 mA  |   |
| Supply voltage (sensor)                         | 24 VDC  |   |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)       |   |
| Current consumption (5 V system supply)         | 5 mA  |   |
| Input data width (internal) max.                | 4 bits  |   |
| Isolation                                       | 500 V system/field  |   |
| Ambient temperature (operation)                 | 0 ... +55 °C  |   |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |   |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEX   |   |
| For data sheet and additional information, see: | wago.com/750-409  | wago.com/753-409                            |
| Accessories                                     | Item no.  | Item no.                                    |
| Plug  | -   | 753-110                                     |

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 0.2 ms



750-1423



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 3-wire connection |
| Version          | Standard with 16 connectors  |
| Item no.         | 750-1423   |
| Order Text       | 4DI; 24 VDC; 0.2ms; LSS; 3-wire  |

## Technical data

|   |   |
|---|---|
| Pluggable connector                           | fixed   |
| Number of digital inputs                      | 4   |
| Signal type                                   | Digital   |
| Signal type (voltage)                         | 24 VDC  |
| Voltage range for signal (0)                  | $(U_V - 5 V) \dots U_V$ DC  |
| Voltage range for signal (1)                  | $-3 VDC \dots (U_V - 15 V)$   |
| Sensor connection                             | 4 x (3-wire)  |
| Input characteristic                          | low-side switching  |
| Input filter (digital)                        | 0.2 ms  |
| Input current per channel for signal (1) typ. | -0.6 mA   |
| Input current per channel for signal (0) typ. | 2.5 mA  |
| Supply voltage (sensor)                       | 24 VDC  |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)       | 7 mA  |
| Input data width (internal) max.              | 4 bits  |
| Isolation                                     | 500 V system/field  |
| Ambient temperature (operation)               | 0 ... +55 °C  |
| Dimensions W x H x D                          | (12 x 100 x 69) mm  |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |

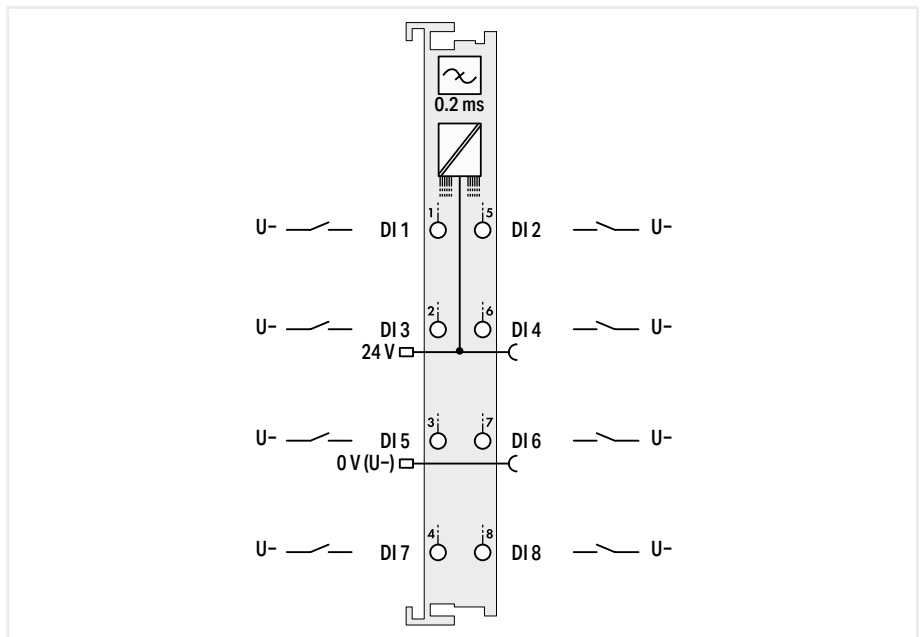
For data sheet and additional information, see:

wago.com/750-1423

## Digital input ▶ 24 VDC ▶ low-side switching ▶ 0.2 ms



750-437



|                  |  |  |
|------------------|--|--|
| Item description | <b>8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching</b> |  |
| Version          | Standard   | pluggable (delivery without connector) |
| Item no.         | 750-437  | 753-437                                |
| Order Text       | 8DI; 24 VDC; 0.2ms; LSS  | 8DI; 24 VDC; 0.2ms; LSS                |

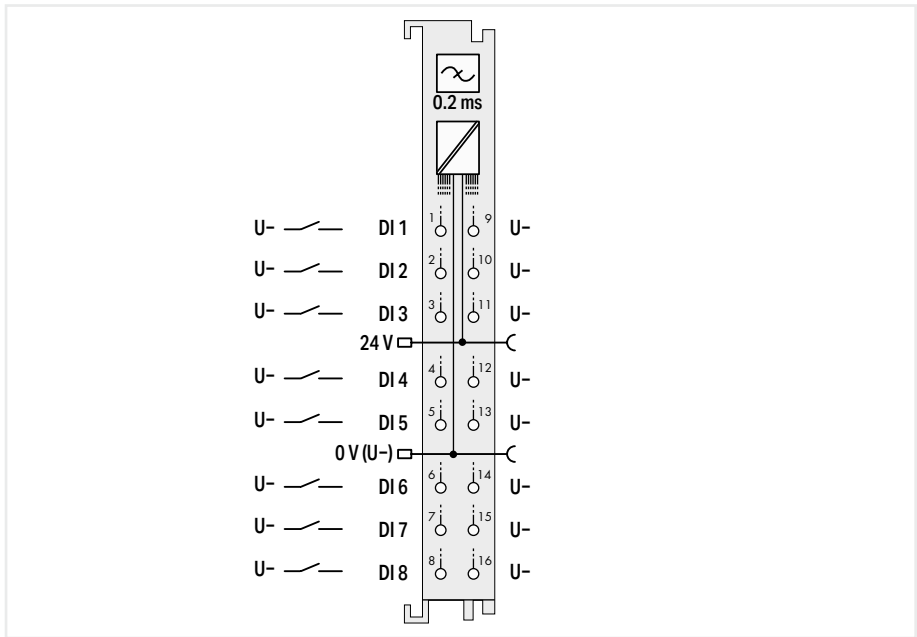
## Technical data

|   | fixed   | pluggable          |
|---|---|--------------------|
| Pluggable connector                             |   |                    |
| Number of digital inputs                        |   | 8                  |
| Signal type                                     |   | Digital            |
| Signal type (voltage)                           |   | 24 VDC             |
| Voltage range for signal (0)                    |   | 15 ... 30 VDC      |
| Voltage range for signal (1)                    |   | -3 ... +5 VDC      |
| Sensor connection                               |   | 8 x (1-wire)       |
| Input characteristic                            |   | low-side switching |
| Input filter (digital)                          |   | 0.2 ms             |
| Input current per channel for signal (0) typ.   |   | 2.8 mA             |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| Current consumption (5 V system supply)         |   | 13 mA              |
| Input data width (internal) max.                |   | 8 bits             |
| Isolation                                       |   | 500 V system/field |
| Ambient temperature (operation)                 |   | 0 ... +55 °C       |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |                    |
| For data sheet and additional information, see: | wago.com/750-437  | wago.com/753-437   |
| <b>Accessories</b>                              | <b>Item no.</b>   | <b>Item no.</b>    |
| Plug  | -   | 753-110            |

Digital input ▶ 24 VDC ▶ low-side switching ▶ 0.2 ms



750-1418



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 2-wire connection |
| Version          | Standard with 16 connectors  |
| Item no.         | 750-1418   |
| Order Text       | 8DI; 24 VDC; 0.2ms; LSS; 2-wire  |

| Technical data                                |   |
|---|---|
| Pluggable connector                           | fixed   |
| Number of digital inputs                      | 8   |
| Signal type                                   | Digital   |
| Signal type (voltage)                         | 24 VDC  |
| Voltage range for signal (0)                  | ( $U_V - 5 V$ ) ... $U_V$ DC  |
| Voltage range for signal (1)                  | -3 VDC ... ( $U_V - 15 V$ )   |
| Sensor connection                             | 8 x (2-wire)  |
| Input characteristic                          | low-side switching  |
| Input filter (digital)                        | 0.2 ms  |
| Input current per channel for signal (1) typ. | -0.6 mA   |
| Input current per channel for signal (0) typ. | 2.4 mA  |
| Supply voltage (sensor)                       | 24 VDC  |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)       | 12 mA   |
| Input data width (internal) max.              | 8 bits  |
| Isolation                                     | 500 V system/field  |
| Ambient temperature (operation)               | 0 ... +55 °C  |
| Dimensions W x H x D                          | (12 x 100 x 69) mm  |
| Approvals                                     | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

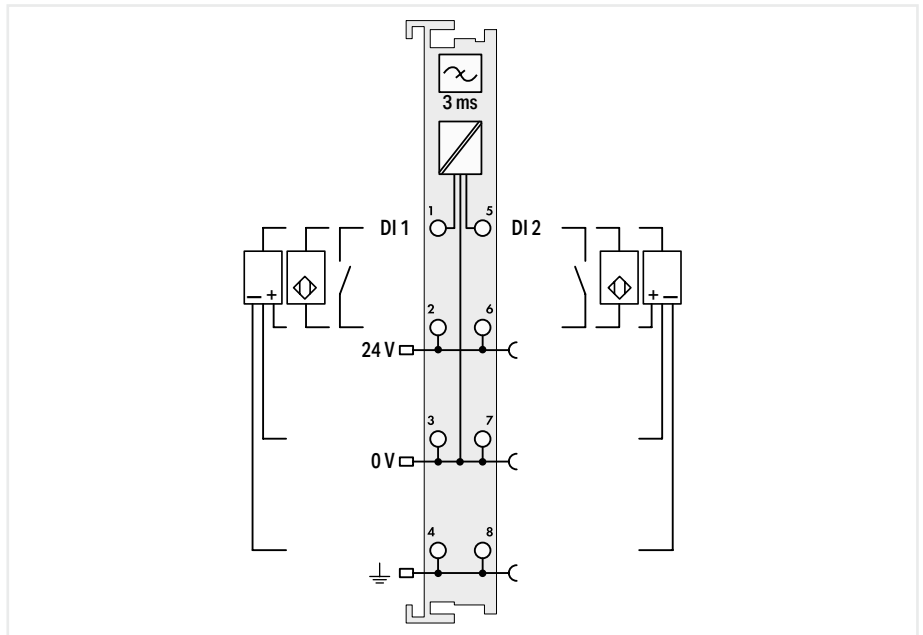
For data sheet and additional information, see:

wago.com/750-1418

## Digital input ▶ 24 VDC; proximity sensor ▶ high-side switching ▶ 3 ms



750-410



|                  |  |  |
|------------------|--|--|
| Item description | <b>2-Channel Digital Input; 24 VDC; 3 ms; Proximity sensor</b> |  |
| Version          | Standard   | pluggable (delivery without connector) |
| Item no.         | 750-410  | 753-410                                |
| Order Text       | 2DI; 24 VDC; 3ms; Proxi Sensor                                 | 2DI; 24 VDC; 3ms; Proxi Sensor         |

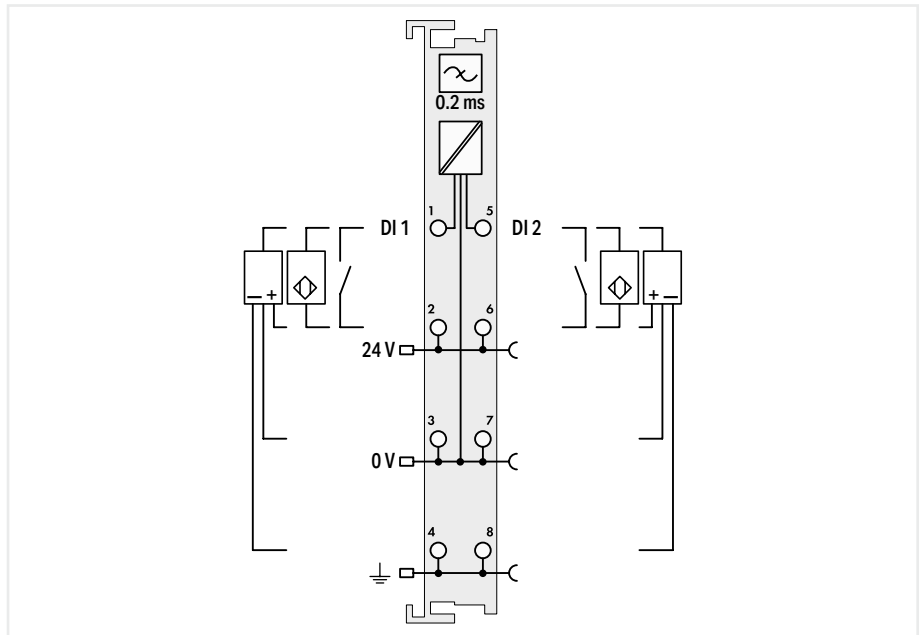
## Technical data

|   | fixed  | pluggable   |
|---|--|---|
| Pluggable connector                             |  |   |
| Number of digital inputs                        |  | 2   |
| Signal type                                     |  | Digital   |
| Signal type (voltage)                           |  | 24 VDC  |
| Voltage range for signal (0)                    |  | -3 ... +5 VDC   |
| Voltage range for signal (1)                    |  | 15 ... 30 VDC   |
| Sensor connection                               |  | 2 x (2-wire, 3-wire, 4-wire); 2-wire proximity sensor   |
| Input characteristic                            |  | high-side switching   |
| Input filter (digital)                          |  | 3 ms  |
| Input current per channel for signal (1) typ.   |  | 8 mA  |
| Supply voltage (sensor)                         |  | 24 VDC  |
| Supply voltage (field)                          |  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         |  | 2.5 mA  |
| Input data width (internal) max.                |  | 2 bits  |
| Isolation                                       |  | 500 V system/field  |
| Ambient temperature (operation)                 |  | 0 ... +55 °C  |
| Dimensions W x H x D                            |  | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE; [Symbol] Marine; [Symbol] OrdLoc/HazLoc; [Symbol] ATEX/IECEx |   |
| For data sheet and additional information, see: | wago.com/750-410   | wago.com/753-410  |
| <b>Accessories</b>                              | <b>Item no.</b>  | <b>Item no.</b>   |
| Plug  | -  | 753-110   |

Digital input ▶ 24 VDC; proximity sensor ▶ high-side switching ▶ 0.2 ms



750-411



|                  |                                  |
|------------------|----------------------------------|
| Item description |                                  |
| Version          |                                  |
| Item no.         | 750-411                          |
| Order Text       | 2DI; 24 VDC; 0.2ms; Proxi Sensor |

|  |  |
|--|--|
| <b>2-Channel Digital Input; 24 VDC; 0.2 ms; Proximity sensor</b> |  |
| Standard   | pluggable (delivery without connector) |
| 750-411  | 753-411                                |
| 2DI; 24 VDC; 0.2ms; Proxi Sensor                                 | 2DI; 24 VDC; 0.2ms; Proxi Sensor       |

Technical data

|   |   |
|---|---|
| Pluggable connector                             |   |
| Number of digital inputs                        | 2   |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 24 VDC  |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |
| Sensor connection                               | 2 x (2-wire, 3-wire, 4-wire); 2-wire proximity sensor   |
| Input characteristic                            | high-side switching   |
| Input filter (digital)                          | 0.2 ms  |
| Input current per channel for signal (1) typ.   | 8 mA  |
| Supply voltage (sensor)                         | 24 VDC  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 2.5 mA  |
| Input data width (internal) max.                | 2 bits  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-411  |

|   |                  |   |
|---|------------------|---|
|   | fixed            | pluggable   |
| Number of digital inputs                        |                  | 2   |
| Signal type                                     |                  | Digital   |
| Signal type (voltage)                           |                  | 24 VDC  |
| Voltage range for signal (0)                    |                  | -3 ... +5 VDC   |
| Voltage range for signal (1)                    |                  | 15 ... 30 VDC   |
| Sensor connection                               |                  | 2 x (2-wire, 3-wire, 4-wire); 2-wire proximity sensor   |
| Input characteristic                            |                  | high-side switching   |
| Input filter (digital)                          |                  | 0.2 ms  |
| Input current per channel for signal (1) typ.   |                  | 8 mA  |
| Supply voltage (sensor)                         |                  | 24 VDC  |
| Supply voltage (field)                          |                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         |                  | 2.5 mA  |
| Input data width (internal) max.                |                  | 2 bits  |
| Isolation                                       |                  | 500 V system/field  |
| Ambient temperature (operation)                 |                  | 0 ... +55 °C  |
| Dimensions W x H x D                            |                  | (12 x 100 x 69.8) mm  |
| Approvals                                       |                  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-411 | wago.com/753-411  |

Accessories

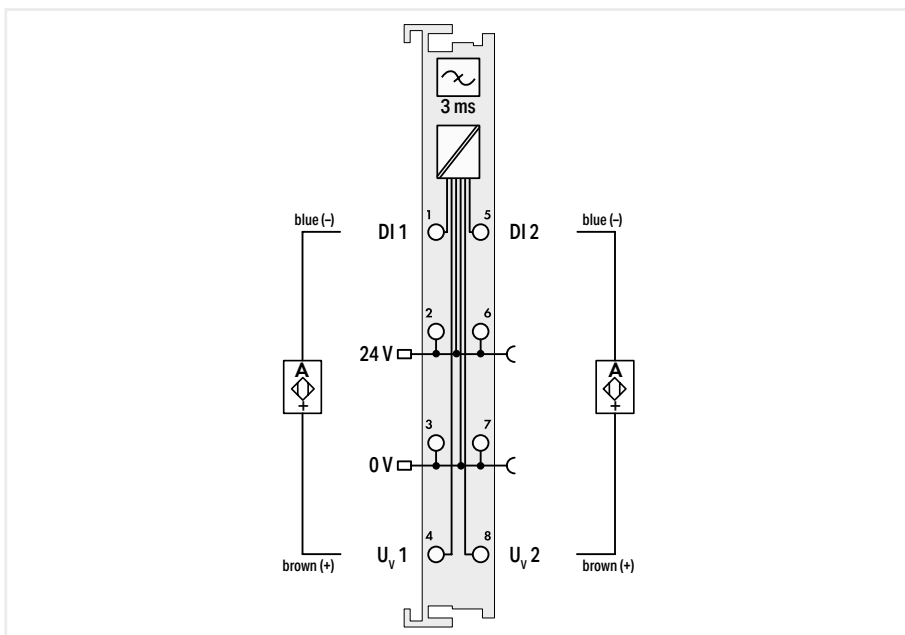
|      |  |
|------|--|
| Plug |  |
|------|--|

|          |   |         |
|----------|---|---------|
| Item no. | - | 753-110 |
|----------|---|---------|

## Digital input ► NAMUR ► high-side switching ► 3 ms



750-425



|                   |
|-------------------|
| Diagnostics       |
| Item description  |
| Version           |
| <b>Item no.</b>   |
| <b>Order Text</b> |

|                                       |   |
|---------------------------------------|---|
| <b>Short circuit, wire break</b>      |   |
| <b>2-Channel Digital Input; NAMUR</b> |   |
| <b>Standard</b>                       | <b>pluggable (delivery without connector)</b> |
| <b>750-425</b>                        | <b>753-425</b>                                |
| <b>2DI; NAMUR</b>                     | <b>2DI; NAMUR</b>                             |

## Technical data

|   |
|---|
| Pluggable connector                             |
| Number of digital inputs                        |
| Signal type                                     |
| Signal current (0) NAMUR                        |
| Signal current (1) NAMUR                        |
| Sensor connection                               |
| Input characteristic                            |
| Input filter (digital)                          |
| Protection against incorrect wiring             |
| Open-circuit voltage                            |
| Diagnostics                                     |
| Supply voltage (sensor)                         |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Data width                                      |
| Input data width (internal) max.                |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |                  |
|---|------------------|
| fixed   | pluggable        |
| 2   |                  |
| NAMUR   |                  |
| ≤1.2 mA   |                  |
| ≥2.1 mA   |                  |
| 2 x (2-wire)  |                  |
| high-side switching   |                  |
| 3 ms  |                  |
| Short circuit monitoring: > 6.5 mA; Wire break monitoring: < 0.2 mA   |                  |
| 8.2 V   |                  |
| Short circuit, wire break   |                  |
| 8.2 VDC; short-circuit-protected, each channel supplied separately  |                  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                  |
| 5 mA  |                  |
| 4-bit input: 2-bit data, 2-bit error (short circuit/wire break)   |                  |
| 4 bits  |                  |
| 500 V system/field  |                  |
| 0 ... +55 °C  |                  |
| (12 x 100 x 69.8) mm  |                  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |                  |
| wago.com/750-425  | wago.com/753-425 |

|                    |
|--------------------|
| <b>Accessories</b> |
| Plug               |

|                 |                 |
|-----------------|-----------------|
| <b>Item no.</b> | <b>Item no.</b> |
| -               | 753-110         |

This digital input module receives control signals from NAMUR proximity sensors (per DIN EN 60947-5-6) from the field side. Each channel of the sensors is supplied with a short-circuit-protected voltage of 8.2 V. A short circuit or a line break is indicated in the process image (1 bit) and via the red LED. The green LED indicates the input status:

- Signal current (0): LED off
- Signal current (1): LED on

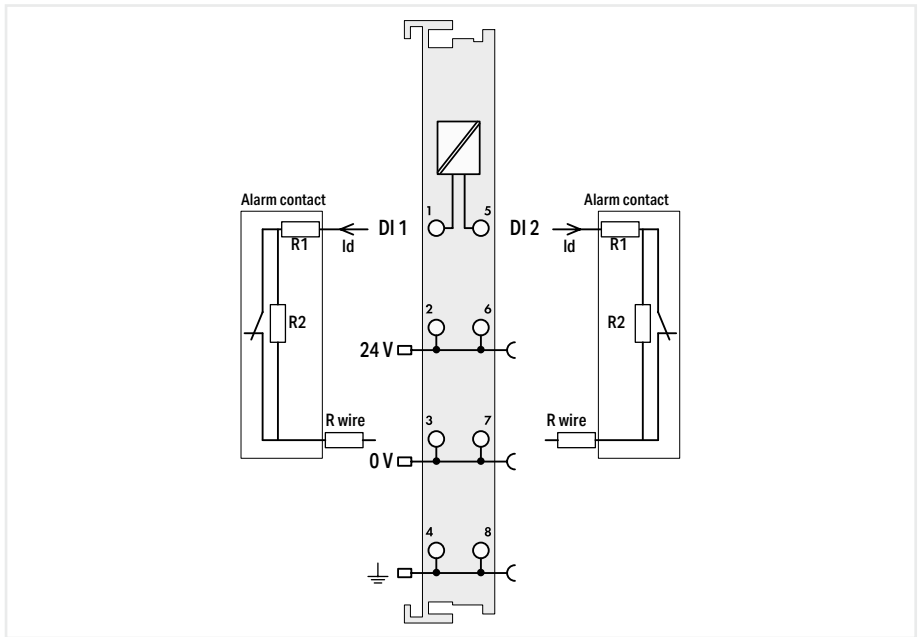
Field and system levels are electrically isolated.



## Digital input ► Current loop (intruder detection)



750-424



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| <b>2-Channel Digital Input; Intruder detection</b> |  |
| Standard   | pluggable (delivery without connector) |
| 750-424  | 753-424                                |
| 2DI; Intruder Detection                            | 2DI; Intruder Detection                |

|  |  |
|--|--|
| Technical data   |  |
| Pluggable connector  |  |
| Number of digital inputs   |  |
| Signal type  |  |
| Sensor connection  |  |
| Specific sensor properties                                       |  |
| Output current per channel                                       |  |
| Current consumption, field supply (module with no external load) |  |
| Supply voltage (sensor)  |  |
| Supply voltage (field)   |  |
| Current consumption (5 V system supply)                          |  |
| Data width   |  |
| Input data width (internal) max.                                 |  |
| Isolation  |  |
| Ambient temperature (operation)                                  |  |
| Dimensions W x H x D   |  |
| Approvals  |  |
| For data sheet and additional information, see:                  |  |
| Accessories  |  |

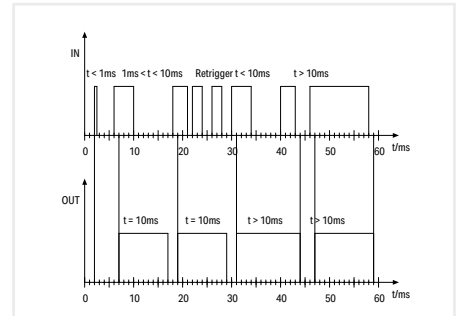
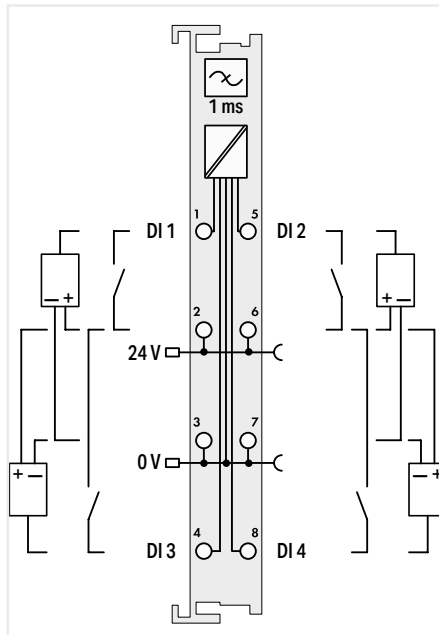
|          |   |                  |
|----------|---|------------------|
|          | fixed   | pluggable        |
|          |   | 2                |
|          | Current loop (intruder detection)   |                  |
|          | 2 x (2-wire)  |                  |
|          | Alarm contact: R1 = 1.5 kΩ (±5 %); R2 = 2.2 kΩ (±5 %); Conductor resistance (R wire): 200 Ω (max.)                  |                  |
|          | 0.001 A   |                  |
|          | 16 mA   |                  |
|          | 24 VDC  |                  |
|          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                  |
|          | 6 mA  |                  |
|          | 4-bit input: 2-bit data, 2-bit error (short circuit/wire break)   |                  |
|          | 4 bits  |                  |
|          | 500 V system/field  |                  |
|          | 0 ... +55 °C  |                  |
|          | (12 x 100 x 69.8) mm  |                  |
|          | CE, L, Marine, OrdLoc/HazLoc, ATEX/IECEx  |                  |
|          | wago.com/750-424  | wago.com/753-424 |
| Item no. | -   | 753-110          |

This I/O module incorporates a current loop, which makes it possible to monitor alarm contacts (window contacts) with a fixed resistance ratio (R1, R2), for intruder detection. The module indicates the status of the connected contact via LEDs and status bits in the process image.

## Digital input ▶ 24 VDC; pulse extension ▶ high-side switching ▶ 1 ms



750-422



The I/O module extends input signals to at least 10 ms. Only signals  $\geq 1$  ms will be acquired. Input signals  $> 10$  ms will not be extended (without fall delay). Field and system levels are electrically isolated.

|                  |   |  |
|------------------|---|--|
| Item description | <b>4-Channel Digital Input; 24 VDC; Pulse extension</b> |  |
| Version          | Standard  | pluggable (delivery without connector) |
| Item no.         | 750-422   | 753-422                                |
| Order Text       | 4DI; 24 VDC; Pulse Extension                            | 4DI; 24 VDC; Pulse Extension           |

### Technical data

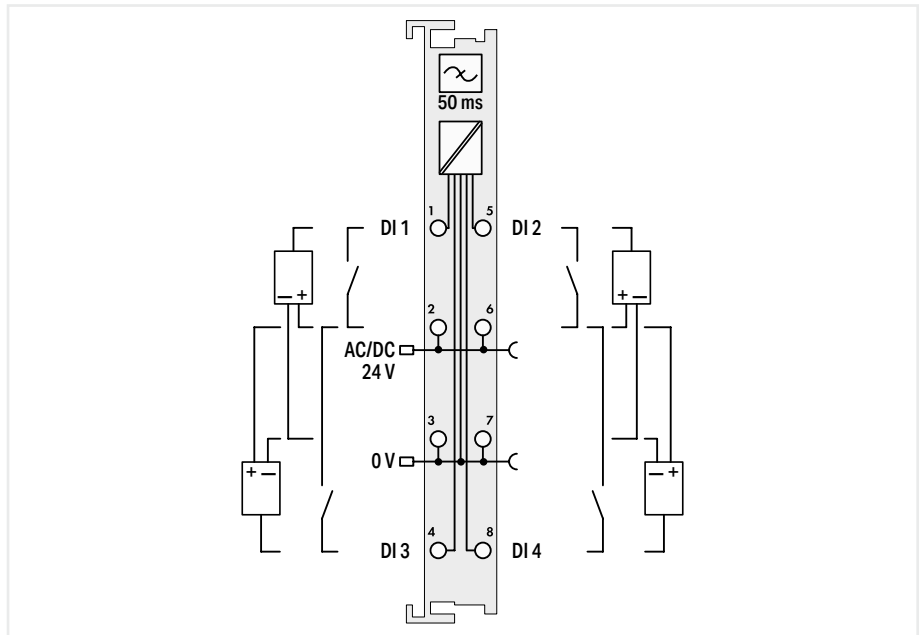
|   |   |                  |
|---|---|------------------|
| Pluggable connector                             | fixed   | pluggable        |
| Number of digital inputs                        | 4   |                  |
| Signal type                                     | Digital   |                  |
| Signal type (voltage)                           | 24 VDC  |                  |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |                  |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |                  |
| Sensor connection                               | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |                  |
| Input characteristic                            | high-side switching   |                  |
| Input filter (digital)                          | 1 ms  |                  |
| Input current per channel for signal (1) typ.   | 4 mA  |                  |
| Signal frequency (max.)                         | 80 Hz   |                  |
| Supply voltage (sensor)                         | 24 VDC  |                  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)       |                  |
| Current consumption (5 V system supply)         | 9 mA  |                  |
| Input data width (internal) max.                | 4 bits  |                  |
| Isolation                                       | 500 V system/field  |                  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |                  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |                  |
| Approvals                                       | CE, L, OrdLoc/HazLoc, ATEX/IECEX  |                  |
| For data sheet and additional information, see: | wago.com/750-422  | wago.com/753-422 |
| <b>Accessories</b>                              | <b>Item no.</b>   | <b>Item no.</b>  |
| Plug  | -   | 753-110          |

7.2

Digital input ▶ 24 VAC/DC ▶ high-side switching ▶ 50 ms



750-423



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Input; 24 V AC/DC; 50 ms |
| Version          | Standard                                   |
| Item no.         | 750-423                                    |
| Order Text       | 4DI; 24 VAC/VDC; 50ms                      |

|                       |  |
|-----------------------|--|
| Standard              | pluggable (delivery without connector) |
| 750-423               | 753-423                                |
| 4DI; 24 VAC/VDC; 50ms | 4DI; 24 VAC/VDC; 50ms                  |

|   |   |
|---|---|
| Technical data                          |   |
| Pluggable connector                     | fixed   pluggable   |
| Number of digital inputs                | 4   |
| Signal type                             | Digital   |
| Signal type (voltage)                   | 24 VAC/DC   |
| Voltage range for signal (0)            | -3 ... +5 VDC; 0 ... 5 VAC  |
| Voltage range for signal (1)            | 11 ... 30 VDC; 10 ... 27 VAC  |
| Input current (typ.)                    | 7.5 mA (AC); 9.5 mA (DC)  |
| Sensor connection                       | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors. |
| Input characteristic                    | high-side switching   |
| Input filter (digital)                  | 50 ms   |
| Supply voltage (sensor)                 | 24 VAC/DC   |
| Supply voltage (field)                  | 24 VAC/DC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)    |
| Current consumption (5 V system supply) | 10 mA   |
| Input data width (internal) max.        | 4 bits  |
| Isolation                               | 500 V system/field  |
| Ambient temperature (operation)         | 0 ... +55 °C  |
| Dimensions W x H x D                    | (12 x 100 x 69.8) mm  |
| Approvals                               | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

|   |                  |                  |
|---|------------------|------------------|
| For data sheet and additional information, see: | wago.com/750-423 | wago.com/753-423 |
| Accessories                                     |                  |                  |
| Item no.  | -                | 753-110          |

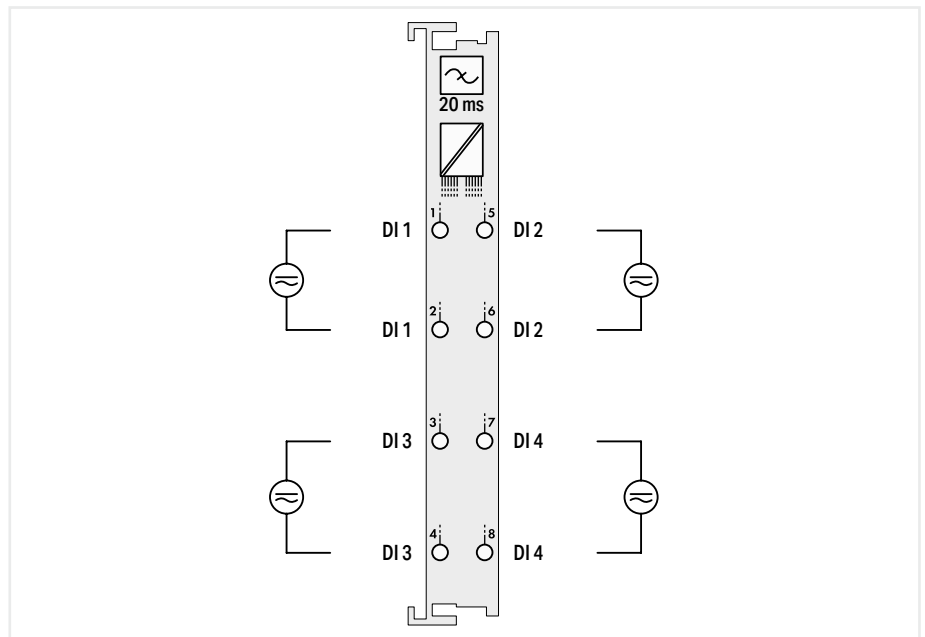
|             |  |
|-------------|--|
| Accessories |  |
| Plug        |  |

Notice: An additional supply module must be added for 24 VAC supply!

## Digital input ▶ 24 VAC/DC ▶ high-side switching ▶ 20 ms



750-415



|                  |  |  |
|------------------|--|--|
| Item description | 4-Channel Digital Input; 24 V AC/DC; 20 ms |  |
| Version          | Standard                                   | pluggable (delivery without connector) |
| Item no.         | 750-415                                    | 753-415                                |
| Order Text       | 4DI; 24 VAC/VDC; 20ms                      | 4DI; 24 VAC/VDC; 20ms                  |

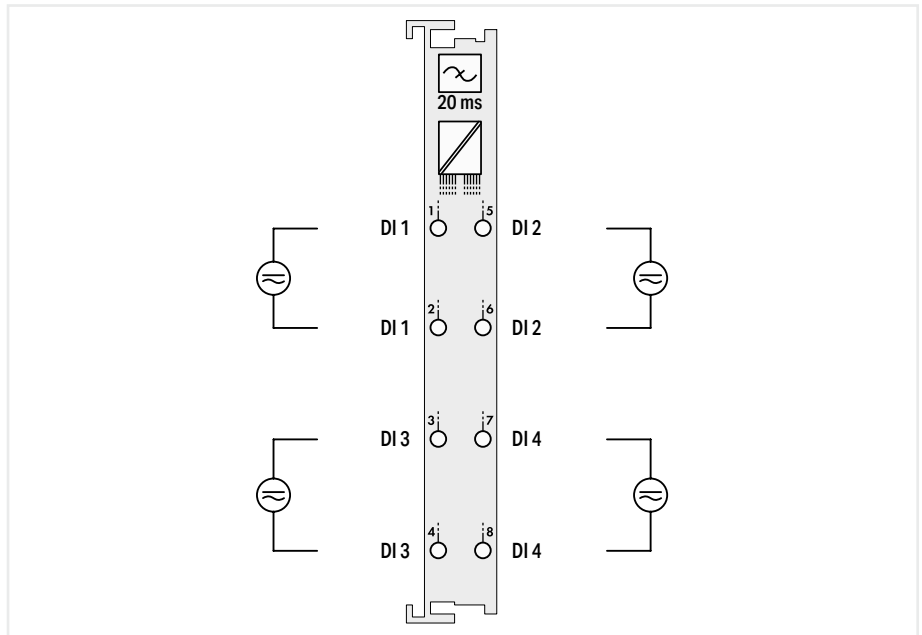
## Technical data

|   | fixed                                    | pluggable                    |
|---|--|------------------------------|
| Pluggable connector                             |  |                              |
| Number of digital inputs                        |  | 4                            |
| Signal type                                     |  | Digital                      |
| Signal type (voltage)                           |  | 24 VAC/DC                    |
| Voltage range for signal (0)                    |  | -3 ... +5 VDC; 0 ... 5 VAC   |
| Voltage range for signal (1)                    |  | 11 ... 30 VDC; 10 ... 27 VAC |
| Input current (typ.)                            |  | 7.5 mA (AC); 9.5 mA (DC)     |
| Sensor connection                               |  | 4 x (2-wire)                 |
| Input characteristic                            |  | high-side switching          |
| Input filter (digital)                          |  | 20 ms                        |
| Current consumption (5 V system supply)         |  | 10 mA                        |
| Input data width (internal) max.                |  | 4 bits                       |
| Isolation                                       |  | 500 V system/field           |
| Ambient temperature (operation)                 |  | 0 ... +55 °C                 |
| Dimensions W x H x D                            |  | (12 x 100 x 69.8) mm         |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX |                              |
| For data sheet and additional information, see: | wago.com/750-415                         | wago.com/753-415             |
| Accessories                                     | Item no.                                 | Item no.                     |
| Plug  | -  | 753-110                      |

## Digital input ▶ 42 VAC/DC ▶ high-side switching ▶ 20 ms



750-428



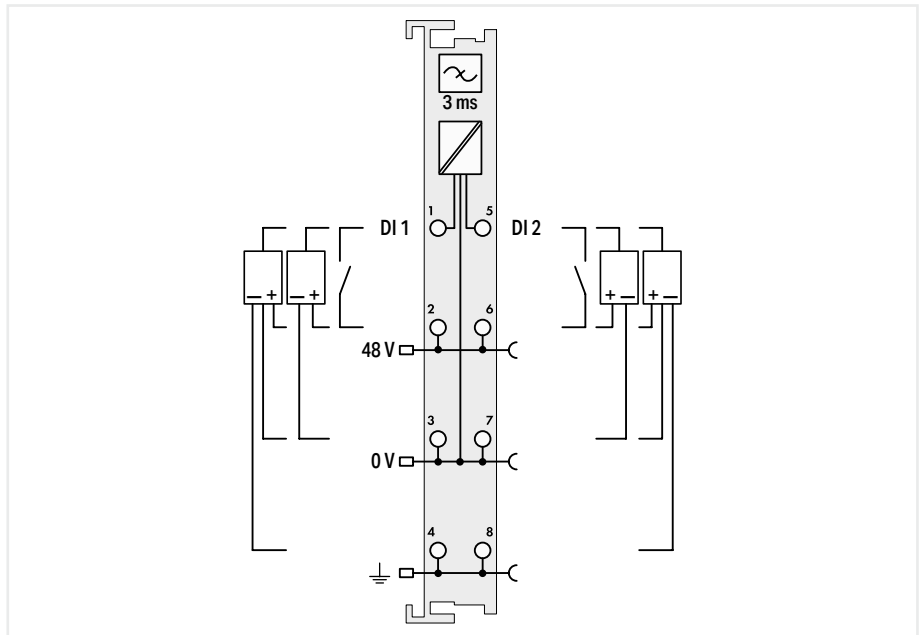
|                  |  |  |
|------------------|--|--|
| Item description | 4-Channel Digital Input; 42 VAC/VDC; 20 ms |  |
| Version          | Standard                                   | pluggable (delivery without connector) |
| Item no.         | 750-428                                    | 753-428                                |
| Order Text       | 4DI; 42 VAC/VDC; 20ms                      | 4DI; 42 VAC/VDC; 20ms                  |

| Technical data                                  | fixed                           | pluggable                    |
|---|---------------------------------|------------------------------|
| Pluggable connector                             |                                 |                              |
| Number of digital inputs                        |                                 | 4                            |
| Signal type                                     |                                 | Digital                      |
| Signal type (voltage)                           |                                 | 42 VAC/DC                    |
| Voltage range for signal (0)                    |                                 | -3 ... +10 VDC; 0 ... 10 VAC |
| Voltage range for signal (1)                    |                                 | 30 ... 53 VDC; 30 ... 53 VAC |
| Input current (typ.)                            |                                 | 3.6 mA (AC); 6.0 mA (DC)     |
| Sensor connection                               |                                 | 4 x (2-wire)                 |
| Input characteristic                            |                                 | high-side switching          |
| Input filter (digital)                          |                                 | 20 ms                        |
| Current consumption (5 V system supply)         |                                 | 5 mA                         |
| Input data width (internal) max.                |                                 | 4 bits                       |
| Isolation                                       |                                 | 500 V system/field           |
| Ambient temperature (operation)                 |                                 | 0 ... +55 °C                 |
| Dimensions W x H x D                            |                                 | (12 x 100 x 69.8) mm         |
| Approvals                                       | CE,  OrdLoc/HazLoc;  ATEX/IECEx |                              |
| For data sheet and additional information, see: | wago.com/750-428                | wago.com/753-428             |
| Accessories                                     | Item no.                        | Item no.                     |
| Plug  | -                               | 753-110                      |

## Digital input ▶ 48 VDC ▶ high-side switching ▶ 3 ms



750-412



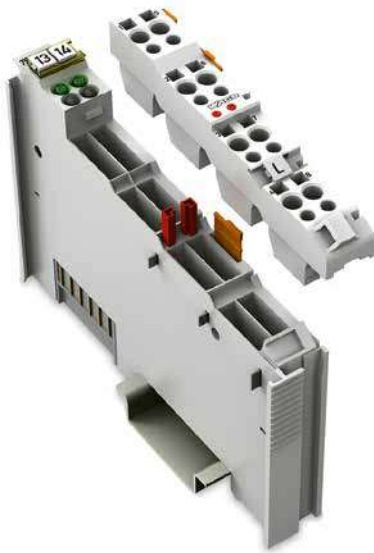
|                  |                                       |  |
|------------------|---------------------------------------|--|
| Item description | 2-Channel Digital Input; 48 VDC; 3 ms |  |
| Version          | Standard                              | pluggable (delivery without connector) |
| Item no.         | 750-412                               | 753-412                                |
| Order Text       | 2DI; 48 VDC; 3ms                      | 2DI; 48 VDC; 3ms                       |

## Technical data

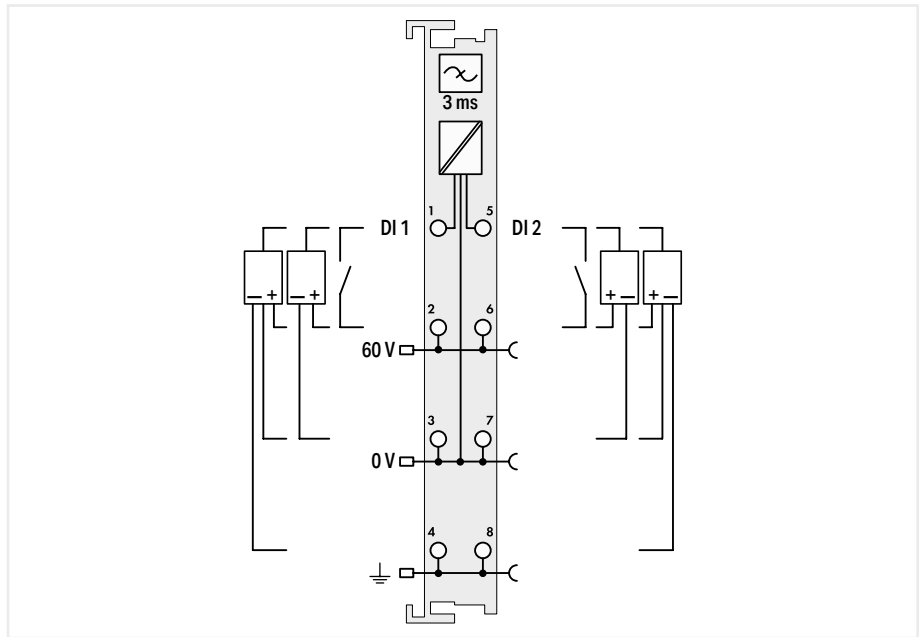
|   | fixed                           | pluggable   |
|---|---------------------------------|---|
| Pluggable connector                             |                                 |   |
| Number of digital inputs                        |                                 | 2   |
| Signal type                                     |                                 | Digital   |
| Signal type (voltage)                           |                                 | 48 VDC  |
| Voltage range for signal (0)                    |                                 | -6 ... +10 VDC  |
| Voltage range for signal (1)                    |                                 | 34 ... 60 VDC   |
| Sensor connection                               |                                 | 2 x (2-wire, 3-wire, 4-wire)  |
| Input characteristic                            |                                 | high-side switching   |
| Input filter (digital)                          |                                 | 3 ms  |
| Input current per channel for signal (1) typ.   |                                 | 3.8 mA  |
| Supply voltage (sensor)                         |                                 | 48 VDC  |
| Supply voltage (field)                          |                                 | 48 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         |                                 | 2.5 mA  |
| Input data width (internal) max.                |                                 | 2 bits  |
| Isolation                                       |                                 | 500 V system/field  |
| Ambient temperature (operation)                 |                                 | 0 ... +55 °C  |
| Dimensions W x H x D                            |                                 | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEX |   |
| For data sheet and additional information, see: | wago.com/750-412                | wago.com/753-412  |
| Accessories                                     | Item no.                        | Item no.  |
| Plug  | -                               | 753-110   |

Notice: An additional supply module must be added for 48 VDC supply!

## Digital input ▶ 60 VDC ▶ high-side switching ▶ 3 ms



753-429



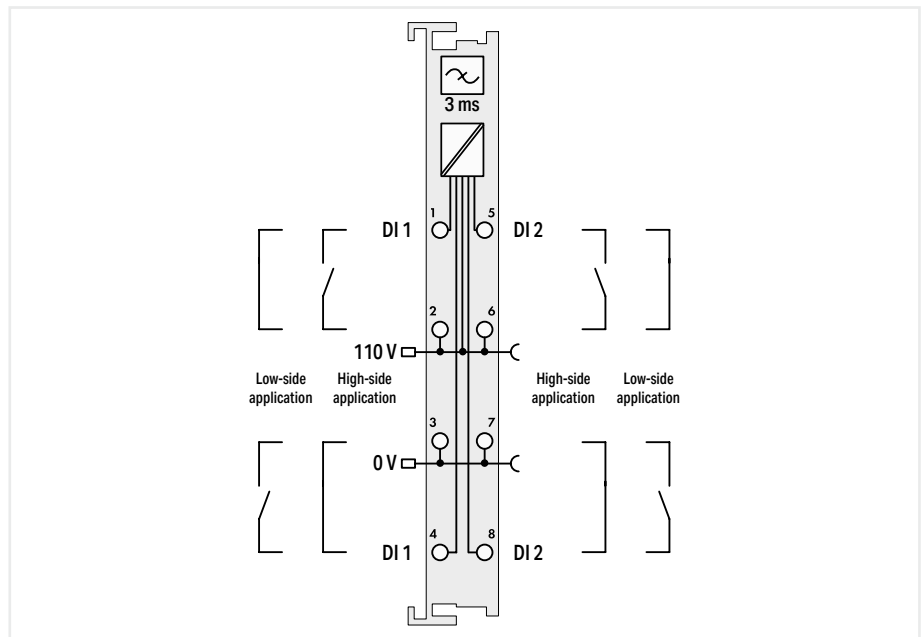
|   |   |
|---|---|
| Item description                                | 2-Channel Digital Input; 60 VDC; 3 ms   |
| Version   | pluggable (delivery without connector)  |
| Item no.  | 753-429   |
| Order Text                                      | 2DI; 60 VDC; 3ms  |
| Technical data                                  |   |
| Pluggable connector                             | pluggable   |
| Number of digital inputs                        | 2   |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 60 VDC  |
| Voltage range for signal (0)                    | -7.5 ... +12 VDC  |
| Voltage range for signal (1)                    | 44 ... 75 VDC   |
| Sensor connection                               | 2 x (2-wire, 3-wire, 4-wire)  |
| Input characteristic                            | high-side switching   |
| Input filter (digital)                          | 3 ms  |
| Input current per channel for signal (1) typ.   | 2.9 mA  |
| Supply voltage (sensor)                         | 60 VDC  |
| Supply voltage (field)                          | 60 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 2.5 mA  |
| Input data width (internal) max.                | 2 bits  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE, IEC, OrdLoc/HazLoc, ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/753-429  |
| Accessories                                     |   |
| Plug  | 753-110   |

Notice: An additional supply module must be added for 60 VDC supply!

## Digital input ▶ 110 VDC ▶ high-side/low-side switching, configurable ▶ 3 ms



750-427



| Item description                                | 2-Channel Digital Input; 110 VDC   |  |
|---|--|--|
| Version   | Standard   | pluggable (delivery without connector) |
| Item no.  | 750-427  | 753-427                                |
| Order Text                                      | 2DI; 110 VDC   | 2DI; 110 VDC                           |
| Technical data                                  |  |  |
| Pluggable connector                             | fixed  | pluggable                              |
| Number of digital inputs                        | 2  |  |
| Signal type                                     | Digital  |  |
| Signal type (voltage)                           | 110 VDC  |  |
| Voltage range for signal (0)                    | -14 ... +50 VDC  |  |
| Voltage range for signal (1)                    | 70 ... 143 VDC   |  |
| Sensor connection                               | 2 x (2-wire)   |  |
| Input characteristic                            | high-side/low-side switching, configurable   |  |
| Input filter (digital)                          | 3 ms   |  |
| Input current per channel for signal (1) typ.   | 2.5 mA   |  |
| Supply voltage (sensor)                         | 110 VDC  |  |
| Supply voltage (field)                          | 110 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)         | 2.5 mA   |  |
| Input data width (internal) max.                | 2 bits   |  |
| Isolation                                       | 1500 V (system/field)  |  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |  |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEx  |  |
| For data sheet and additional information, see: | wago.com/750-427   | wago.com/753-427                       |
| Accessories                                     | Item no.   | Item no.                               |
| Plug  | -  | 753-110                                |

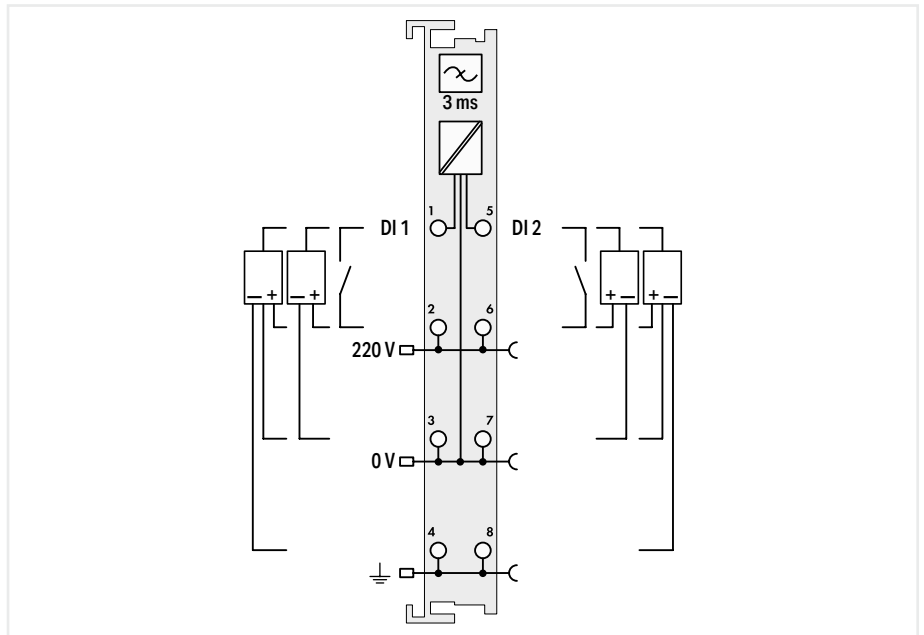
Notice: An additional supply module must be added for 110 VDC supply!



## Digital input ▶ 220 VDC ▶ high-side switching ▶ 3 ms



750-407



|                  |                                  |
|------------------|----------------------------------|
| Item description | 2-Channel Digital Input; 220 VDC |
| Version          | Standard                         |
| Item no.         | 750-407                          |
| Order Text       | 2DI; 220 VDC                     |

## Technical data

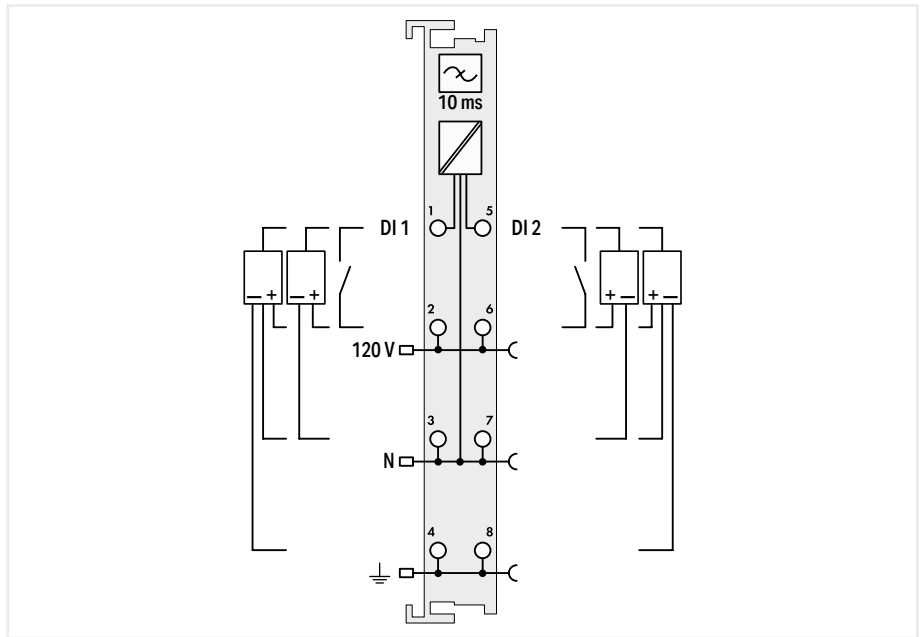
|   |  |
|---|--|
| Pluggable connector                             | fixed  |
| Number of digital inputs                        | 2  |
| Signal type                                     | Digital  |
| Signal type (voltage)                           | 220 VDC  |
| Voltage range for signal (0)                    | -3 ... +100 VDC  |
| Voltage range for signal (1)                    | 160 ... 286 VDC  |
| Sensor connection                               | 2 x (2-wire, 3-wire, 4-wire)   |
| Input characteristic                            | high-side switching  |
| Input filter (digital)                          | 3 ms   |
| Input current per channel for signal (1) typ.   | 1.2 mA   |
| Supply voltage (sensor)                         | 220 VDC  |
| Supply voltage (field)                          | 220 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 5 mA   |
| Input data width (internal) max.                | 2 bits   |
| Isolation                                       | 2500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |
| Approvals                                       | CE, IEC  |
| For data sheet and additional information, see: | wago.com/750-407   |

Notice: An additional supply module must be added for 220 VDC supply!

## Digital input ▶ 120 VAC ▶ high-side switching ▶ 10 ms



750-406



|                  |                                  |
|------------------|----------------------------------|
| Item description | 2-Channel Digital Input; 120 VAC |
| Version          |                                  |
| Item no.         | 750-406                          |
| Order Text       | 2DI; 120 VAC                     |

|              |  |
|--------------|--|
| Standard     | pluggable (delivery without connector) |
| 750-406      | 753-406                                |
| 2DI; 120 VAC | 2DI; 120 VAC                           |

|   |  |
|---|--|
| Technical data                                |  |
| Pluggable connector                           | fixed  |
| Number of digital inputs                      | 2  |
| Signal type                                   | Digital  |
| Signal type (voltage)                         | 120 VAC  |
| Voltage range for signal (0)                  | 0 ... 20 VAC   |
| Voltage range for signal (1)                  | 79 VAC ... 1.1 x U <sub>N</sub>  |
| Sensor connection                             | 2 x (2-wire, 3-wire, 4-wire)   |
| Input characteristic                          | high-side switching  |
| Input filter (digital)                        | 10 ms  |
| Input current per channel for signal (1) typ. | 4.5 mA   |
| Signal frequency (min.)                       | 45 Hz  |
| Signal frequency (max.)                       | 65 Hz  |
| Supply voltage (sensor)                       | 120 VAC  |
| Supply voltage (field)                        | 120 VAC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)       | 2 mA   |
| Input data width (internal) max.              | 2 bits   |
| Isolation                                     | 1500 V (system/field)  |
| Ambient temperature (operation)               | 0 ... +55 °C   |
| Dimensions W x H x D                          | (12 x 100 x 69.8) mm   |
| Approvals                                     | CE;   Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

|  |       |  |
|--|-------|--|
|  | fixed | pluggable  |
|  |       | 2  |
|  |       | Digital  |
|  |       | 120 VAC  |
|  |       | 0 ... 20 VAC   |
|  |       | 79 VAC ... 1.1 x U <sub>N</sub>  |
|  |       | 2 x (2-wire, 3-wire, 4-wire)   |
|  |       | high-side switching  |
|  |       | 10 ms  |
|  |       | 4.5 mA   |
|  |       | 45 Hz  |
|  |       | 65 Hz  |
|  |       | 120 VAC  |
|  |       | 120 VAC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
|  |       | 2 mA   |
|  |       | 2 bits   |
|  |       | 1500 V (system/field)  |
|  |       | 0 ... +55 °C   |
|  |       | (12 x 100 x 69.8) mm   |
|  |       | CE;   Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

|   |                  |                  |
|---|------------------|------------------|
| For data sheet and additional information, see: | wago.com/750-406 | wago.com/753-406 |
| Accessories                                     |                  |                  |
| Plug  | -                | 753-110          |

|          |                  |                  |
|----------|------------------|------------------|
|          | wago.com/750-406 | wago.com/753-406 |
| Item no. |                  |                  |
|          | -                | 753-110          |

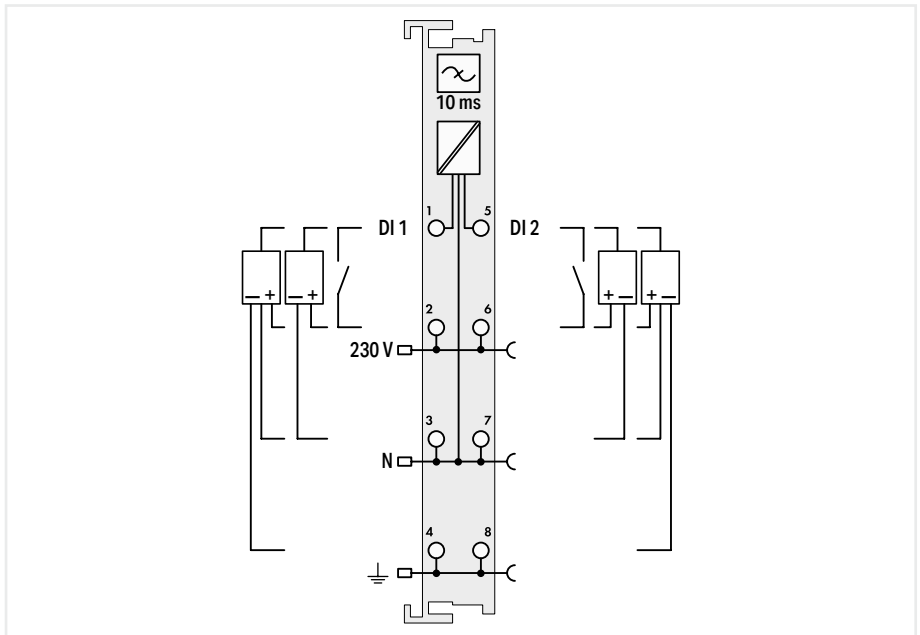
Notice: An additional supply module must be added for 120 VAC supply!

7.2

Digital input ▶ 230 VAC ▶ high-side switching ▶ 10 ms



750-405



|                  |                                  |
|------------------|----------------------------------|
| Item description | 2-Channel Digital Input; 230 VAC |
| Version          | Standard                         |
| Item no.         | 750-405                          |
| Order Text       | 2DI; 230 VAC                     |

|              |  |
|--------------|--|
| Standard     | pluggable (delivery without connector) |
| 750-405      | 753-405                                |
| 2DI; 230 VAC | 2DI; 230 VAC                           |

Technical data

|   |  |           |
|---|--|-----------|
| Pluggable connector                           | fixed  | pluggable |
| Number of digital inputs                      | 2  |           |
| Signal type                                   | Digital  |           |
| Signal type (voltage)                         | 230 VAC  |           |
| Voltage range for signal (0)                  | 0 ... 40 VAC   |           |
| Voltage range for signal (1)                  | 164 VAC ... 1.1 x U <sub>N</sub>   |           |
| Sensor connection                             | 2 x (2-wire, 3-wire, 4-wire)   |           |
| Input characteristic                          | high-side switching  |           |
| Input filter (digital)                        | 10 ms  |           |
| Input current per channel for signal (1) typ. | 6.5 mA   |           |
| Signal frequency (min.)                       | 45 Hz  |           |
| Signal frequency (max.)                       | 65 Hz  |           |
| Supply voltage (sensor)                       | 230 VAC  |           |
| Supply voltage (field)                        | 230 VAC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |           |
| Current consumption (5 V system supply)       | 2 mA   |           |
| Input data width (internal) max.              | 2 bits   |           |
| Isolation                                     | 1500 V (system/field)  |           |
| Ambient temperature (operation)               | 0 ... +55 °C   |           |
| Dimensions W x H x D                          | (12 x 100 x 69.8) mm   |           |
| Approvals                                     | CE, L, Marine, OrdLoc/HazLoc, ATEX/IECEx   |           |

|   |                  |                  |
|---|------------------|------------------|
| For data sheet and additional information, see: | wago.com/750-405 | wago.com/753-405 |
|---|------------------|------------------|

|             |          |          |
|-------------|----------|----------|
| Accessories | Item no. | Item no. |
| Plug        | -        | 753-110  |

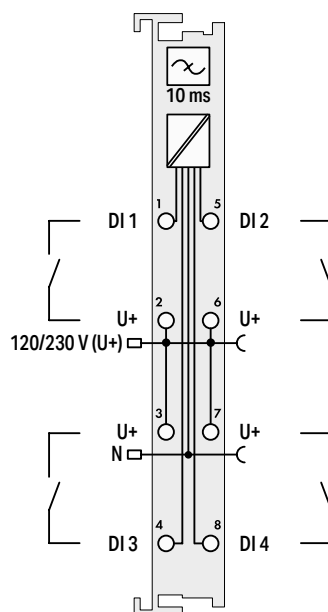
|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-110  |

Notice: An additional supply module must be added for 230 VAC supply!

## Digital input ▶ 120/230 VAC ▶ high-side switching ▶ 10 ms



753-440



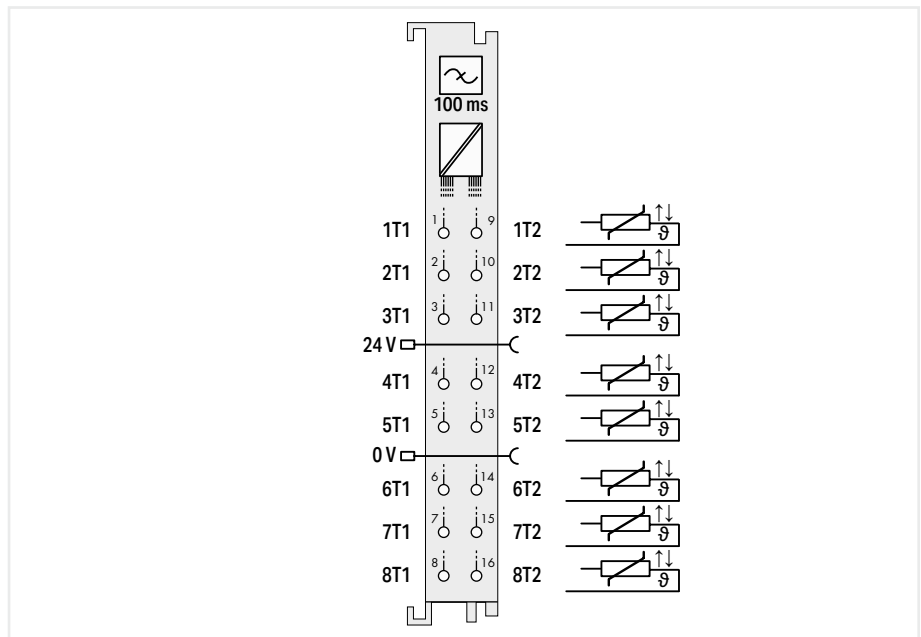
|   |  |
|---|--|
| Item description                                | 4-Channel Digital Input; 120/230 VAC   |
| Version   | pluggable (delivery without connector)   |
| Item no.  | 753-440  |
| Order Text                                      | 4DI; 120/230 VAC   |
| Technical data                                  |  |
| Pluggable connector                             | pluggable  |
| Number of digital inputs                        | 4  |
| Signal type                                     | Digital  |
| Signal type (voltage)                           | 120 VAC  |
| Voltage range for signal (0)                    | 0 ... 40 VAC   |
| Voltage range for signal (1)                    | 79 ... 230 VAC (-15 ... +10 %)   |
| Sensor connection                               | 4 x (2-wire)   |
| Input characteristic                            | high-side switching  |
| Input filter (digital)                          | 10 ms  |
| Input current at specific input voltage         | 2.3 mA at 120 V  |
| Input current at specific input voltage (2)     | 4.7 mA bei 230 V   |
| Signal frequency (min.)                         | 45 Hz  |
| Signal frequency (max.)                         | 65 Hz  |
| Protection against incorrect wiring             | Overvoltage protection (275 V) via varistor  |
| Supply voltage (sensor)                         | 230 VAC  |
| Supply voltage (field)                          | 230 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 15 mA  |
| Input data width (internal) max.                | 4 bits   |
| Isolation                                       | 1500 V (system/field)  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see: | wago.com/753-440   |
| Accessories                                     | Item no.   |
| Plug  | 753-110  |

Notice: An additional supply module must be added for 120/230 VAC supply!

## Digital input ▶ PTC, thermistor per DIN 44081/44082 ▶ 100 ms



750-1425



|                  |                              |
|------------------|------------------------------|
| Item description | 8-Channel Digital Input; PTC |
| Version          | Standard with 16 connectors  |
| Item no.         | 750-1425                     |
| Order Text       | 8DI; PTC                     |

## Technical data

|   |   |
|---|---|
| Pluggable connector                             | fixed   |
| Number of digital inputs                        | 8   |
| Signal type                                     | PTC, thermistor per DIN 44081/44082   |
| Sensor connection                               | 8 x (2-wire)  |
| Specific sensor properties                      | Sensor voltage: $\leq 2.5 \text{ V} / \leq 7.5 \text{ V}$ (based on resistance value); Number of PTCs per channel: max. 6 PTCs in series; Operating value (status bit "1" to "0"): $R \geq 3 \text{ k}\Omega$ ; Return value (status bit "0" to "1"): $\leq 1.5 \text{ k}\Omega$ ; Hysteresis: $R = 1.5 \text{ k}\Omega$ ; Wire break value: $R \geq 8 \text{ k}\Omega$ ; Short circuit value: $R \leq 20 \Omega$ |
| Input filter (digital)                          | 100 ms  |
| Output current per channel                      | 0.001 A   |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)   |
| Current consumption (5 V system supply)         | 52 mA   |
| Data width                                      | 16-bit input: 8-bit data, 8-bit error (short circuit/wire break)  |
| Input data width (internal) max.                | 16 bits   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-1425   |

The PTC module is used to connect PTC thermistors according to DIN 44081 and DIN 44082 for thermal monitoring (overload protection) of motors, machinery, bearings, etc. Up to six PTC thermistors can be connected in series per channel. If the nominal response temperature ( $\theta_{nat}$ ) is exceeded, a bit is set in the module's input process image. In addition, wire breaks and short circuits are monitored for each channel. If an error occurs, a bit is also set in the input process image. The module features one green and one red status LED per channel to indicate excessive temperatures or wiring errors.

# Digital Output Modules



## Housing Design (750 Series)

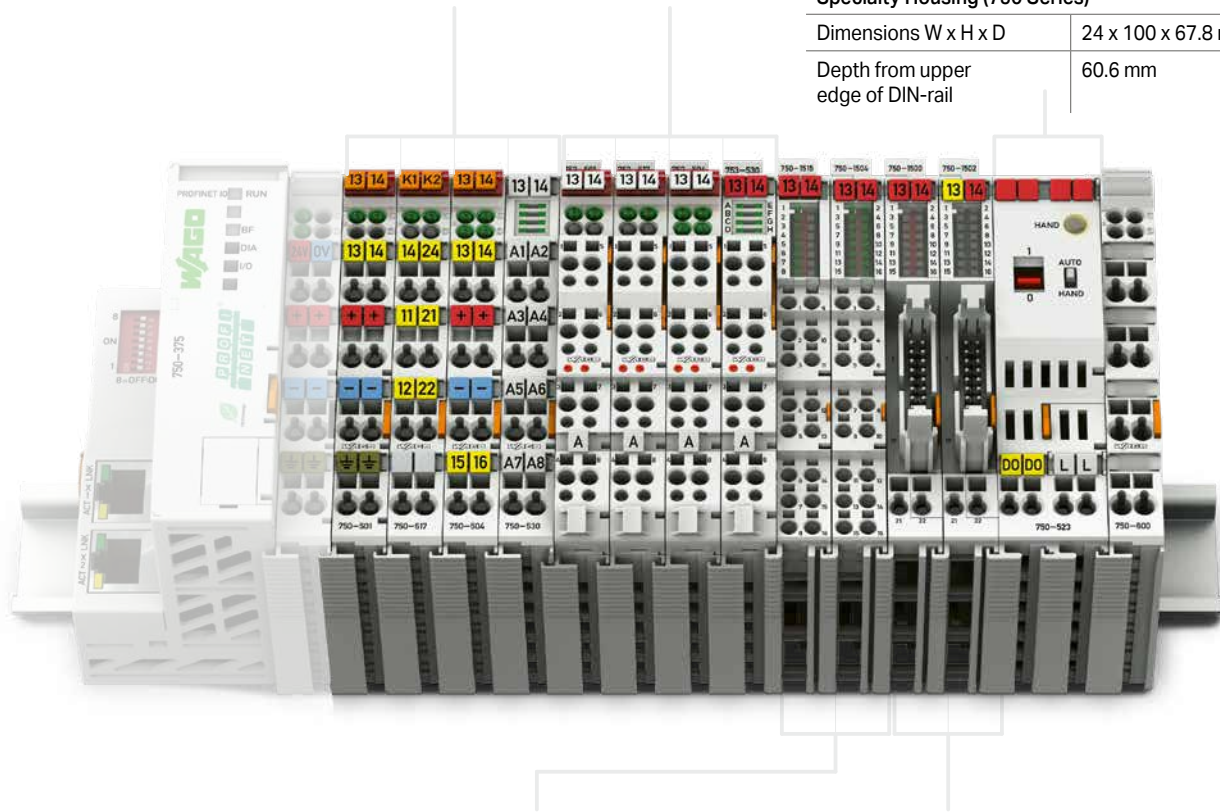
|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 60.6 mm                       |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                       |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 69 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 61.8 mm                     |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                     |
| Strip length                      | 9 ... 10 mm / 0.37 inch  |

## Specialty Housing (750 Series)

|                                   |                    |
|-----------------------------------|--------------------|
| Dimensions W x H x D              | 24 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | 60.6 mm            |



## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN-rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (750 Series), with Ribbon Cable Connection

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 74.1 mm                           |
| Depth from upper edge of DIN-rail | 66.9 mm                                      |
| Connection technology             | 20-pole male connector + 2 x CAGE CLAMP®     |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch                       |



I/O System -  
750 XTR Series



# I/O System – 750 and 753 Series, Digital Output Modules

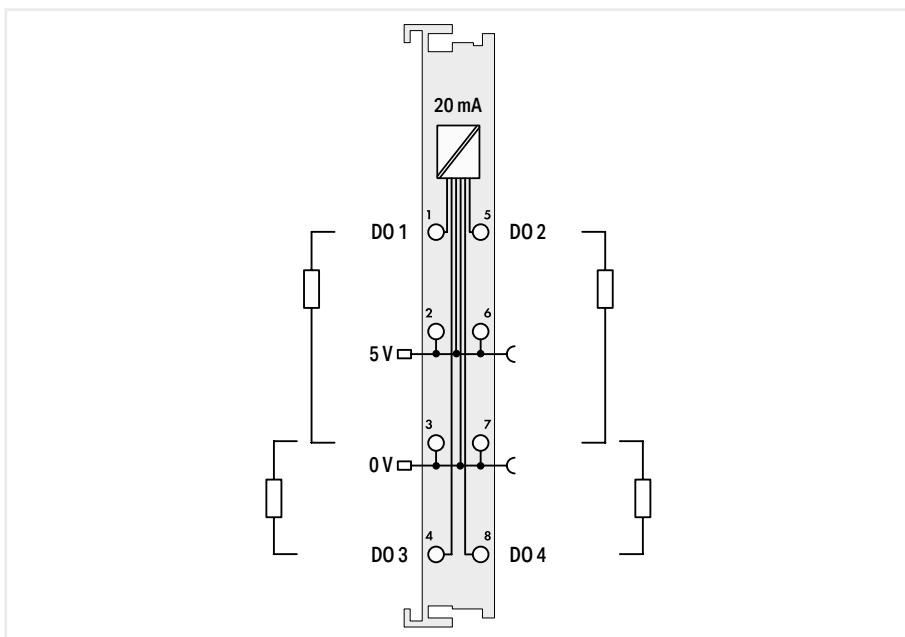
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|  |              | ■            |              |              |               |               | 4-Channel Digital Output; 30 VAC/DC; 2.0 A; Solid-State; Isolated                                      | 750-528  |                      |                 | 300             |     |
| 120/230 VAC  |              |              | ■            |              |               |               | 4-Channel Digital Output; 230 VAC; 0.25 A; Solid-State   |  |                      | 753-540         | 301             |     |
| 230 VAC/VDC  | ■            |              |              |              |               |               | 2-Channel Digital Output; 230 VAC; 0.3 A; Solid-State  | 750-509  |                      | 753-509         | 302             |     |
| Relays   | ■            |              |              |              |               |               | 2-Channel Relay Output; 125 VAC; 0.5 A; Potential-Free; 2 Changeover Contacts                          | 750-514  |                      | 753-514         | 303             |     |
|  | ■            |              |              |              |               |               | 2-Channel Relay Output; 250 VAC; 0.5 A; Potential-Free; 2 Changeover Contacts                          | 750-517*   |                      | 753-517         | 304             |     |
|  | ■            |              |              |              |               |               | 2-Channel Relay Output; 250 VAC; 2.0 A; 2 Make Contacts  | 750-512  |                      | 753-512         | 305             |     |
|  | ■            |              |              |              |               |               | 2-Channel Relay Output; 250 VAC; 2.0 A; Potential-Free; 2 Make Contacts                                | 750-513  |                      | 753-513         | 306             |     |
|  | ■            |              |              |              |               |               | 2-Channel Relay Output; 250 VAC; 2.0 A; Potential-Free; 2 Make Contacts; Without Power Jumper Contacts | 750-513/000-001  |                      | 753-513/000-001 | 307             |     |
|  |              | ■            |              |              |               |               |  | 4-Channel Relay Output; 250 VAC; 2.0 A; Potential-Free; 4 Make Contacts        | 750-515              |                 |                 | 308 |
|  |              | ■            |              |              |               |               | 1-Channel Relay Output; 250 VAC; 16 A; Potential-Free; 1 Make Contact                                  | 750-523  |                      |                 | 309             |     |
| Functional Safety  |              |              |              |              |               |               |  | See Section 7.8  |                      |                 |                 |     |
| Ex i   |              |              |              |              |               |               |  | See Section 7.9  |                      |                 |                 |     |
| *This module is also available as a variant of the 750 XTR Series. |              |              |              |              |               |               |  | See Section 8  |                      |                 |                 |     |

## Digital output ▶ 5 VDC ▶ high-side switching ▶ 0.02 A



750-519



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Output; 5 VDC; 20 mA |
| Version          | Standard                               |
| Item no.         | 750-519                                |
| Order Text       | 4DO; 5 VDC; 20mA                       |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital outputs  | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 5 VDC   |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.02 A  |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 2 x (2-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators. |
| Switching frequency (max.)                                       | 5 kHz   |
| Supply voltage (field)   | 5 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)                  |
| Current consumption, field supply (module with no external load) | 14 mA   |
| Current consumption (5 V system supply)                          | 10 mA   |
| Output data width (internal) max.                                | 4 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE,   OrdLoc/HazLoc   |

For data sheet and additional information, see:

wago.com/750-519

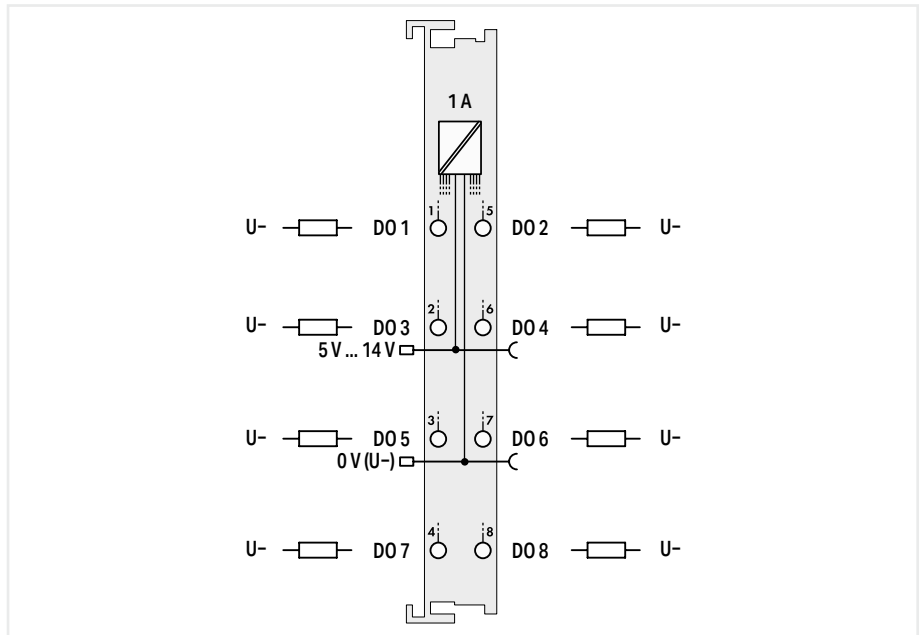
Notice: An additional supply module must be added for 5 VDC supply!



Digital output ▶ 5 VDC ▶ high-side switching ▶ 1 A



750-534



|                  |                                       |
|------------------|---------------------------------------|
| Item description | 8-Channel Digital Output; 12 VDC; 1 A |
| Version          | Standard                              |
| Item no.         | 750-534                               |
| Order Text       | 8DO; 12 VDC; 1A                       |

|                 |  |
|-----------------|--|
| Standard        | pluggable (delivery without connector) |
| 750-534         | 753-534                                |
| 8DO; 12 VDC; 1A | 8DO; 12 VDC; 1A                        |

|  |   |                    |
|--|---|--------------------|
| Technical data   |   |                    |
| Pluggable connector  | fixed   | pluggable          |
| Number of digital outputs  | 8   |                    |
| Signal type  | Digital   |                    |
| Signal type (voltage)  | 5 VDC; 12 VDC   |                    |
| Output characteristic  | high-side switching   |                    |
| Output current per channel                                       | 1 A   |                    |
| Output current   | short-circuit-protected   |                    |
| Load type  | Resistive, inductive  |                    |
| Actuator connection  | 8 x (1-wire)  |                    |
| Switching frequency (max.)                                       | 2 kHz   |                    |
| Supply voltage (field)   | 14 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| Current consumption, field supply (module with no external load) | 25 mA   |                    |
| Current consumption (5 V system supply)                          | 20 mA   |                    |
| Output data width (internal) max.                                | 8 bits  |                    |
| Isolation  | 500 V system/field  |                    |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |                    |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm |
| Approvals  | Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |                    |
| For data sheet and additional information, see:                  | wago.com/750-534  | wago.com/753-534   |

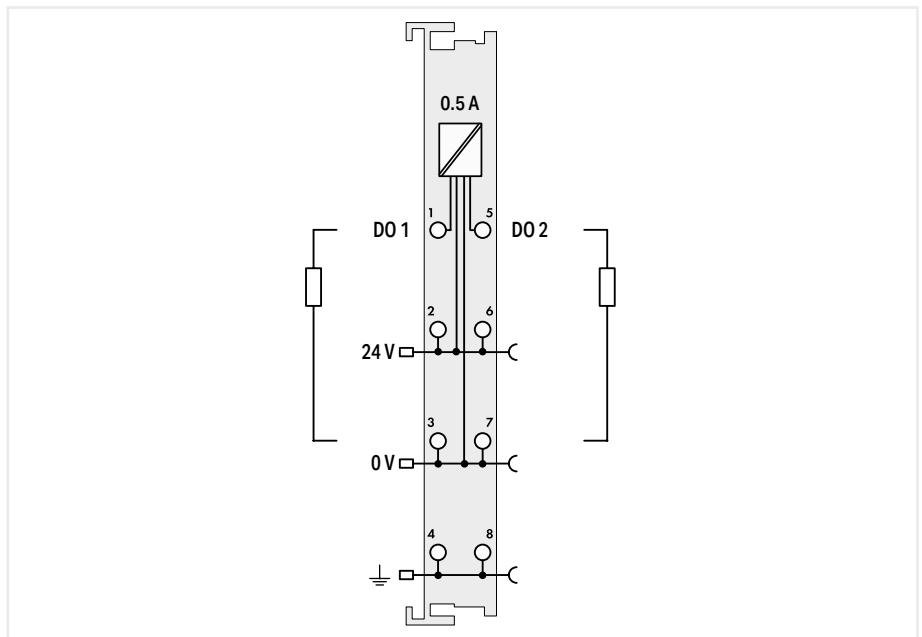
|          |   |         |
|----------|---|---------|
| Item no. | - | 753-110 |
|----------|---|---------|

Notice: An additional supply module must be added for 5–14 VDC supply!

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-501



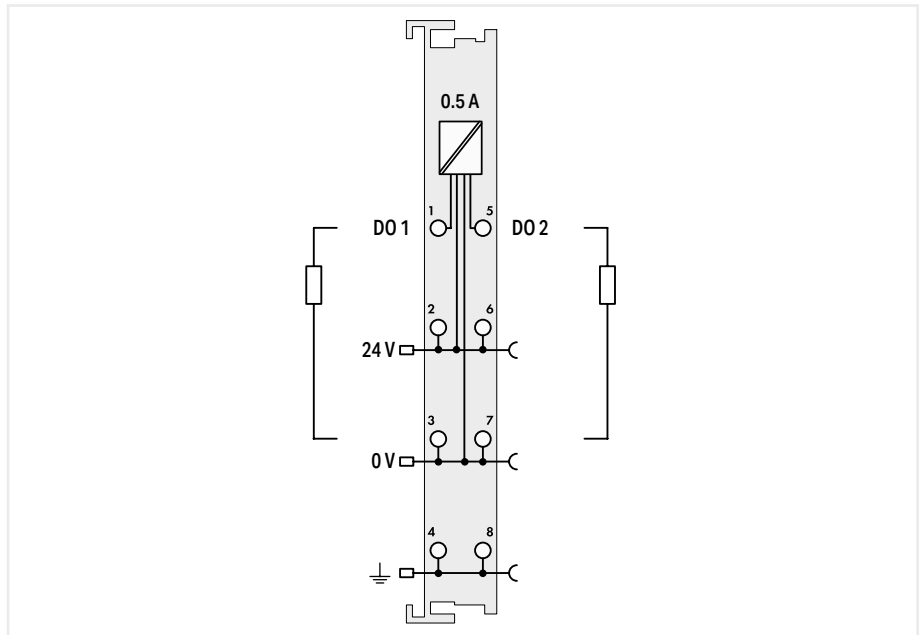
|  |   |                       |  |   |
|--|---|-----------------------|--|---|
| Item description   | <b>2-Channel Digital Output; 24 VDC; 0.5 A</b>  |                       |  |   |
| Version  | Standard  | interference-free     | pluggable (delivery without connector) | pluggable (delivery without connector); Interference-free |
| Item no.   | 750-501   | 750-501/000-800       | 753-501                                | 753-501/000-800   |
| Order Text   | 2DO; 24 VDC; 0.5A   | 2DO; 24 VDC; 0.5A; IF | 2DO; 24 VDC; 0.5A                      | 2DO; 24 VDC; 0.5A; IF                                     |
| Technical data   |   |                       |  |   |
| Pluggable connector  | fixed   |                       | pluggable                              |   |
| Interference-free with safety function                           | -   | Yes                   | -                                      | Yes   |
| Number of digital outputs  | 2   |                       |  |   |
| Signal type  | Digital   |                       |  |   |
| Signal type (voltage)  | 24 VDC  |                       |  |   |
| Output characteristic  | high-side switching   |                       |  |   |
| Output current per channel                                       | 0.5 A   |                       |  |   |
| Output current   | short-circuit-protected   |                       |  |   |
| Load type  | Resistive, inductive, lamp load   |                       |  |   |
| Actuator connection  | 2 x (2-wire, 3-wire, 4-wire)  |                       |  |   |
| Switching frequency (max.)                                       | 5 kHz   |                       |  |   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                       |  |   |
| Current consumption, field supply (module with no external load) | 15 mA   |                       |  |   |
| Current consumption (5 V system supply)                          | 3.5 mA  |                       |  |   |
| Output data width (internal) max.                                | 2 bits  |                       |  |   |
| Isolation  | 500 V system/field  |                       |  |   |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |                       |  |   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                       |  |   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                       |  |   |
| For data sheet and additional information, see:                  | wago.com/750-501  |                       | wago.com/753-501                       |   |
| Accessories  | Item no.  | Item no.              | Item no.                               | Item no.  |
| Plug   | -   | -                     | 753-110                                | 753-110   |

7.3

Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-506



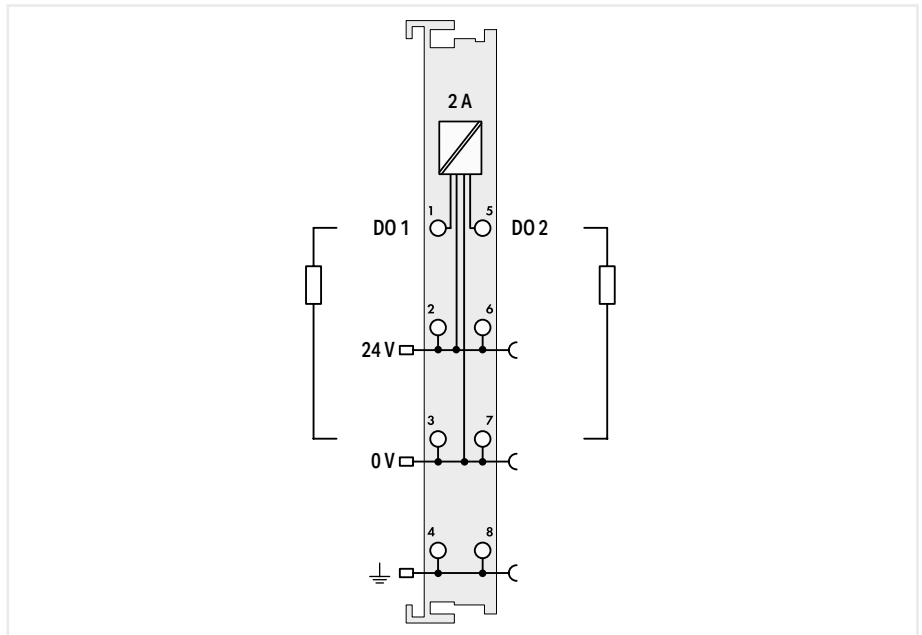
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|------------------|--|------------------------------|--|
| Item description | 2-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics |                              |  |
| Version          | Standard   | interference-free            | pluggable (delivery without connector) |
| Item no.         | 750-506  | 750-506/000-800              | 753-506                                |
| Order Text       | 2DO; 24 VDC; 0.5A; Diagn                             | 2DO; 24 VDC; 0.5A; IF; Diagn | 2DO; 24 VDC; 0.5A; Diagn               |

|  |   |                                       |                  |
|--|---|---------------------------------------|------------------|
| Technical data   |   |                                       |                  |
| Pluggable connector  |   | fixed                                 | pluggable        |
| Interference-free with safety function                           | -   | Yes                                   | -                |
| Number of digital outputs  |   | 2                                     |                  |
| Signal type  |   | Digital                               |                  |
| Signal type (voltage)  |   | 24 VDC                                |                  |
| Output characteristic  |   | high-side switching                   |                  |
| Output current per channel                                       |   | 0.5 A                                 |                  |
| Output current   |   | short-circuit-protected               |                  |
| Load type  |   | Resistive, inductive, lamp load       |                  |
| Actuator connection  |   | 2 x (2-wire, 3-wire, 4-wire)          |                  |
| Switching frequency (max.)                                       |   | 5 kHz                                 |                  |
| Diagnostics  |   | Open circuit, short circuit, overload |                  |
| Supply voltage (field)   | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                                       |                  |
| Current consumption, field supply (module with no external load) |   | 15 mA                                 |                  |
| Current consumption (5 V system supply)                          |   | 15 mA                                 |                  |
| Input data width (internal) max.                                 |   | 4 bits                                |                  |
| Output data width (internal) max.                                |   | 4 bits                                |                  |
| Isolation  |   | 500 V system/field                    |                  |
| Ambient temperature (operation)                                  |   | 0 ... +55 °C                          |                  |
| Dimensions W x H x D   |   | (12 x 100 x 69.8) mm                  |                  |
| Approvals  | CE,  OrdLoc/HazLoc,  ATEX/IECEX   |                                       |                  |
| For data sheet and additional information, see:                  | wago.com/750-506  |                                       | wago.com/753-506 |
| Accessories  | Item no.  | Item no.                              | Item no.         |
| Plug   | -   | -                                     | 753-110          |

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 2 A



750-502



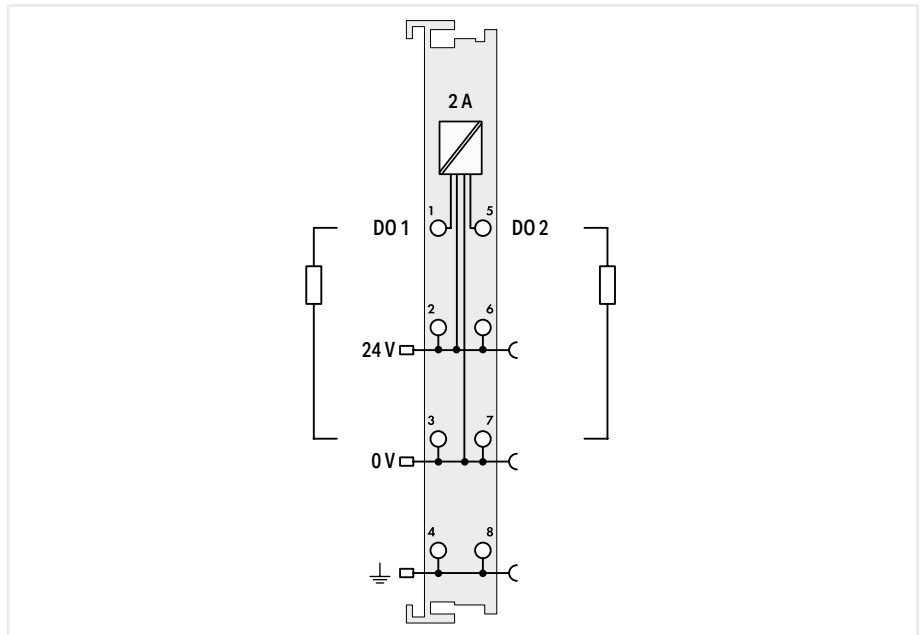
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|--|---|---------------------|--|---|
| Item description   | <b>2-Channel Digital Output; 24 VDC; 2.0 A</b>  |                     |  |   |
| Version  | Standard  | interference-free   | pluggable (delivery without connector) | pluggable (delivery without connector); Interference-free |
| Item no.   | 750-502   | 750-502/000-800     | 753-502                                | 753-502/000-800   |
| Order Text   | 2DO; 24 VDC; 2A   | 2DO; 24 VDC; 2A; IF | 2DO; 24 VDC; 2A                        | 2DO; 24 VDC; 2A; IF                                       |
| Technical data   |   |                     |  |   |
| Pluggable connector  | fixed   |                     | pluggable                              |   |
| Interference-free with safety function                           | -   | Yes                 | -                                      | Yes   |
| Number of digital outputs  | 2   |                     |  |   |
| Signal type  | Digital   |                     |  |   |
| Signal type (voltage)  | 24 VDC  |                     |  |   |
| Output characteristic  | high-side switching   |                     |  |   |
| Output current per channel                                       | 2 A   |                     |  |   |
| Output current   | short-circuit-protected   |                     |  |   |
| Load type  | Resistive, inductive, lamp load   |                     |  |   |
| Actuator connection  | 2 x (2-wire, 3-wire, 4-wire)  |                     |  |   |
| Switching frequency (max.)                                       | 2.5 kHz   |                     |  |   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                     |  |   |
| Current consumption, field supply (module with no external load) | 15 mA   |                     |  |   |
| Current consumption (5 V system supply)                          | 3.5 mA  |                     |  |   |
| Output data width (internal) max.                                | 2 bits  |                     |  |   |
| Isolation  | 500 V system/field  |                     |  |   |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |                     |  |   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                     |  |   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                     |  |   |
| For data sheet and additional information, see:                  | wago.com/750-502  |                     | wago.com/753-502                       |   |
| Accessories  | Item no.  | Item no.            | Item no.                               | Item no.  |
| Plug   | -   | -                   | 753-110                                | 753-110   |

7.3

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 2 A



750-508



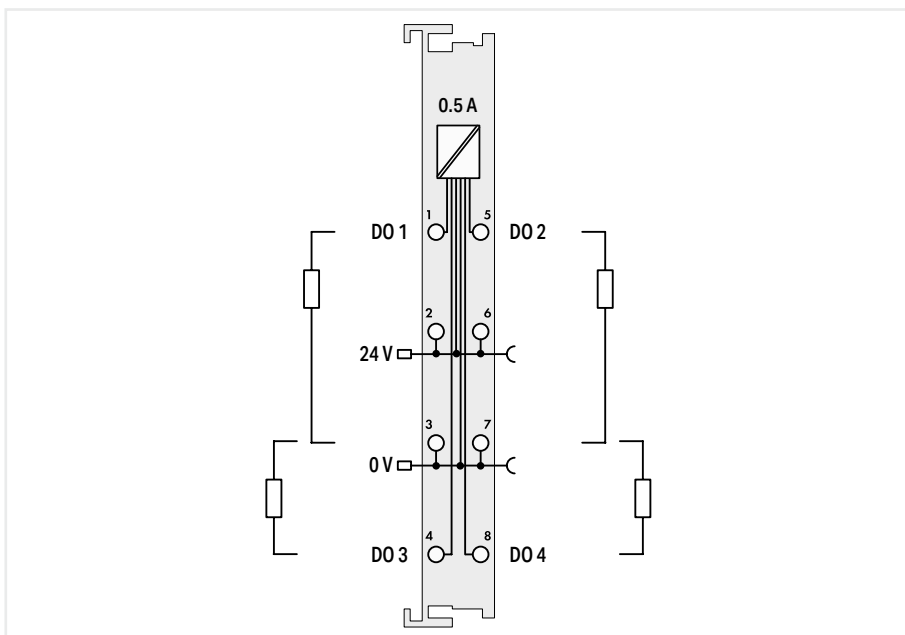
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|------------------|---|----------------------------|--|
| Item description | <b>2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics</b> |                            |  |
| Version          | Standard  | interference-free          | pluggable (delivery without connector) |
| Item no.         | 750-508   | 750-508/000-800            | 753-508                                |
| Order Text       | 2DO; 24 VDC; 2A; Diagn                                      | 2DO; 24 VDC; 2A; IF; Diagn | 2DO; 24 VDC; 2A; Diagn                 |

|  |   |                                       |                  |
|--|---|---------------------------------------|------------------|
| Technical data   |   |                                       |                  |
| Pluggable connector  |   | fixed                                 | pluggable        |
| Interference-free with safety function                           | -   | Yes                                   | -                |
| Number of digital outputs  |   | 2                                     |                  |
| Signal type  |   | Digital                               |                  |
| Signal type (voltage)  |   | 24 VDC                                |                  |
| Output characteristic  |   | high-side switching                   |                  |
| Output current per channel                                       |   | 2 A                                   |                  |
| Output current   |   | short-circuit-protected               |                  |
| Load type  |   | Resistive, inductive, lamp load       |                  |
| Actuator connection  |   | 2 x (2-wire, 3-wire, 4-wire)          |                  |
| Switching frequency (max.)                                       |   | 1 kHz                                 |                  |
| Diagnostics  |   | Open circuit, short circuit, overload |                  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                                       |                  |
| Current consumption, field supply (module with no external load) |   | 7 mA                                  |                  |
| Current consumption (5 V system supply)                          |   | 14 mA                                 |                  |
| Input data width (internal) max.                                 |   | 2 bits                                |                  |
| Output data width (internal) max.                                |   | 2 bits                                |                  |
| Isolation  |   | 500 V system/field                    |                  |
| Ambient temperature (operation)                                  |   | 0 ... +55 °C                          |                  |
| Dimensions W x H x D   |   | (12 x 100 x 69.8) mm                  |                  |
| Approvals  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEx  |                                       |                  |
| For data sheet and additional information, see:                  | wago.com/750-508  |                                       | wago.com/753-508 |
| Accessories  | Item no.  | Item no.                              | Item no.         |
| Plug   | -   | -                                     | 753-110          |

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-504

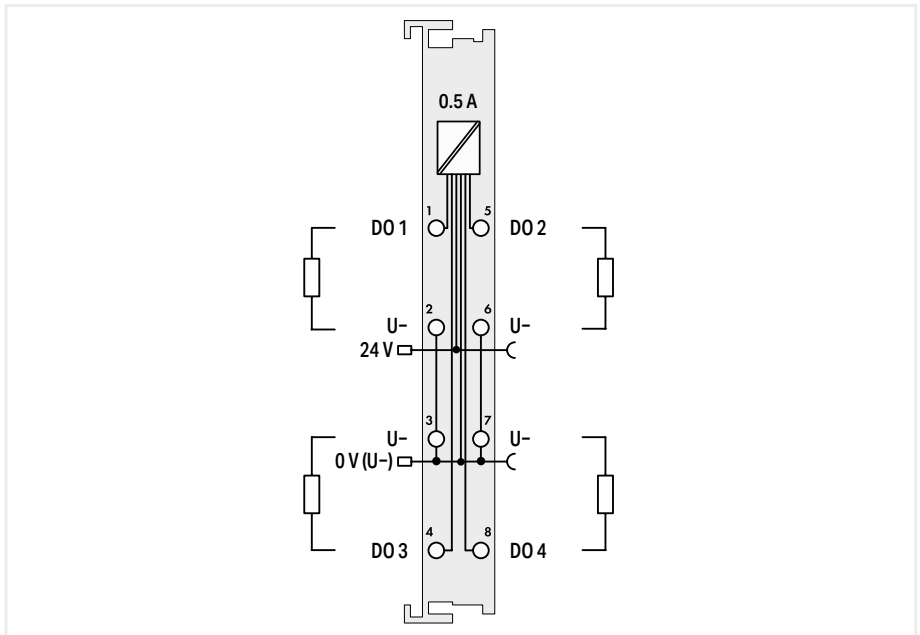


| Item description   |                   | 4-Channel Digital Output; 24 VDC; 0.5 A |   |  |   |  |
|--|-------------------|---|---|--|---|--|
| Version  | Standard          | ext. temperature                        | interference-free   | pluggable (delivery without connector) | interference-free; extended temperature |  |
| Item no.   | 750-504           | 750-504/025-000                         | 750-504/000-800   | 753-504                                | 750-504/025-800                         |  |
| Order Text   | 4DO; 24 VDC; 0.5A | 4DO; 24 VDC; 0.5A; T                    | 4DO; 24 VDC; 0.5A; IF   | 4DO; 24 VDC; 0.5A                      | 4DO; 24 VDC; 0.5A; IF; T                |  |
| Technical data   |                   |   |   |  |   |  |
| Pluggable connector  |                   | fixed                                   |   | pluggable                              | fixed                                   |  |
| Interference-free with safety function                           |                   | -                                       | Yes   | -                                      | Yes                                     |  |
| Number of digital outputs  |                   |   | 4   |  |   |  |
| Signal type  |                   |   | Digital   |  |   |  |
| Signal type (voltage)  |                   |   | 24 VDC  |  |   |  |
| Output characteristic  |                   |   | high-side switching   |  |   |  |
| Output current per channel                                       |                   |   | 0.5 A   |  |   |  |
| Output current   |                   |   | short-circuit-protected   |  |   |  |
| Load type  |                   |   | Resistive, inductive, lamp load   |  |   |  |
| Actuator connection  |                   |   | 2 x (2-wire, 3-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators. |  |   |  |
| Switching frequency (max.)                                       |                   |   | 1 kHz   |  |   |  |
| Supply voltage (field)   |                   |   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)         |  |   |  |
| Current consumption, field supply (module with no external load) |                   |   | 30 mA   |  |   |  |
| Current consumption (5 V system supply)                          |                   |   | 10 mA   |  |   |  |
| Output data width (internal) max.                                |                   |   | 4 bits  |  |   |  |
| Isolation  |                   |   | 500 V system/field  |  |   |  |
| Ambient temperature (operation)                                  | 0 ... +55 °C      | -20 ... +60 °C                          | 0 ... +55 °C  |  | -20 ... +60 °C                          |  |
| Dimensions W x H x D   |                   |   | (12 x 100 x 69.8) mm  |  |   |  |
| Approvals  |                   |   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |  |   |  |
| For data sheet and additional information, see:                  |                   |   | wago.com/750-504  | wago.com/753-504                       | wago.com/750-504/025-800                |  |
| Accessories  | Item no.          | Item no.                                | Item no.  | Item no.                               | Item no.                                |  |
| Plug   | -                 | -                                       | -   | 753-110                                | -                                       |  |

Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-531



|                  |  |                               |  |   |
|------------------|--|-------------------------------|--|---|
| Item description | 4-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection |                               |  |   |
| Version          | Standard   | interference-free             | pluggable (delivery without connector) | pluggable (delivery without connector); Interference-free |
| Item no.         | 750-531  | 750-531/000-800               | 753-531                                | 753-531/000-800   |
| Order Text       | 4DO; 24 VDC; 0.5A; 2-wire                                  | 4DO; 24 VDC; 0.5A; IF; 2-wire | 4DO; 24 VDC; 0.5A; 2-wire              | 4DO; 24 VDC; 0.5A; IF; 2-wire                             |

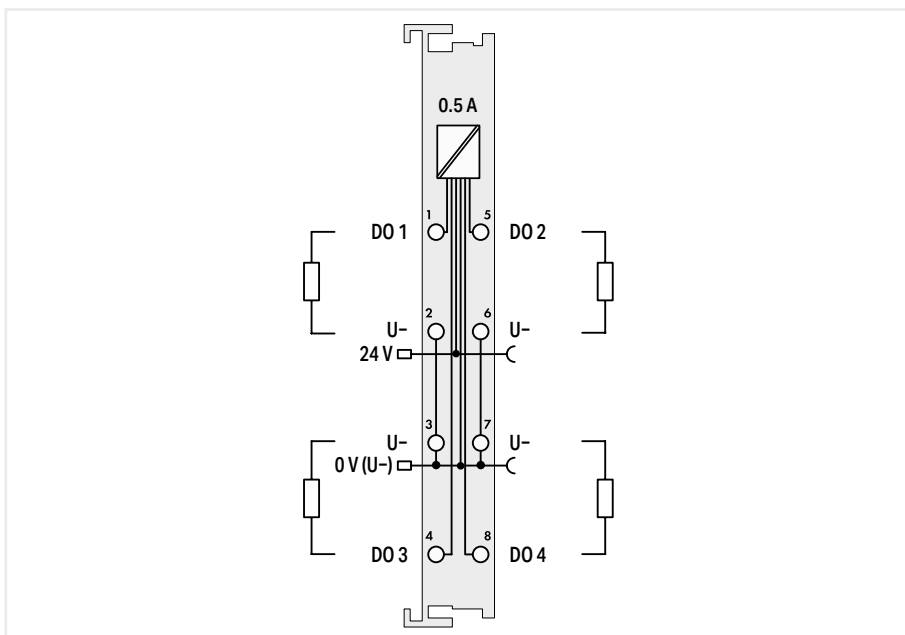
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|--|---|-----|------------------|-----|
| Technical data   |   |     |                  |     |
| Pluggable connector  | fixed   |     | pluggable        |     |
| Interference-free with safety function                           | -   | Yes | -                | Yes |
| Number of digital outputs  | 4   |     |                  |     |
| Signal type  | Digital   |     |                  |     |
| Signal type (voltage)  | 24 VDC  |     |                  |     |
| Output characteristic  | high-side switching   |     |                  |     |
| Output current per channel                                       | 0.5 A   |     |                  |     |
| Output current   | short-circuit-protected   |     |                  |     |
| Load type  | Resistive, inductive, lamp load   |     |                  |     |
| Actuator connection  | 4 x (2-wire)  |     |                  |     |
| Switching frequency (max.)                                       | 1 kHz   |     |                  |     |
| Short-circuit current  | 1.7 A   |     |                  |     |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |     |                  |     |
| Current consumption, field supply (module with no external load) | 30 mA   |     |                  |     |
| Current consumption (5 V system supply)                          | 10 mA   |     |                  |     |
| Output data width (internal) max.                                | 4 bits  |     |                  |     |
| Isolation  | 500 V system/field  |     |                  |     |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |     |                  |     |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |     |                  |     |
| Approvals  |   |     |                  |     |
| For data sheet and additional information, see:                  | wago.com/750-531  |     | wago.com/753-531 |     |

|             |          |          |          |          |
|-------------|----------|----------|----------|----------|
| Accessories | Item no. | Item no. | Item no. | Item no. |
| Plug        | -        | -        | 753-110  | 753-110  |

## Digital output ► 24 VDC ► high-side switching ► 0.5 A



750-532



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics |
| Version          | Standard   |
| Item no.         | 750-532  |
| Order Text       | 4DO; 24 VDC; 0.5A; Diagn                             |

|  |   |
|--|---|
| Technical data   |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 4 x (2-wire)  |
| Switching frequency (max.)                                       | 2 kHz   |
| Diagnostics  | Open circuit, short circuit, overload   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 13 mA   |
| Current consumption (5 V system supply)                          | 10 mA   |
| Input data width (internal) max.                                 | 4 bits  |
| Output data width (internal) max.                                | 4 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |

For data sheet and additional information, see:

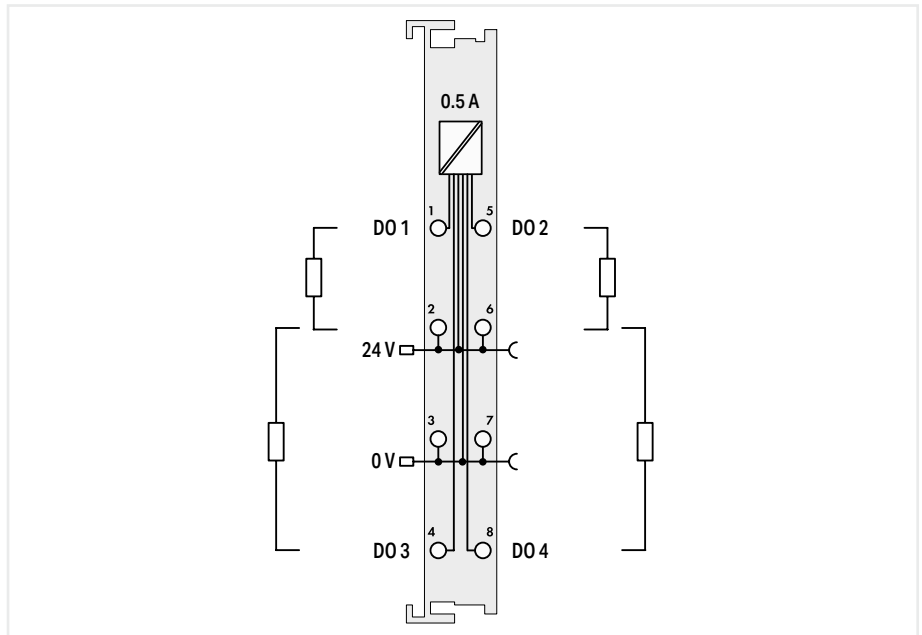
wago.com/750-532



Digital output ▶ 24 VDC ▶ low-side switching ▶ 0.5 A



750-516

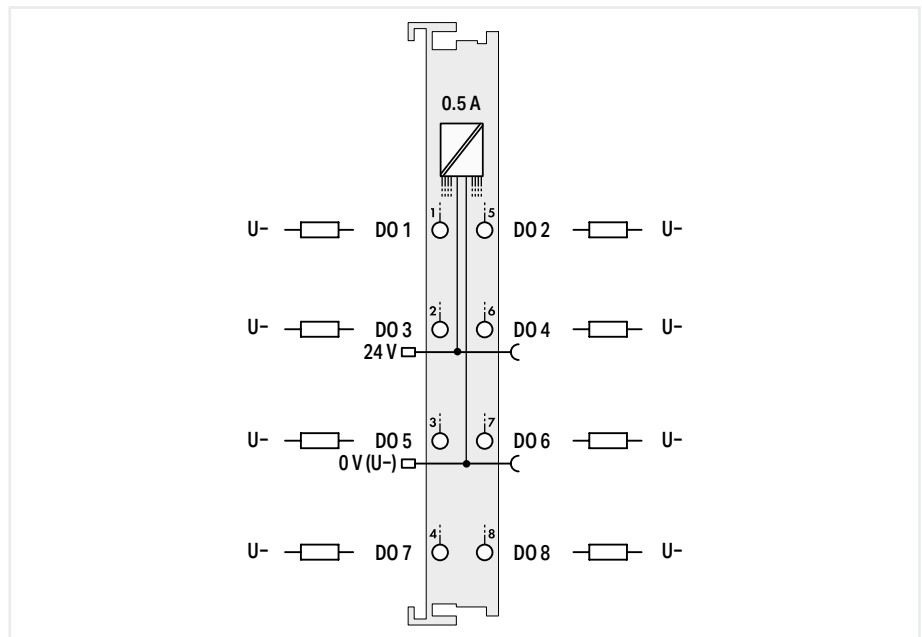


|  |   |  |
|--|---|--|
| Item description   | <b>4-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching</b>  |  |
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-516   | 753-516                                |
| Order Text   | 4DO; 24 VDC; 0.5A; LSS  | 4DO; 24 VDC; 0.5A; LSS                 |
| Technical data   | fixed   | pluggable                              |
| Pluggable connector  |   |  |
| Number of digital outputs  |   | 4                                      |
| Signal type  |   | Digital                                |
| Signal type (voltage)  |   | 24 VDC                                 |
| Output characteristic  |   | low-side switching                     |
| Output current per channel                                       |   | 0.5 A                                  |
| Output current   |   | short-circuit-protected                |
| Load type  |   | Resistive, inductive, lamp load        |
| Actuator connection  | 2 x (2-wire); A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators. |  |
| Switching frequency (max.)                                       | 5 kHz   |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption, field supply (module with no external load) | 30 mA   |  |
| Current consumption (5 V system supply)                          | 7 mA  |  |
| Output data width (internal) max.                                | 4 bits  |  |
| Isolation  | 500 V system/field  |  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |
| Approvals  | CE, L, Marine, OrdLoc/HazLoc, ATEX/IECEX  |  |
| For data sheet and additional information, see:                  | wago.com/750-516  | wago.com/753-516                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-530

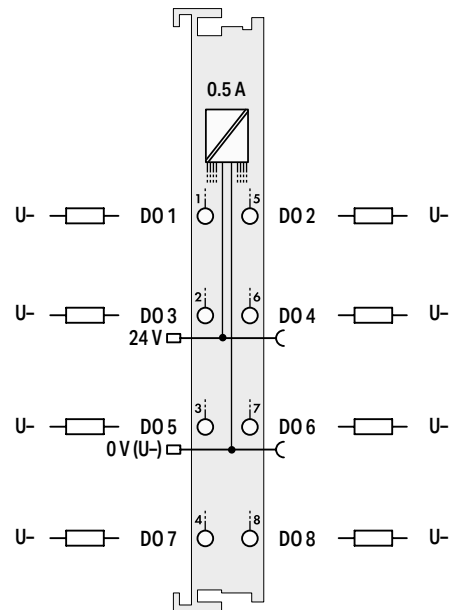


| Item description   | 8-Channel Digital Output; 24 VDC; 0.5 A   |                      |  |
|--|---|----------------------|--|
| Version  | Standard  | ext. temperature     | pluggable (delivery without connector) |
| Item no.   | 750-530   | 750-530/025-000      | 753-530                                |
| Order Text   | 8DO; 24 VDC; 0.5A   | 8DO; 24 VDC; 0.5A; T | 8DO; 24 VDC; 0.5A                      |
| Technical data   |   |                      |  |
| Pluggable connector  | fixed   |                      | pluggable                              |
| Number of digital outputs  | 8   |                      |  |
| Signal type  | Digital   |                      |  |
| Signal type (voltage)  | 24 VDC  |                      |  |
| Output characteristic  | high-side switching   |                      |  |
| Output current per channel                                       | 0.5 A   |                      |  |
| Output current   | short-circuit-protected   |                      |  |
| Load type  | Resistive, inductive, lamp load   |                      |  |
| Actuator connection  | 8 x (1-wire)  |                      |  |
| Switching frequency (max.)                                       | 2 kHz   |                      |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                      |  |
| Current consumption, field supply (module with no external load) | 15 mA   |                      |  |
| Current consumption (5 V system supply)                          | 25 mA   |                      |  |
| Output data width (internal) max.                                | 8 bits  |                      |  |
| Isolation  | 500 V system/field  |                      |  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  | -20 ... +60 °C       | 0 ... +55 °C                           |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |                      | (12 x 100 x 69) mm                     |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                      |  |
| For data sheet and additional information, see:                  | wago.com/750-530  |                      | wago.com/753-530                       |
| Accessories  | Item no.  | Item no.             | Item no.                               |
| Plug   | -   | -                    | 753-110                                |

## Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-537

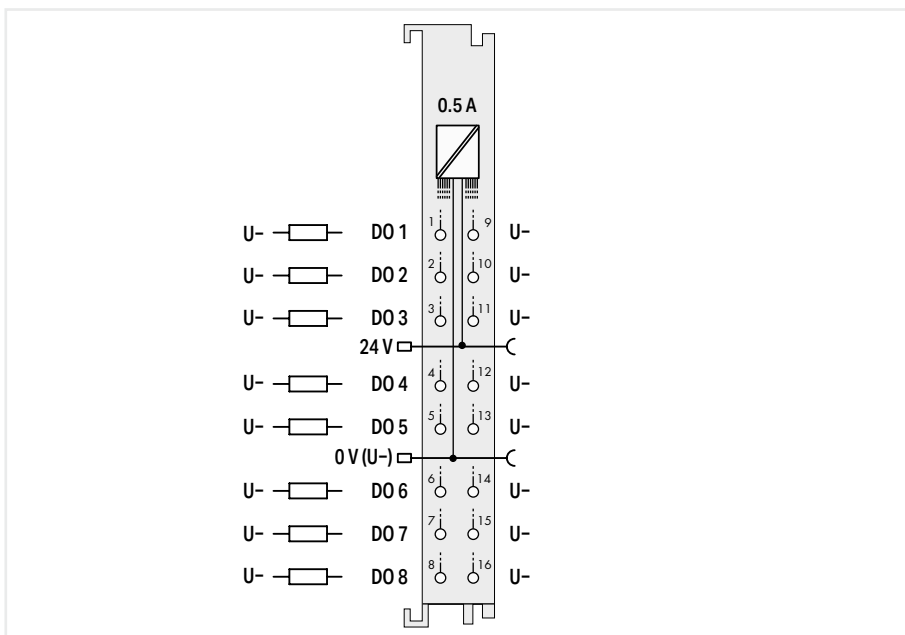


| Item description   | 8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics  |  |
|--|---|--|
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-537   | 753-537                                |
| Order Text   | 8DO; 24 VDC; 0.5A; Diagn  | 8DO; 24 VDC; 0.5A; Diagn               |
| Technical data   | fixed   | pluggable                              |
| Pluggable connector  |   |  |
| Number of digital outputs  |   | 8                                      |
| Signal type  |   | Digital                                |
| Signal type (voltage)  |   | 24 VDC                                 |
| Output characteristic  |   | high-side switching                    |
| Output current per channel                                       |   | 0.5 A                                  |
| Output current   |   | short-circuit-protected                |
| Load type  |   | Resistive, inductive, lamp load        |
| Actuator connection  |   | 8 x (1-wire)                           |
| Switching frequency (max.)                                       |   | 1 kHz                                  |
| Diagnostics  |   | Open circuit, short circuit, overload  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption, field supply (module with no external load) | 16 mA   |  |
| Current consumption (5 V system supply)                          | 50 mA   |  |
| Input data width (internal) max.                                 | 8 bits  |  |
| Output data width (internal) max.                                | 8 bits  |  |
| Isolation  | 500 V system/field  |  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm                     |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |  |
| For data sheet and additional information, see:                  | wago.com/750-537  | wago.com/753-537                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

## Digital output ► 24 VDC ► high-side switching ► 0.5 A



750-1515



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection |
| Version          | Standard with 16 connectors                                |
| Item no.         | 750-1515   |
| Order Text       | 8DO; 24 VDC; 0.5A; 2-wire                                  |

|  |   |
|--|---|
| Technical data   |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 8 x (2-wire)  |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 15 mA   |
| Current consumption (5 V system supply)                          | 20 mA   |
| Output data width (internal) max.                                | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |

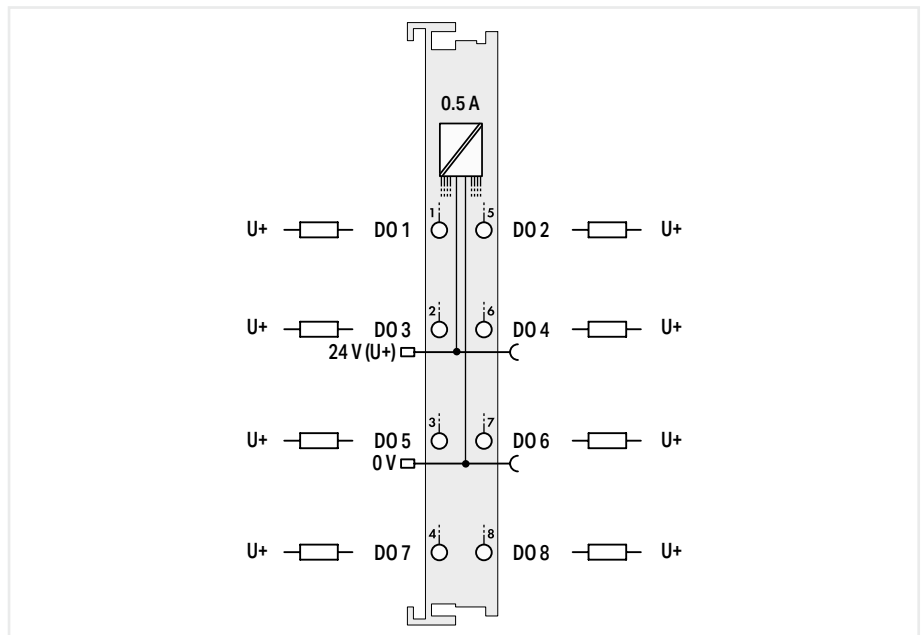
For data sheet and additional information, see:

wago.com/750-1515

## Digital output ► 24 VDC ► low-side switching ► 0.5 A



750-536

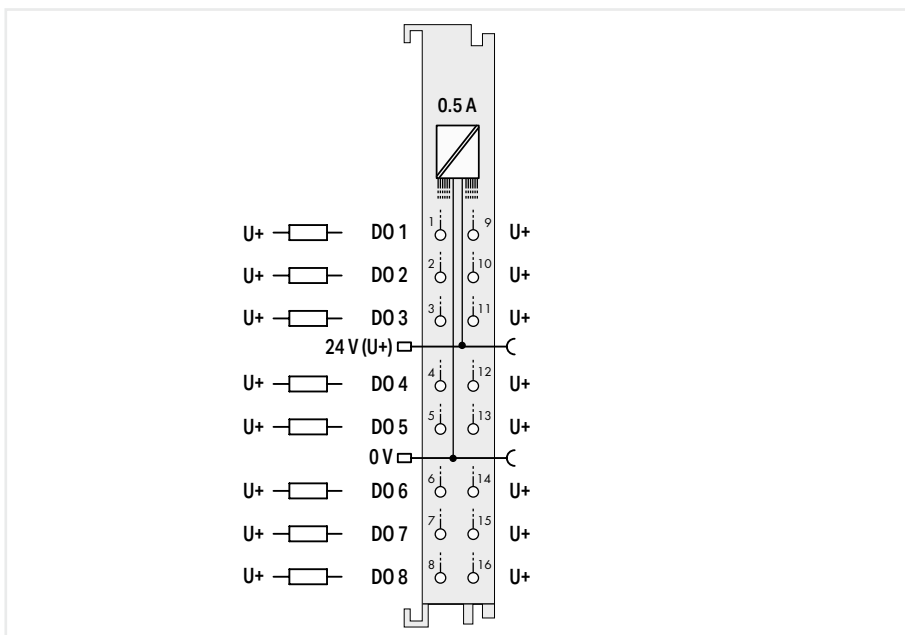


| Item description   | 8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching |   |
|--|---|---|
| Version  | Standard  | pluggable (delivery without connector)  |
| Item no.   | 750-536   | 753-536   |
| Order Text   | 8DO; 24 VDC; 0.5A; LSS                                      | 8DO; 24 VDC; 0.5A; LSS  |
| Technical data   | fixed   | pluggable   |
| Pluggable connector  |   |   |
| Number of digital outputs  |   | 8   |
| Signal type  |   | Digital   |
| Signal type (voltage)  |   | 24 VDC  |
| Output characteristic  |   | low-side switching  |
| Output current per channel                                       |   | 0.5 A   |
| Output current   |   | short-circuit-protected   |
| Load type  |   | Resistive, inductive, lamp load   |
| Actuator connection  |   | 8 x (1-wire)  |
| Switching frequency (max.)                                       |   | 2 kHz   |
| Supply voltage (field)   |   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) |   | 12 mA   |
| Current consumption (5 V system supply)                          |   | 25 mA   |
| Output data width (internal) max.                                |   | 8 bits  |
| Isolation  |   | 500 V system/field  |
| Ambient temperature (operation)                                  |   | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm  |
| Approvals  |   |   |
| For data sheet and additional information, see:                  | wago.com/750-536  | wago.com/753-536  |
| Accessories  | Item no.  | Item no.  |
| Plug   | -   | 753-110   |

## Digital output ► 24 VDC ► low-side switching ► 0.5 A



750-1516

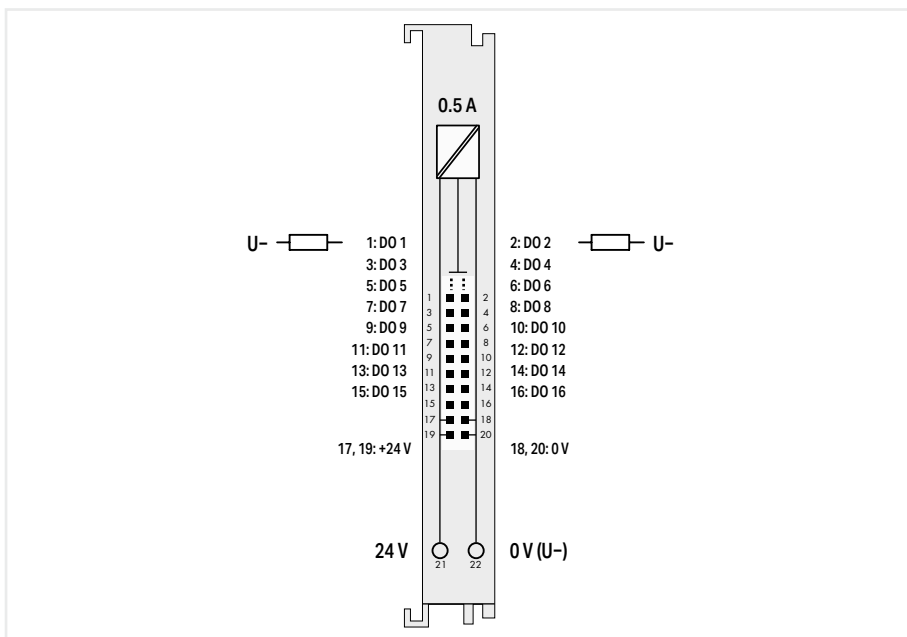


|  |   |
|--|---|
| Item description   | <b>8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; 2-wire connection</b>                               |
| Version  | <b>Standard with 16 connectors</b>  |
| Item no.   | <b>750-1516</b>   |
| Order Text   | <b>8DO; 24 VDC; 0.5A; LSS; 2-wire</b>   |
| Technical data   |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | low-side switching  |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 8 x (2-wire)  |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 8 mA  |
| Current consumption (5 V system supply)                          | 20 mA   |
| Output data width (internal) max.                                | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see:                  | wago.com/750-1516   |

## Digital output ► 24 VDC ► high-side switching ► 0.5 A



750-1500

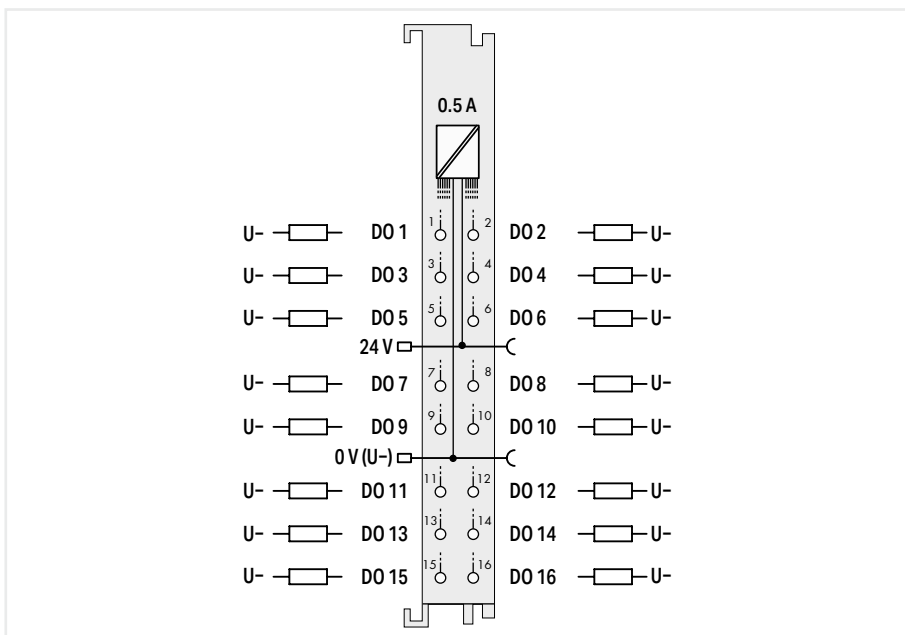


|  |  |
|--|--|
| Item description   | 16-Channel Digital Output; 24 VDC; 0.5 A; Ribbon cable                   |
| Version  | Standard with ribbon cable connector                                     |
| Item no.   | 750-1500   |
| Order Text   | 16DO; 24 VDC; 0.5A; Ribbon Cable   |
| Technical data   |  |
| Pluggable connector  | fixed  |
| Number of digital outputs  | 16   |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Output current per channel                                       | 0.5 A  |
| Output current   | short-circuit-protected  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 16 x (1-wire)  |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption, field supply (module with no external load) | 29 mA  |
| Current consumption (5 V system supply)                          | 40 mA  |
| Output data width (internal) max.                                | 16 bits  |
| Isolation  | 500 V system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 74.1) mm   |
| Approvals  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEx                                 |
| For data sheet and additional information, see:                  | wago.com/750-1500  |

## Digital output ► 24 VDC ► high-side switching ► 0.5 A



750-1504



|                  |  |
|------------------|--|
| Item description | 16-Channel Digital Output; 24 VDC; 0.5 A |
| Version          | Standard with 16 connectors              |
| Item no.         | 750-1504                                 |
| Order Text       | 16DO; 24 VDC; 0.5A                       |

|  |   |
|--|---|
| Technical data   |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 16  |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 16 x (1-wire)   |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 29 mA   |
| Current consumption (5 V system supply)                          | 40 mA   |
| Output data width (internal) max.                                | 16 bits   |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

For data sheet and additional information, see:

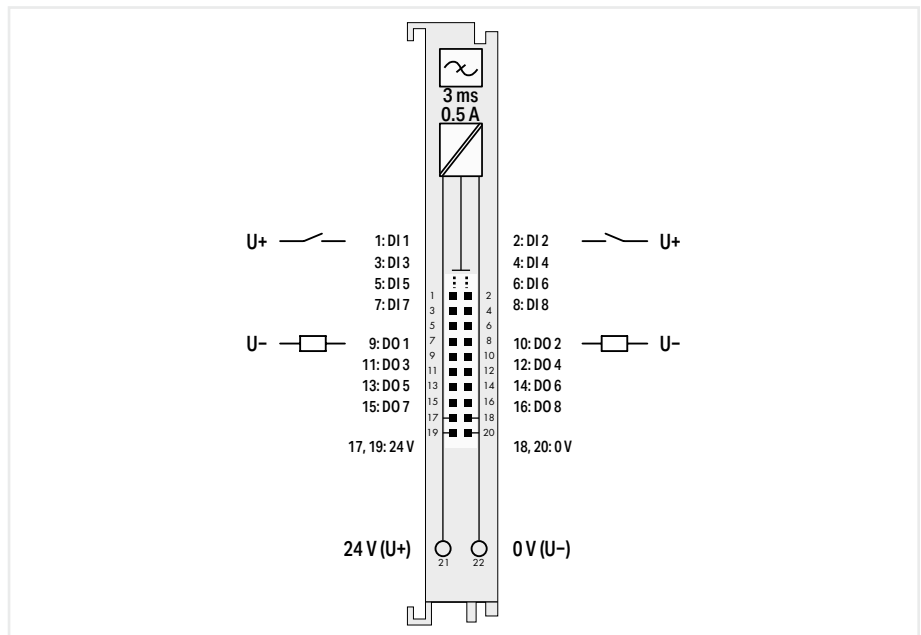
wago.com/750-1504



## Digital input; Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-1502



|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable |
| Version          | Standard with ribbon cable connector                        |
| Item no.         | 750-1502  |
| Order Text       | 8DIO; 24 VDC; 0.5A; Ribbon Cable                            |

| Technical data   |  |
|--|--|
| Pluggable connector  | fixed  |
| Number of digital inputs   | 8  |
| Voltage range for signal (0)                                     | -3 ... +5 VDC  |
| Voltage range for signal (1)                                     | 15 ... 30 VDC  |
| Sensor connection  | 8 x (1-wire)   |
| Input characteristic   | high-side switching  |
| Input filter (digital)   | 3 ms   |
| Input current per channel for signal (1) typ.                    | 2.4 mA   |
| Number of digital outputs  | 8  |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Output current per channel                                       | 0.5 A  |
| Output current   | short-circuit-protected  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 8 x (1-wire)   |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption, field supply (module with no external load) | 16 mA  |
| Current consumption (5 V system supply)                          | 30 mA  |
| Input data width (internal) max.                                 | 8 bits   |
| Output data width (internal) max.                                | 8 bits   |
| Isolation  | 500 V system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 74.1) mm   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                    |

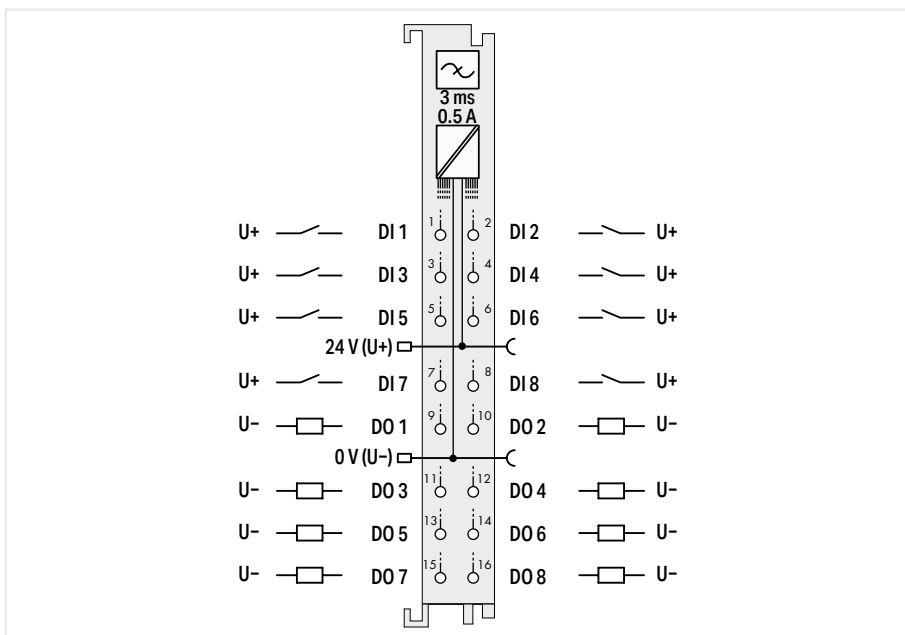
For data sheet and additional information, see:

wago.com/750-1502

## Digital input; Digital output ▶ 24 VDC ▶ high-side switching ▶ 0.5 A



750-1506



|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; 24 VDC; 0.5 A |
| Version          | Standard with 16 connectors                   |
| Item no.         | 750-1506                                      |
| Order Text       | 8DIO; 24 VDC; 0.5A                            |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital inputs   | 8   |
| Voltage range for signal (0)                                     | -3 ... +5 VDC   |
| Voltage range for signal (1)                                     | 15 ... 30 VDC   |
| Sensor connection  | 8 x (1-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Input current per channel for signal (1) typ.                    | 2.4 mA  |
| Number of digital outputs  | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 8 x (1-wire)  |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 16 mA   |
| Current consumption (5 V system supply)                          | 30 mA   |
| Input data width (internal) max.                                 | 8 bits  |
| Output data width (internal) max.                                | 8 bits  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

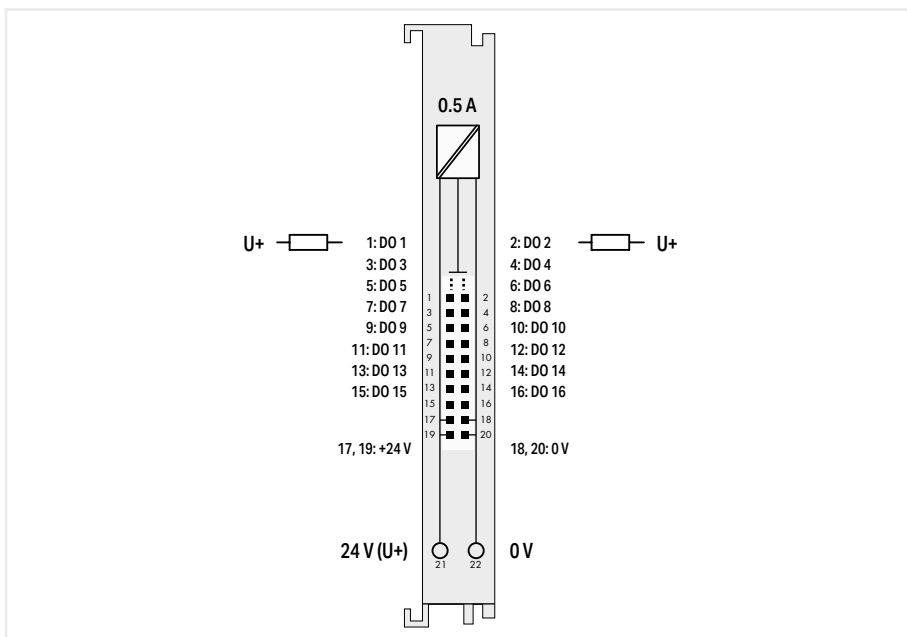
For data sheet and additional information, see:

wago.com/750-1506

## Digital output ▶ 24 VDC ▶ low-side switching ▶ 0.5 A



750-1501



|                  |  |
|------------------|--|
| Item description | 16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable |
| Version          | Standard with ribbon cable connector                                       |
| Item no.         | 750-1501   |
| Order Text       | 16DO; 24 VDC; 0.5A; LSS; Ribbon Cable                                      |

| Technical data   |  |
|--|--|
| Pluggable connector  | fixed  |
| Number of digital outputs  | 16   |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | low-side switching   |
| Output current per channel                                       | 0.5 A  |
| Output current   | short-circuit-protected  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 16 x (1-wire)  |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection) |
| Current consumption, field supply (module with no external load) | 11 mA  |
| Current consumption (5 V system supply)                          | 40 mA  |
| Output data width (internal) max.                                | 16 bits  |
| Isolation  | 500 V system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 74.1) mm   |
| Approvals  | CE; L; Marine; OrdLoc/HazLoc; ATEX/IECEx                                 |

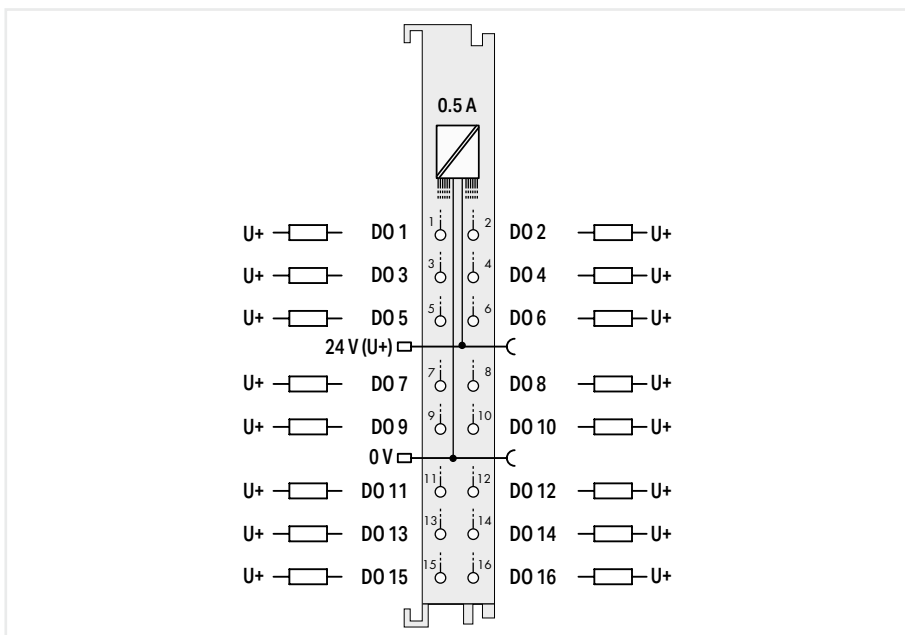
For data sheet and additional information, see:

wago.com/750-1501

## Digital output ► 24 VDC ► low-side switching ► 0.5 A



750-1505



|                  |  |
|------------------|--|
| Item description | 16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching |
| Version          | Standard with 16 connectors                                  |
| Item no.         | 750-1505   |
| Order Text       | 16DO; 24 VDC; 0.5A; LSS                                      |

| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital outputs  | 16  |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | low-side switching  |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 16 x (1-wire)   |
| Switching frequency (max.)                                       | 1 kHz   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 11 mA   |
| Current consumption (5 V system supply)                          | 40 mA   |
| Output data width (internal) max.                                | 16 bits   |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

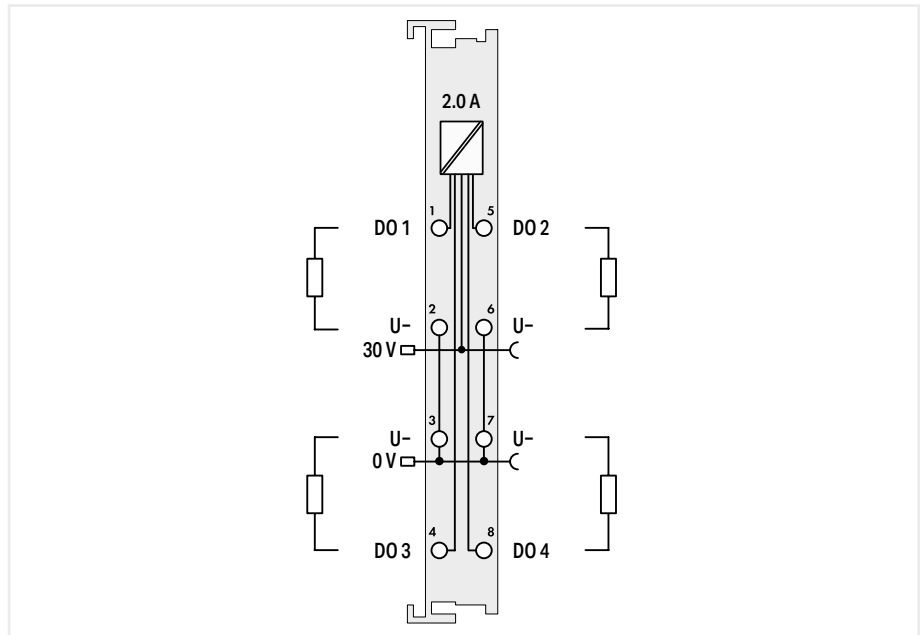
For data sheet and additional information, see:

wago.com/750-1505

## Digital output ► 30 VAC/DC ► high-side switching ► 2 A



750-527



|                  |  |
|------------------|--|
| Item description | 4-Channel Digital Output; 30 VAC/VDC; 2.0 A; Solid-state |
| Version          | Standard   |
| Item no.         | 750-527  |
| Order Text       | 4DO; 30V AC/DC; 2.0A; SSR                                |

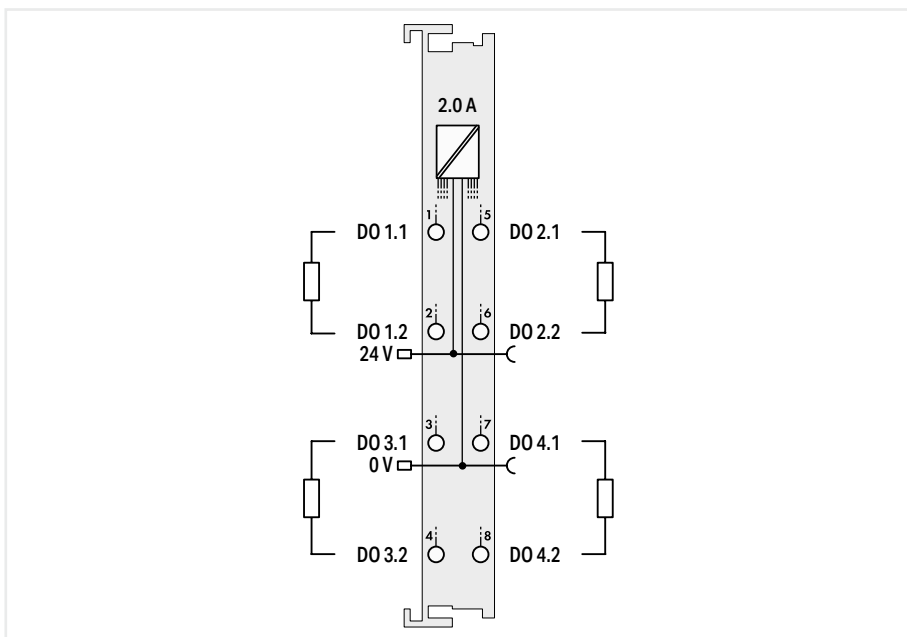
| Technical data   |   |
|--|---|
| Pluggable connector  | fixed   |
| Number of digital outputs  | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 30 VAC/DC   |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 2 A   |
| Output current (module)  | 8 A   |
| Output current   | requires external fuses   |
| Delay time T <sub>off</sub> from 1 to 0                          | 20000 µs  |
| Delay time T <sub>on</sub> from 0 to 1                           | 1000 µs   |
| Load type  | Resistive; inductive (Limit induction voltage peaks externally)   |
| Actuator connection  | 4 x (2-wire)  |
| Switching frequency (max.)                                       | 1 Hz  |
| Supply voltage (field)   | 30 VSELV AC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 0 mA  |
| Current consumption (5 V system supply)                          | 57 mA   |
| Output data width (internal) max.                                | 4 bits  |
| Isolation  | 500 V system/field  |
| Overvoltage category   | II  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE; OrdLoc/HazLoc   |
| For data sheet and additional information, see:                  | wago.com/750-527  |

Notice: A suitable supply module (e.g., 750-612) must be provided for AC operation or when using DC voltages >31.2 V!

## Digital output ► 30 VAC/DC; isolated ► high-side switching ► 2 A



750-528



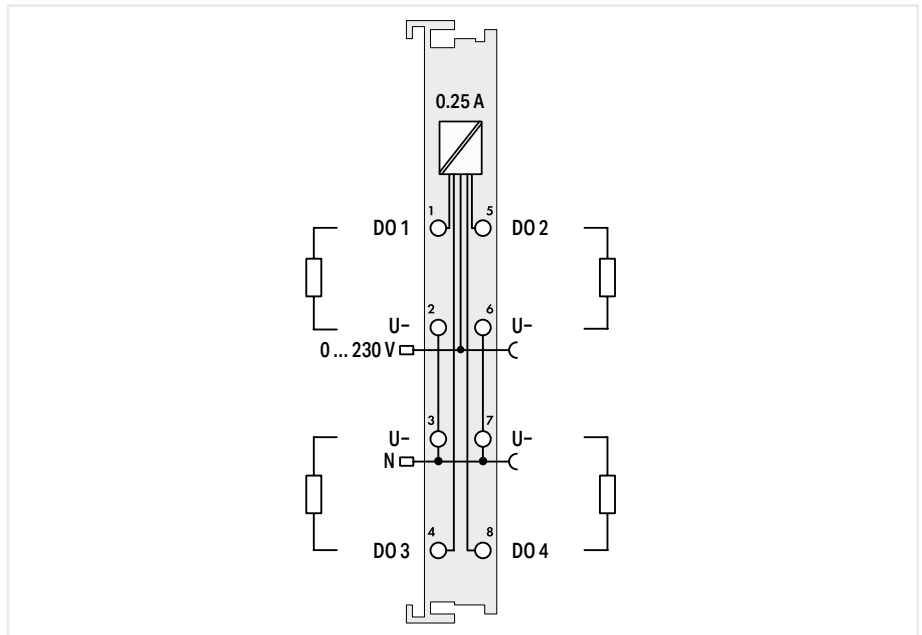
|  |   |
|--|---|
| Item description   | 4-Channel Digital Output; 30 VAC/VDC; 2.0 A; Solid-state; isolated  |
| Version  | Standard  |
| Item no.   | 750-528   |
| Order Text   | 4DO; 30V AC/DC; 2.0A; SSR; Isolated   |
| Technical data   |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 30 VAC/DC   |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 2 A   |
| Output current (module)  | 8 A   |
| Output current   | requires external fuses   |
| Delay time T <sub>off</sub> from 1 to 0                          | 20000 µs  |
| Delay time T <sub>on</sub> from 0 to 1                           | 1000 µs   |
| Load type  | Resistive; inductive (Limit induction voltage peaks externally)   |
| Actuator connection  | 4 x (2-wire)  |
| Switching frequency (max.)                                       | 1 Hz  |
| Supply voltage (field)   | 30 VSELV AC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 0 mA  |
| Current consumption (5 V system supply)                          | 57 mA   |
| Output data width (internal) max.                                | 4 bits  |
| Isolation  | 500 V system/field or channel/channel   |
| Overvoltage category   | II  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE; OrdLoc/HazLoc   |
| For data sheet and additional information, see:                  | wago.com/750-528  |

Notice: A suitable supply module (e.g., 750-612) must be provided for AC operation or when using DC voltages >31.2 V!

## Digital output ▶ 5 ... 250 VAC ▶ high-side switching ▶ 0.25 A



753-540



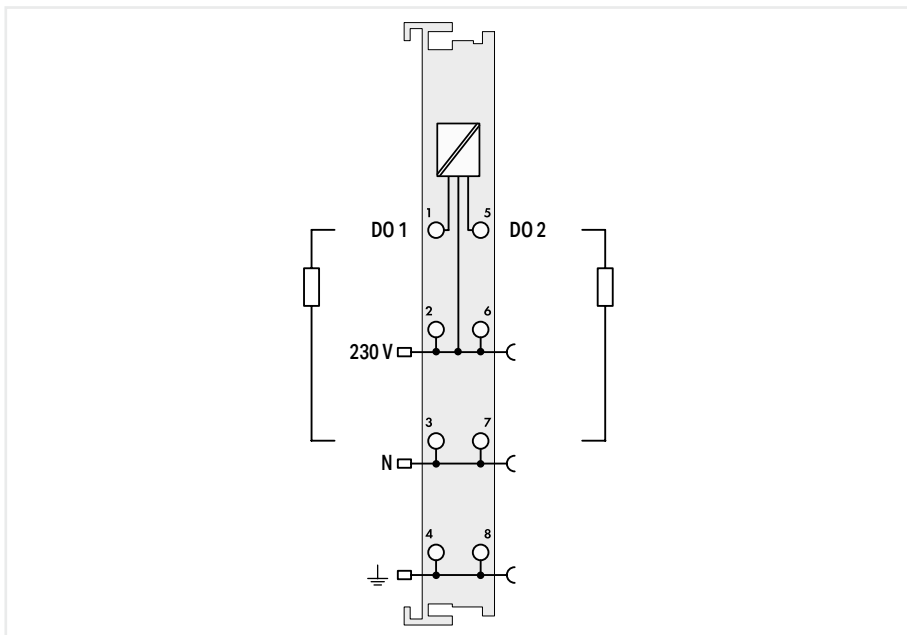
|   |  |
|---|--|
| Item description                                | 4-Channel Digital Output; 230 VAC; 0.25 A; Solid-state   |
| Version   | pluggable (delivery without connector)   |
| Item no.  | 753-540  |
| Order Text                                      | 4DO; 230 VAC; 0.25A; SSR   |
| Technical data                                  |  |
| Pluggable connector                             | pluggable  |
| Number of digital outputs                       | 4  |
| Signal type                                     | Digital  |
| Signal type (voltage)                           | 5 ... 250 VAC  |
| Output characteristic                           | high-side switching  |
| Output current per channel                      | 0.25 A   |
| Output current                                  | short-circuit-protected  |
| Load type                                       | Resistive, inductive   |
| Actuator connection                             | 4 x (2-wire)   |
| Protection against incorrect wiring             | Overvoltage protection (275 V) via varistor  |
| Short-circuit current                           | max. 10 A (16 ms)  |
| Supply voltage (field)                          | 230 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 18 mA  |
| Output data width (internal) max.               | 4 bits   |
| Isolation                                       | 1500 V (system/field)  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |
| Approvals                                       | CE,  OrdLoc/HazLoc,  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/753-540   |
| Accessories                                     |  |
| Plug  | 753-110  |

Notice: An additional supply module must be added for 0–250 VAC supply!

## Digital output ▶ 0 ... 250 VAC/DC ▶ non-floating ▶ 0.3 A



750-509



| Item description                                | 2-Channel Digital Output; 230 VAC; 0.3 A; Solid-state   |  |
|---|---|--|
| Version   | Standard  | pluggable (delivery without connector) |
| Item no.  | 750-509   | 753-509                                |
| Order Text                                      | 2DO; 230 VAC; 0.3A; SSR   | 2DO; 230 VAC; 0.3A; SSR                |
| Technical data                                  | fixed   | pluggable                              |
| Pluggable connector                             |   |  |
| Number of digital outputs                       | 2   |  |
| Signal type                                     | Digital   |  |
| Signal type (voltage)                           | 0 ... 250 VAC/DC  |  |
| Output circuit design                           | Solid-state load relays   |  |
| Output characteristic                           | non-floating  |  |
| Output current per channel                      | 0.3 A   |  |
| Load type                                       | Resistive, inductive  |  |
| Actuator connection                             | 2 x (2-wire, 3-wire)  |  |
| Switching frequency (max.)                      | 5 Hz; 24 V; 0.3 A; DF = 50 %  |  |
| Protection against incorrect wiring             | Overvoltage protection (275 V) via varistor   |  |
| Supply voltage (field)                          | 250 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)         | 10 mA   |  |
| Output data width (internal) max.               | 2 bits  |  |
| Isolation                                       | 1500 V (system/field)   |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |  |
| For data sheet and additional information, see: | wago.com/750-509  | wago.com/753-509                       |
| Accessories                                     | Item no.  | Item no.                               |
| Plug  | -   | 753-110                                |

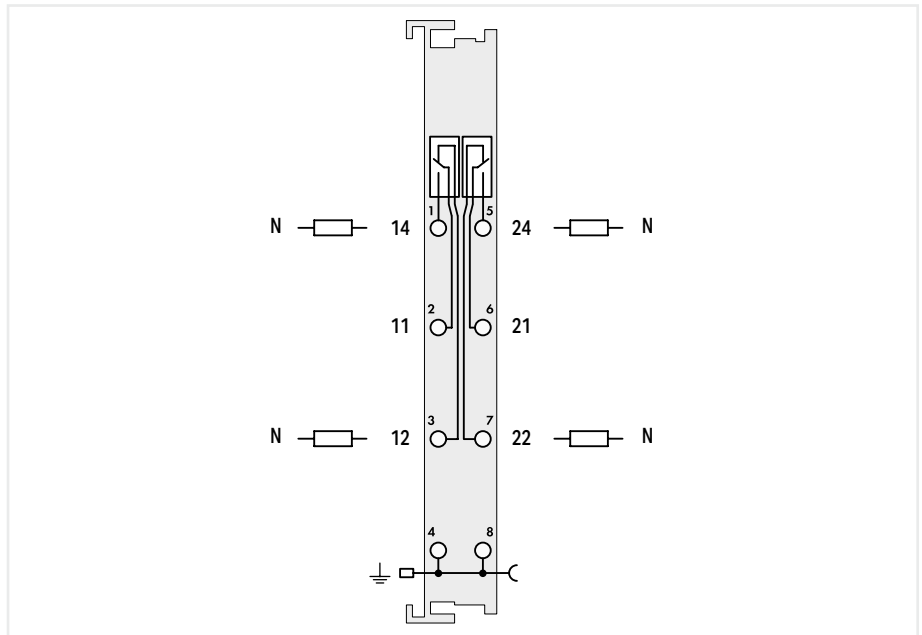
Notice: An additional supply module must be added for 0–230 VAC/DC supply!



## Digital output; Relay output ▶ Switching voltage: 125 VAC; 30 VDC ▶ potential-free



750-514



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| <b>2-Channel Relay Output; 125 VAC; 0.5 A; Potential-free; 2 changeover contacts</b> |  |
| Standard   | pluggable (delivery without connector) |
| 750-514  | 753-514                                |
| 2RO; 125 VAC; 0.5A; Pot-free; Relay2NO   | 2RO; 125 VAC; 0.5A; Pot-free; Relay2NO |

|   |
|---|
| Technical data  |
| Pluggable connector   |
| Number of digital outputs                                       |
| Signal type   |
| Switching voltage (max.)  |
| Output circuit design   |
| Output characteristic   |
| Switching current (max.)  |
| Switching current (note)  |
| Switching current (min.)  |
| Actuator connection   |
| Switching frequency (max.)                                      |
| Mechanical switching operations (min.) (at max. resistive load) |
| Electrical switching operations (min.) (at max. resistive load) |
| Supply voltage (field)  |
| Current consumption (5 V system supply)                         |
| Output data width (internal) max.                               |
| Isolation   |
| Ambient temperature (operation)                                 |
| Dimensions W x H x D  |
| Approvals   |
| For data sheet and additional information, see:                 |

|  |                  |   |
|--|------------------|---|
|  | fixed            | pluggable   |
|  |                  | 2   |
|  |                  | Digital   |
|  |                  | 125 VAC, 30 VDC   |
|  |                  | 2 changeover contacts; Relay                              |
|  |                  | potential-free  |
|  |                  | 0.5 A   |
|  |                  | 0.5 A at 125 VAC; 1 A at 30 VDC                           |
|  |                  | 0.01 mA   |
|  |                  | 2 x (1-wire)  |
|  |                  | 0.33 Hz   |
|  |                  | 100 x 10 <sup>6</sup> switching operations                |
|  |                  | 100 x 10 <sup>3</sup> switching operations                |
|  |                  | Transmission of ground potential via power jumper contact |
|  |                  | 70 mA   |
|  |                  | 2 bits  |
|  |                  | 1500 V (system/field)                                     |
|  |                  | 0 ... +55 °C  |
|  |                  | (12 x 100 x 69.8) mm                                      |
|  |                  | CE; Marine; OrdLoc  |
|  | wago.com/750-514 | wago.com/753-514  |

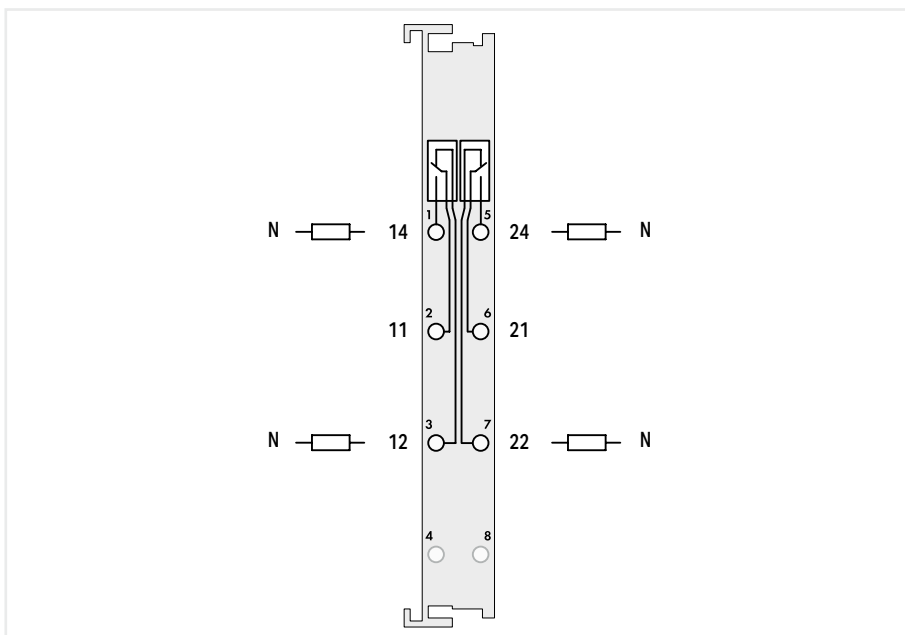
|             |
|-------------|
| Accessories |
| Plug        |

|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-110  |

## Digital output; Relay output ▶ Switching voltage: 250 VAC; 300 VDC ▶ potential-free



750-517

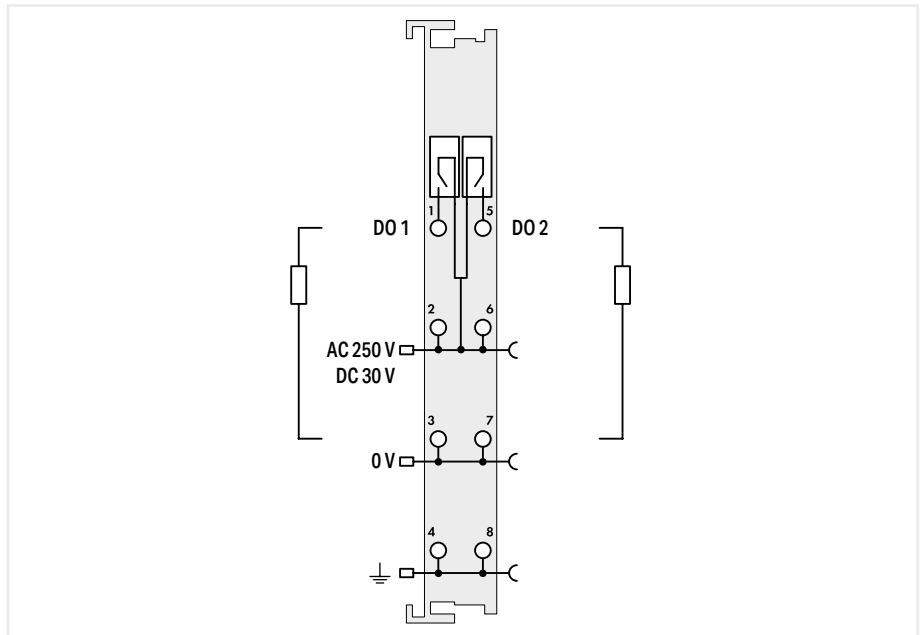


| Item description  | 2-Channel Relay Output; 250 VAC; 0.5 A; Potential-free; 2 changeover contacts |  |
|---|---|--|
| Version   | Standard  | pluggable (delivery without connector) |
| Item no.  | 750-517   | 753-517                                |
| Order Text  | 2RO; 250 VAC; 1A; Pot-free; Relay2CO  | 2RO; 250 VAC; 1A; Pot-free; Relay2CO   |
| Technical data  | fixed   | pluggable                              |
| Pluggable connector   |   |  |
| Number of digital outputs                                       | 2   | 2                                      |
| Signal type   | Digital   |  |
| Switching voltage (max.)  | 250 VAC, 300 VDC  |  |
| Output circuit design   | 2 changeover contacts; Relay  |  |
| Output characteristic   | potential-free  |  |
| Switching current (max.)  | 1 A   |  |
| Switching current (note)  | 1 A at 250 VAC and 40 VDC; 0.15 A at 300 VDC                                  |  |
| Switching current (min.)  | 100 mA  |  |
| Actuator connection   | 2 x (1-wire)  |  |
| Switching frequency (max.)                                      | 0.1 Hz; Nominal load  |  |
| Mechanical switching operations (min.) (at max. resistive load) | 5 x 10 <sup>6</sup> switching operations                                      |  |
| Electrical switching operations (min.) (at max. resistive load) | 1 x 10 <sup>6</sup> switching operations                                      |  |
| Current consumption (5 V system supply)                         | 90 mA   |  |
| Output data width (internal) max.                               | 2 bits  |  |
| Isolation   | 1500 V (system/field)   |  |
| Ambient temperature (operation)                                 | 0 ... +55 °C  |  |
| Dimensions W x H x D  | (12 x 100 x 67.8) mm  | (12 x 100 x 69.8) mm                   |
| Approvals   | CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                                      |  |
| For data sheet and additional information, see:                 | wago.com/750-517  | wago.com/753-517                       |
| Accessories   | Item no.  | Item no.                               |
| Plug  | -   | 753-110                                |

Digital output; Relay output ▶ Switching voltage: 250 VAC; 30 VDC ▶ non-floating



750-512



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| <b>2-Channel Relay Output; 250 VAC; 2.0 A; 2 make contacts</b> |  |
| Standard   | pluggable (delivery without connector) |
| 750-512  | 753-512                                |
| 2RO; 250 VAC; 2A; Relay2NO                                     | 2RO; 250 VAC; 2A; Relay2NO             |

|   |
|---|
| Technical data  |
| Pluggable connector   |
| Number of digital outputs                                       |
| Signal type   |
| Switching voltage (max.)  |
| Output circuit design   |
| Output characteristic   |
| Switching current (max.)  |
| Switching current (min.)  |
| Actuator connection   |
| Switching frequency (max.)                                      |
| Mechanical switching operations (min.) (at max. resistive load) |
| Electrical switching operations (min.) (at max. resistive load) |
| Supply voltage (field)  |
| Current consumption (5 V system supply)                         |
| Output data width (internal) max.                               |
| Isolation   |
| Ambient temperature (operation)                                 |
| Dimensions W x H x D  |
| Approvals   |
| For data sheet and additional information, see:                 |
| <b>Accessories</b>  |

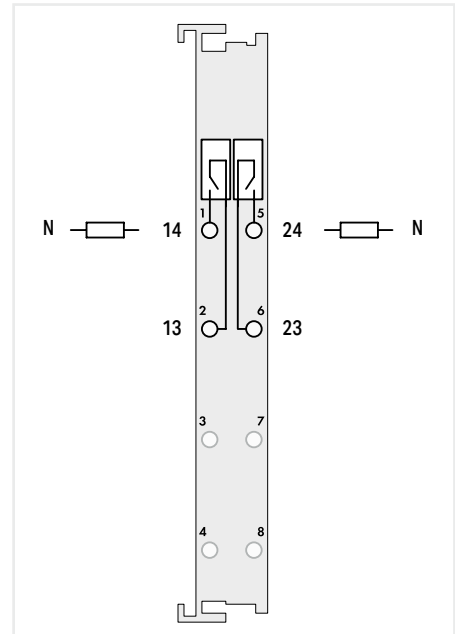
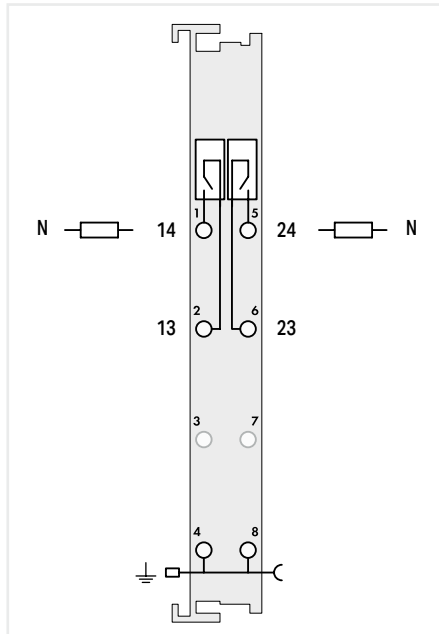
|                 |  |  |
|-----------------|--|--|
|                 | fixed                                    | pluggable  |
|                 |  | 2  |
|                 |  | Digital  |
|                 |  | 250 VAC, 30 VDC  |
|                 |  | 2 make contacts; Relay   |
|                 |  | non-floating   |
|                 |  | 2 A  |
|                 |  | 10 mA  |
|                 |  | 2 x (2-wire, 3-wire)   |
|                 |  | 0.5 Hz; Nominal load   |
|                 |  | 20 x 10 <sup>6</sup> switching operations  |
|                 |  | 300 x 10 <sup>3</sup> switching operations   |
|                 |  | 250 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
|                 |  | 100 mA   |
|                 |  | 2 bits   |
|                 |  | 1500 V (system/field)  |
|                 |  | 0 ... +55 °C   |
|                 |  | (12 x 100 x 69.8) mm   |
|                 | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx |  |
|                 | wago.com/750-512                         | wago.com/753-512   |
| <b>Item no.</b> |  | <b>Item no.</b>  |
|                 | -  | 753-110  |

Notice: An additional supply module must be added for 0–250 VAC/0–30 VDC supply!

## Digital output; Relay output ▶ Switching voltage: 250 VAC; 30 VDC ▶ potential-free



750-513



|                  |   |  |  |   |
|------------------|---|--|--|---|
| Item description | 2-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 2 make contacts |  | 2-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 2 make contacts; without power jumper contacts |   |
| Version          | Standard  | pluggable (delivery without connector) | without power jumper contacts  | without power jumper contacts; pluggable (delivery without connector) |
| Item no.         | 750-513   | 753-513                                | 750-513/000-001  | 753-513/000-001   |
| Order Text       | 2RO; 250 VAC; 2A; Pot-free; Relay2NO                                    | 2RO; 250 VAC; 2A; Pot-free; Relay2NO   | 2RO; 250 VAC; 2A; Pot-free; NC; Relay2NO   | 2RO; 250 VAC; 2A; Pot-free; NC; Relay2NO                              |

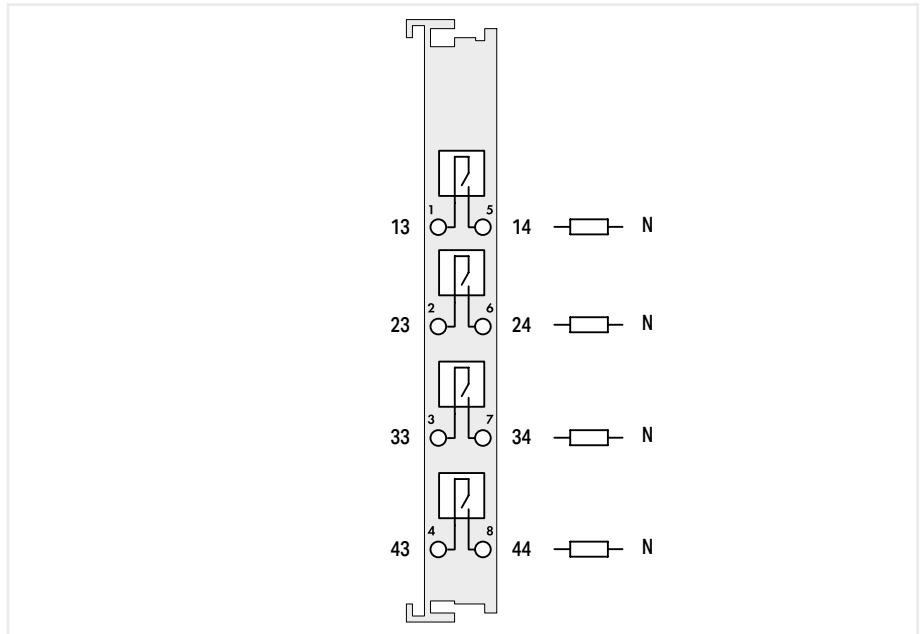
| Technical data  |   |           |  |           |
|---|---|-----------|--|-----------|
|   | fixed   | pluggable | fixed                                      | pluggable |
| Pluggable connector   |   |           |  |           |
| Number of digital outputs                                       | 2   |           | 2  |           |
| Signal type   | Digital   |           | Digital                                    |           |
| Switching voltage (max.)  | 250 VAC, 30 VDC   |           | 250 VAC, 30 VDC                            |           |
| Output circuit design   | 2 make contacts; Relay                                    |           | 2 make contacts; Relay                     |           |
| Output characteristic   | potential-free  |           | potential-free                             |           |
| Switching current (max.)  | 2 A   |           | 2 A  |           |
| Switching current (min.)  | 10 mA   |           | 10 mA                                      |           |
| Actuator connection   | 2 x (1-wire)  |           | 2 x (1-wire)                               |           |
| Switching frequency (max.)                                      | 0.5 Hz; Nominal load                                      |           | 0.5 Hz; Nominal load                       |           |
| Mechanical switching operations (min.) (at max. resistive load) | 20 x 10 <sup>6</sup> switching operations                 |           | 20 x 10 <sup>6</sup> switching operations  |           |
| Electrical switching operations (min.) (at max. resistive load) | 300 x 10 <sup>3</sup> switching operations                |           | 300 x 10 <sup>3</sup> switching operations |           |
| Supply voltage (field)  | Transmission of ground potential via power jumper contact |           | -  |           |
| Current consumption (5 V system supply)                         | 100 mA  |           | 100 mA                                     |           |
| Output data width (internal) max.                               | 2 bits  |           | 2 bits                                     |           |
| Isolation   | 1500 V (system/field)                                     |           | 1500 V (system/field)                      |           |
| Ambient temperature (operation)                                 | 0 ... +55 °C  |           | 0 ... +55 °C                               |           |
| Dimensions W x H x D  | (12 x 100 x 69.8) mm                                      |           | (12 x 100 x 69.8) mm                       |           |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX                  |           | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |           |
| For data sheet and additional information, see:                 | wago.com/750-513  |           | wago.com/753-513                           |           |
| Accessories   | Item no.  | Item no.  | Item no.                                   | Item no.  |
| Plug  | -   | 753-110   | -  | 753-110   |

7.3

## Digital output; Relay output ► Switching voltage: 250 VAC; 30 VDC; 110 VDC at 0.4 A ► potential-free



750-515



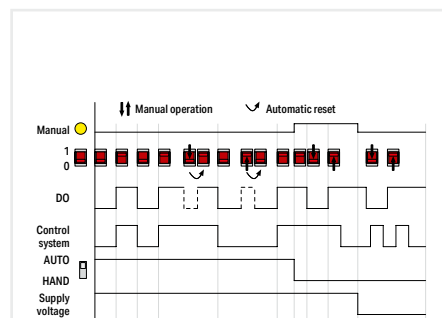
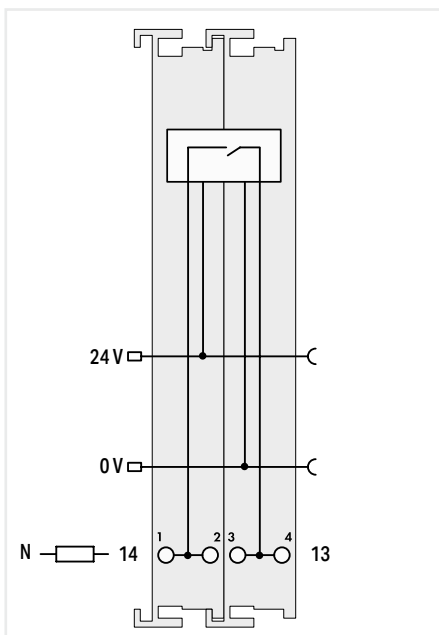
|                  |   |
|------------------|---|
| Item description | 4-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 4 make contacts |
| Version          | Standard  |
| Item no.         | 750-515   |
| Order Text       | 4RO; 250 VAC; 2A; Pot-free; Relay4NO                                    |

| Technical data  |  |
|---|--|
| Pluggable connector   | fixed                                      |
| Number of digital outputs                                       | 4  |
| Signal type   | Digital                                    |
| Switching voltage (max.)  | 250 VAC; 30 VDC; 110 VDC at 0.4 A          |
| Output circuit design   | 4 make contacts; Relay                     |
| Output characteristic   | potential-free                             |
| Switching current (max.)  | 2 A  |
| Switching current (note)  | 5 A for single-channel use                 |
| Actuator connection   | 4 x (1-wire)                               |
| Switching frequency (max.)                                      | 0.33 Hz; 3 A / 250 VAC, 30 VDC             |
| Mechanical switching operations (min.) (at max. resistive load) | 20 x 10 <sup>6</sup> switching operations  |
| Electrical switching operations (min.) (at max. resistive load) | 100 x 10 <sup>3</sup> switching operations |
| Current consumption (5 V system supply)                         | 95 mA                                      |
| Output data width (internal) max.                               | 4 bits                                     |
| Isolation   | 1500 V (system/field)                      |
| Ambient temperature (operation)                                 | 0 ... +55 °C                               |
| Dimensions W x H x D  | (12 x 100 x 67.8) mm                       |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see:                 | wago.com/750-515                           |

## Digital output; Relay output ▶ Switching voltage: 440 VAC ▶ potential-free



750-523



|  |   |
|--|---|
| Item description   | <b>1-Channel Relay Output; 250 VAC; 16 A; Potential-free; 1 make contact</b>  |
| Version  | <b>Standard</b>   |
| Item no.   | <b>750-523</b>  |
| Order Text   | <b>1RO; 230 VAC; 16A; Pot-free; Relay1NO</b>  |
| <b>Technical data</b>  |   |
| Pluggable connector  | fixed   |
| Number of digital outputs  | 1   |
| Signal type  | Digital   |
| Switching voltage (max.)   | 440 VAC   |
| Output circuit design  | 1 make contact; Relay   |
| Output characteristic  | potential-free  |
| Switching current (max.)   | 16 A  |
| Actuator connection  | 1 x (1-wire)  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 80 mA   |
| Current consumption (5 V system supply)                          | 5 mA  |
| Input data width (internal) max.                                 | 2 bits  |
| Output data width (internal) max.                                | 2 bits  |
| Isolation  | 1500 V (system/field)   |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc  |
| For data sheet and additional information, see:                  | wago.com/750-523  |

This relay output module switches a connected actuator or load. The 24 VDC supply is derived from the power jumper contacts to trigger the relays. The switched status of the relay is shown by the manual switch (1/0). The operating mode can be set using a manual/automatic selector switch. The mode status is indicated by an LED and via status bits in the process image.

**Manual:** Coil triggering is interrupted. Operation is only possible via the red manual operating switch.

**Auto:** The relay is operated via the control system; manual status transitions via the manual switch are reset by the control system after less than 500 ms.

The manual switch can also be used without 24 V supply to switch the output ON. The relay meets both international standards of IEC and DIN EN 61810 part 1 /VDE 0435 part 201, as well as overload and short circuit requirements of IEC and DIN EN 61036 /61037.



# Analog Input Modules



## Housing Design (750 Series)

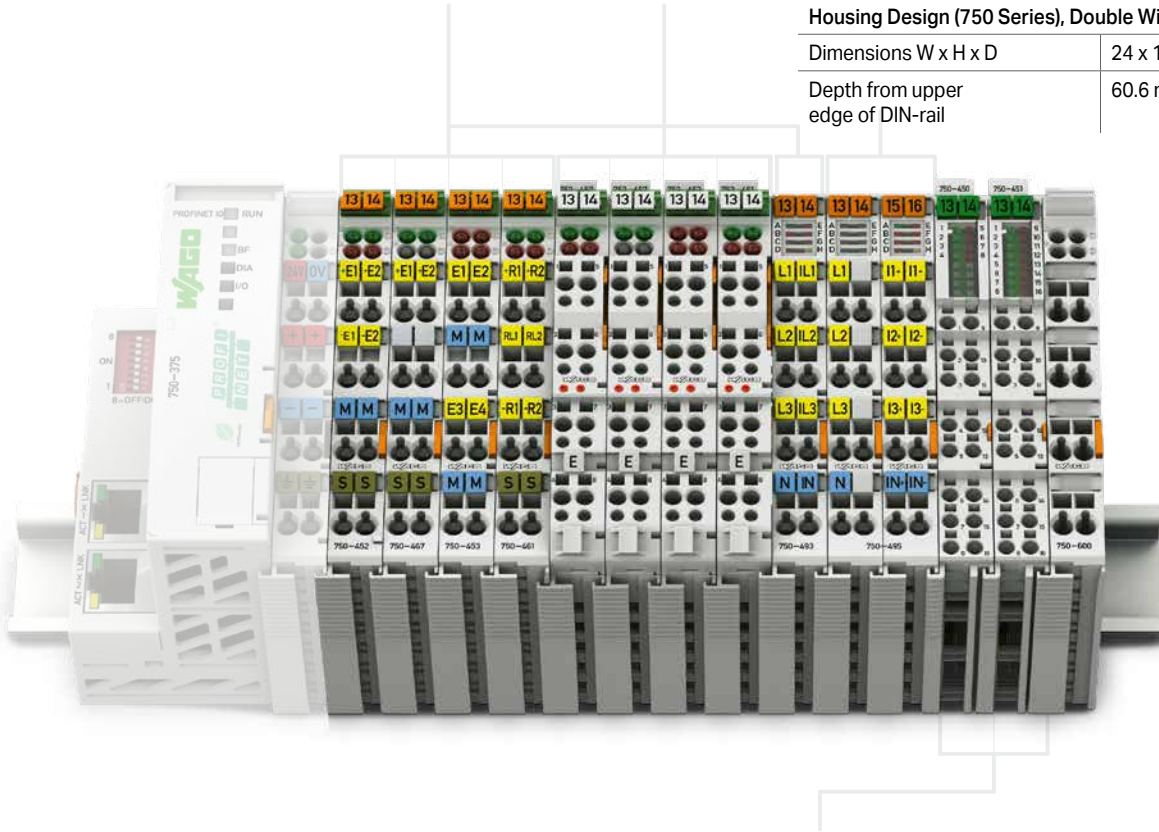
|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 60.6 mm                       |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                       |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 69 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 61.8 mm                     |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                     |
| Strip length                      | 9 ... 10 mm / 0.37 inch  |

## Housing Design (750 Series), Double Width

|                                   |                    |
|-----------------------------------|--------------------|
| Dimensions W x H x D              | 24 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | 60.6 mm            |



## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN-rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |



I/O System –  
750 XTR Series





# I/O System – 750 and 753 Series, Analog Input Modules

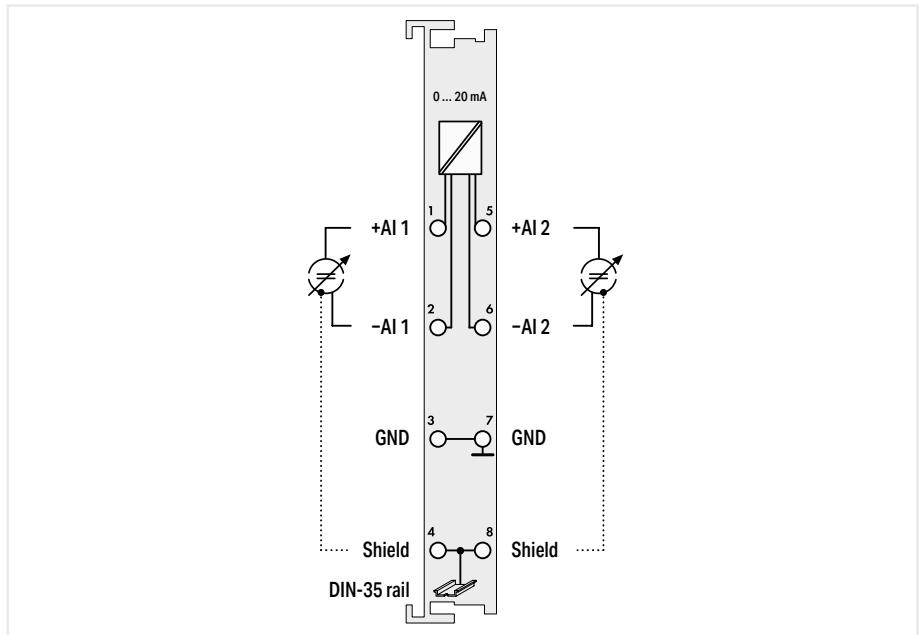
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|  | <input checked="" type="checkbox"/> |                                     |                                     | 3-Phase Power Measurement; 690 VAC 1 A<br>3-Phase Power Measurement; 690 VAC 5 A<br>3-Phase Power Measurement; 690 VAC Rogowski Coils | 750-495*<br>750-495/000-001*<br>750-495/000-002*   |                            |                            |                                    | 359             |            |
| Ex i   |                                     |                                     |                                     |   |  | See Section 7.9            |                            |                                    |                 |            |
| *This module is also available as a variant of the 750 XTR Series. |                                     |                                     |                                     |   |  | See Section 8              |                            |                                    |                 |            |

## Analog input ▶ 0 ... 20 mA ▶ Differential



750-452



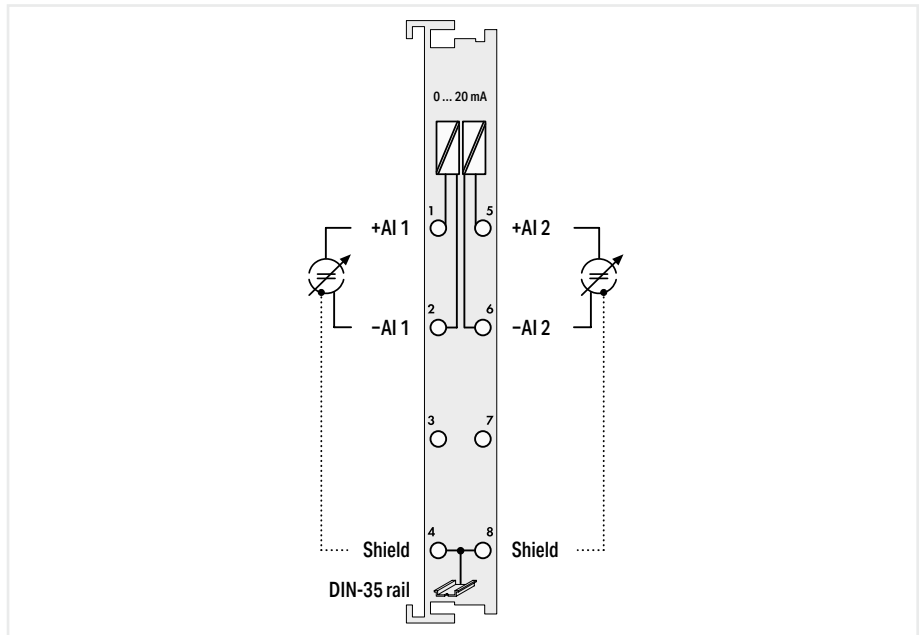
| Item description   |   |                   |   |
|--|---|-------------------|---|
| Version  | 2-Channel Analog Input; 0 ... 20 mA; Differential Input |                   |   |
| Item no.   | 750-452   | 753-452           | Data format (S5 control)  |
| Order Text   | 2AI; 0-20mA; Diff                                       | 2AI; 0-20mA; Diff | 750-452/000-200<br>2AI; 0-20mA; Diff; S5  |
| Technical data   |   |                   |   |
| Pluggable connector  | -   | pluggable         | -   |
| Customized data format   | -   | -                 | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog inputs  | 2   |                   |   |
| Signal type  | Current   |                   |   |
| Signal type (current)  | 0 ... 20 mADC   |                   |   |
| Signal characteristics   | Differential  |                   |   |
| Sensor connection  | 2 x (2-wire)  |                   |   |
| Resolution [bit]   | 12 bits   |                   |   |
| Conversion time (typ.)   | 2 ms  |                   |   |
| Input resistance (max.)  | 220 Ω   |                   |   |
| Input voltage (max.)   | 35 V  |                   |   |
| Measurement error (reference temperature)                      | 25 °C   |                   |   |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %   |                   |   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |                   |   |
| Current consumption (5 V system supply)                        | 70 mA   |                   |   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)    |                   |   |
| Isolation  | 500 V system/field                                      |                   |   |
| Ambient temperature (operation)                                | 0 ... +55 °C  |                   |   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm                                    |                   |   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                |                   |   |
| For data sheet and additional information, see:                | wago.com/750-452  | wago.com/753-452  | wago.com/750-452/000-200  |
| Accessories  |   |                   |   |
| Plug   | Item no.  | Item no.          | Item no.  |
|  | -   | 753-110           | -   |

7.4

Analog input ▶ 0 ... 20 mA ▶ Differential



750-480



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| <b>2-Channel Analog Input; 0 ... 20 mA; Differential Input</b> |  |
| Standard   | pluggable (delivery without connector) |
| 750-480  | 753-480                                |
| 2AI; 0-20mA; Diff  | 2AI; 0-20mA; Diff                      |

|  |  |
|--|--|
| Technical data   |  |
| Extended functionality   | Time-synchronized measured value acquisition within the module |
| Pluggable connector  | - pluggable  |
| Number of analog inputs  | 2  |
| Signal type  | Current  |
| Signal type (current)  | 0 ... 20 mADC  |
| Signal characteristics   | Differential   |
| Sensor connection  | 2 x (2-wire)   |
| Resolution [bit]   | 13 bits  |
| Input resistance (max.)  | 270 Ω  |
| Admissible continuous overload                                 | 30 V   |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.05 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 80 mA  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)           |
| Isolation  | 500 V system/field or channel/channel                          |
| Ambient temperature (operation)                                | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm   |
| Approvals  | CE,  OrdLoc/HazLoc,  ATEX/IECEx                                |
| For data sheet and additional information, see:                | wago.com/750-480   wago.com/753-480                            |

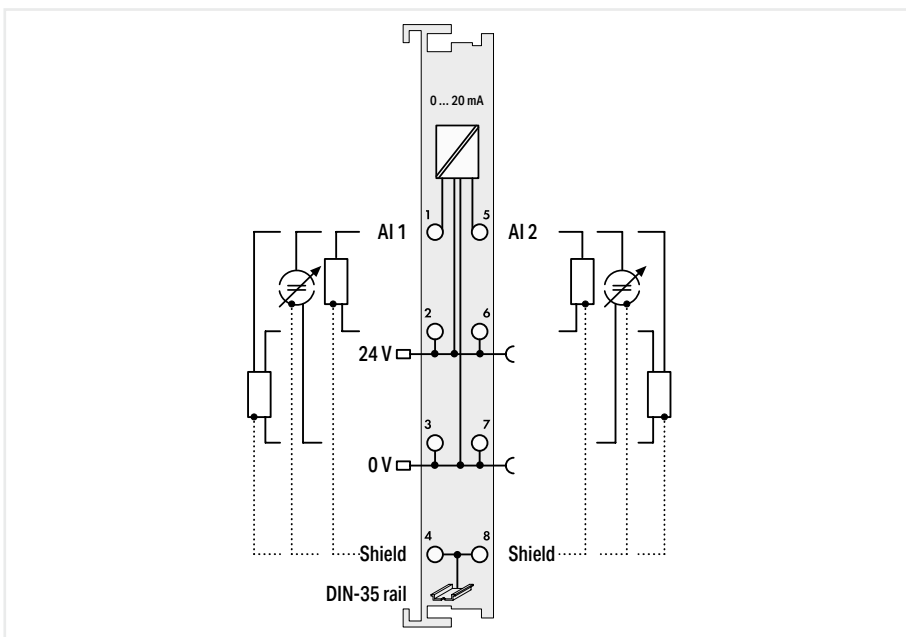
|             |
|-------------|
| Accessories |
| Plug        |

|          |   |          |         |
|----------|---|----------|---------|
| Item no. | - | Item no. | 753-110 |
|----------|---|----------|---------|

## Analog input ▶ 0 ... 20 mA ▶ Single-ended



750-465

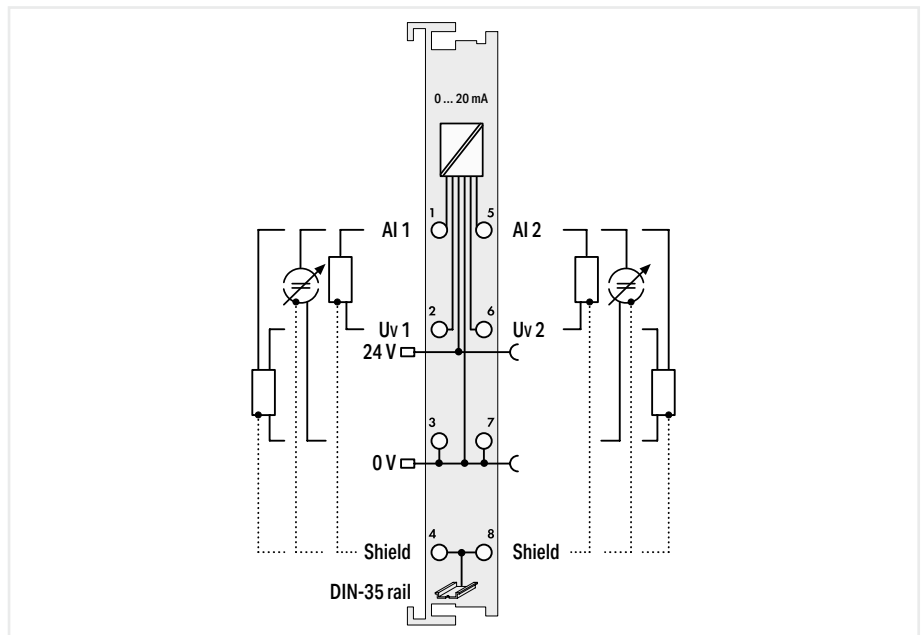


| Item description   |   |  |                  |
|--|---|--|------------------|
| Version  |   |  |                  |
| Item no.   |   |  |                  |
| Order Text   |   |  |                  |
| 2-Channel Analog Input; 0 ... 20 mA; Single-ended              |   |  |                  |
| Standard   | ext. temperature  | pluggable (delivery without connector) |                  |
| 750-465  | 750-465/025-000   | 753-465                                |                  |
| 2AI; 0-20mA; SE  | 2AI; 0-20mA; SE; T  | 2AI; 0-20mA; SE                        |                  |
| Technical data   |   |  |                  |
| Pluggable connector  | -   |  | pluggable        |
| Number of analog inputs  | 2   |  |                  |
| Signal type  | Current   |  |                  |
| Signal type (current)  | 0 ... 20 mA DC  |  |                  |
| Signal characteristics   | Single-ended  |  |                  |
| Sensor connection  | 2 x (2-wire, 3-wire)  |  |                  |
| Resolution [bit]   | 12 bits   |  |                  |
| Conversion time (typ.)   | 2 ms  |  |                  |
| Input resistance (max.)  | 220 Ω   |  |                  |
| Input voltage (max.)   | 10 V  |  |                  |
| Measurement error (reference temperature)                      | 25 °C   |  |                  |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %   |  |                  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |  |                  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |                  |
| Current consumption (5 V system supply)                        | 75 mA   |  |                  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |  |                  |
| Isolation  | 500 V system/field  |  |                  |
| Ambient temperature (operation)                                | 0 ... +55 °C  | -20 ... +60 °C                         | 0 ... +55 °C     |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |                  |
| Approvals  | CE,  OrdLoc/HazLoc,  ATEX/IECEx   |  |                  |
| For data sheet and additional information, see:                | wago.com/750-465  |  | wago.com/753-465 |
| Accessories  |   |  |                  |
| Item no.   | Item no.  | Item no.                               |                  |
| -  | -   | 753-110                                |                  |

## Analog input ▶ 0 ... 20 mA ▶ Single-ended



750-470



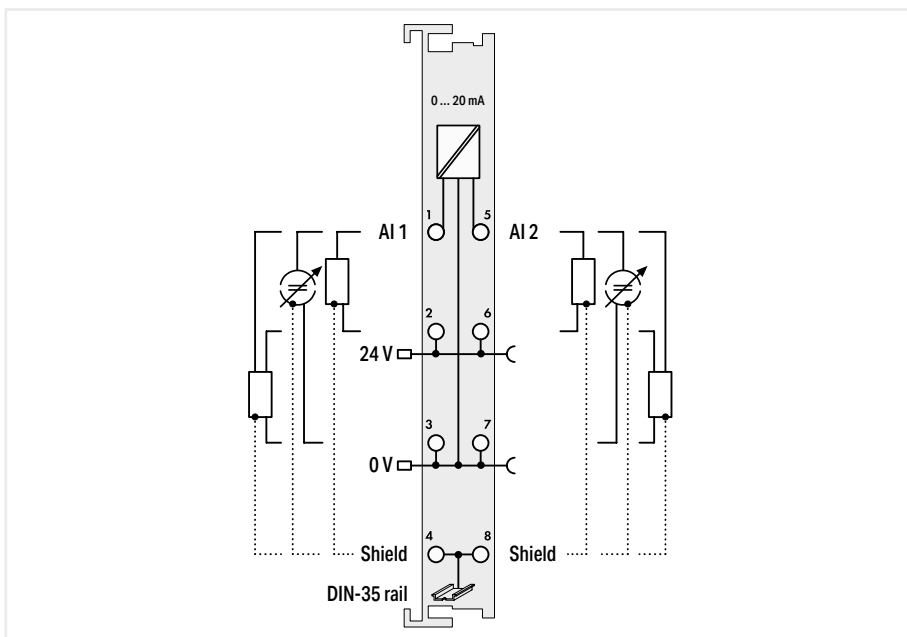
|                  |   |                       |
|------------------|---|-----------------------|
| Item description | <b>2-Channel Analog Input; 0 ... 20 mA; Single-ended; Short-circuit-protected sensor supply</b> |                       |
| Version          | Standard  | 60 Hz                 |
| Item no.         | 750-470   | 750-470/005-000       |
| Order Text       | 2AI; 0-20mA; SE   | 2AI; 0-20mA; SE; 60Hz |

|  |   |       |
|--|---|-------|
| Technical data   |   |       |
| Extended functionality   | Short-circuit-protected sensor supply   |       |
| Number of analog inputs  | 2   |       |
| Signal type  | Current   |       |
| Signal type (current)  | 0 ... 20 mADC   |       |
| Signal characteristics   | Single-ended  |       |
| Sensor connection  | 2 x (2-wire, 3-wire)  |       |
| Resolution [bit]   | 12 bits   |       |
| Conversion time (typ.)   | 80 ms   |       |
| Input resistance (max.)  | 160 Ω   |       |
| Input filter frequency (analog)                                | 50 Hz   | 60 Hz |
| Measurement error (reference temperature)                      | 25 °C   |       |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |       |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |       |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |       |
| Current consumption (5 V system supply)                        | 100 mA  |       |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |       |
| Isolation  | 500 V system/field  |       |
| Ambient temperature (operation)                                | 0 ... +55 °C  |       |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |       |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |       |
| For data sheet and additional information, see:                | wago.com/750-470  |       |

## Analog input ▶ 0 ... 20 mA ▶ Single-ended



750-472

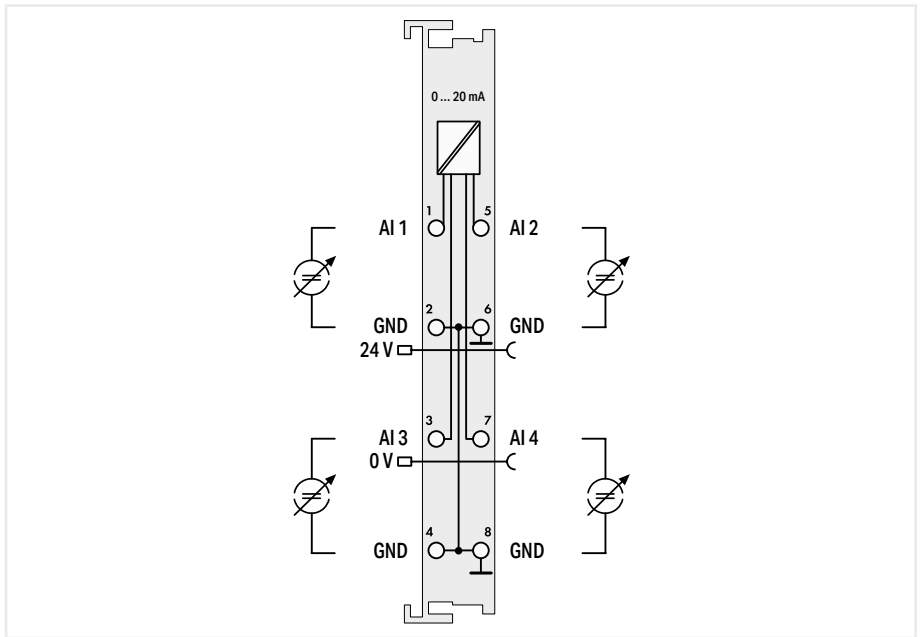


|  |   |  |
|--|---|--|
| Item description   | <b>2-Channel Analog Input; 0 ... 20 mA; Single-ended; 16 bits</b>   |  |
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-472   | 753-472                                |
| Order Text   | 2AI; 0-20mA; SE; 16bits   | 2AI; 0-20mA; SE; 16bits                |
| Technical data   |   |  |
| Extended functionality   | Overload protection   |  |
| Pluggable connector  | -   | pluggable                              |
| Number of analog inputs  | 2   |  |
| Signal type  | Current   |  |
| Signal type (current)  | 0 ... 20 mADC   |  |
| Signal characteristics   | Single-ended  |  |
| Sensor connection  | 2 x (2-wire, 3-wire)  |  |
| Resolution [bit]   | 15 bits   |  |
| Conversion time (typ.)   | 80 ms   |  |
| Input resistance (max.)  | 220 Ω   |  |
| Input voltage (max.)   | 24 V  |  |
| Input filter frequency (analog)                                | 50 Hz   |  |
| Measurement error (reference temperature)                      | 25 °C   |  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                        | 75 mA   |  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |  |
| Isolation  | 500 V system/field  |  |
| Ambient temperature (operation)                                | 0 ... +55 °C  |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |  |
| For data sheet and additional information, see:                | wago.com/750-472  | wago.com/753-472                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

# Analog input ▶ 0 ... 20 mA ▶ Single-ended



750-453



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |  |
|---|--|
| 4-Channel Analog Input; 0 ... 20 mA; Single-ended |  |
| Standard  | pluggable (delivery without connector) |
| 750-453   | 753-453                                |
| 4AI; 0-20mA; SE                                   | 4AI; 0-20mA; SE                        |

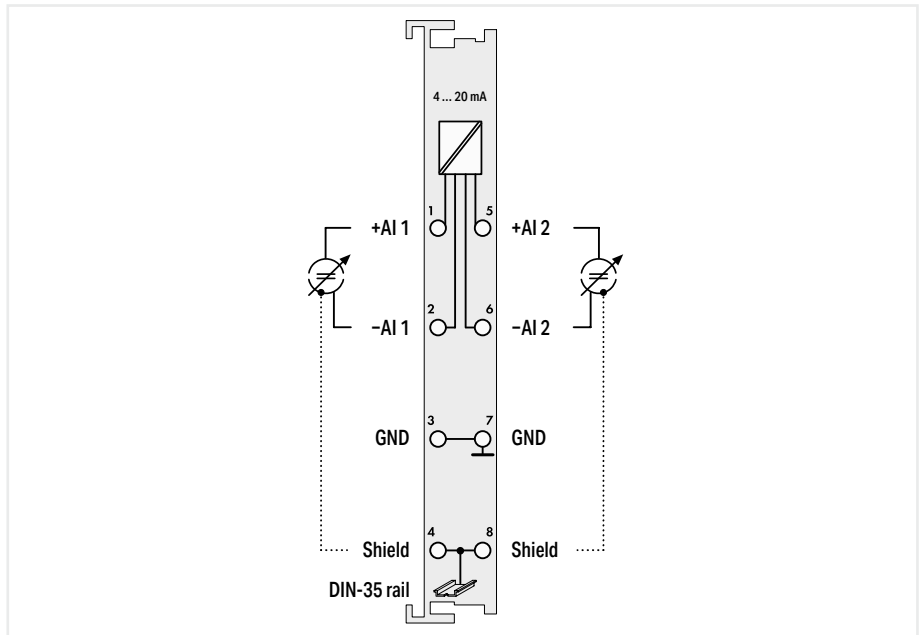
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| Technical data   |
| Pluggable connector  |
| Number of analog inputs  |
| Signal type  |
| Signal type (current)  |
| Signal characteristics   |
| Sensor connection  |
| Resolution [bit]   |
| Conversion time (typ.)   |
| Input resistance (max.)  |
| Input voltage (max.)   |
| Measurement error (reference temperature)                      |
| Measurement error, deviation (max.) from the upper-range value |
| Temperature error (max.) of the upper-range value              |
| Supply voltage (field)   |
| Current consumption (5 V system supply)                        |
| Data width   |
| Isolation  |
| Ambient temperature (operation)                                |
| Dimensions W x H x D   |
| Approvals  |
| For data sheet and additional information, see:                |
| Accessories  |
| Plug   |

|          |   |
|----------|---|
| -        | pluggable   |
| -        | 4   |
| -        | Current   |
| -        | 0 ... 20 mADC   |
| -        | Single-ended  |
| -        | 4 x (2-wire)  |
| -        | 12 bits   |
| -        | 10 ms   |
| -        | 100 Ω   |
| -        | 32 V  |
| -        | 25 °C   |
| -        | 0.1 %   |
| -        | 0.01 %/K  |
| -        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| -        | 65 mA   |
| -        | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| -        | 500 V system/field  |
| -        | 0 ... +55 °C  |
| -        | (12 x 100 x 69.8) mm  |
| -        | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| -        | wago.com/750-453  |
| -        | wago.com/753-453  |
| Item no. | Item no.  |
| -        | 753-110   |

## Analog input ▶ 4 ... 20 mA ▶ Differential



750-454

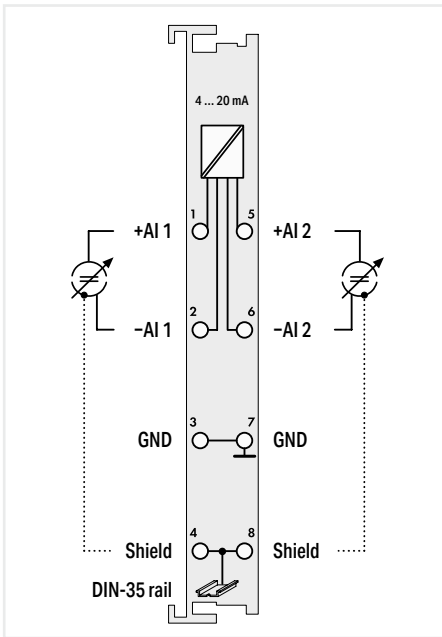


|                  |   |                      |  |                          |                            |
|------------------|---|----------------------|--|--------------------------|----------------------------|
| Item description | 2-Channel Analog Input; 4 ... 20 mA; Differential input |                      |  |                          |                            |
| Version          | Standard  | ext. temperature     | pluggable (delivery without connector) | Data format (S5 control) | Extended measurement range |
| Item no.         | 750-454   | 750-454/025-000      | 753-454                                | 750-454/000-200          | 750-454/000-003            |
| Order Text       | 2AI; 4-20mA; Diff                                       | 2AI; 4-20mA; Diff; T | 2AI; 4-20mA; Diff                      | 2AI; 4-20mA; Diff; S5    | 2AI; 4-20mA; Diff; EM      |

|  |  |                |                  |                          |   |
|--|--|----------------|------------------|--------------------------|---|
| Technical data   |  |                |                  |                          |   |
| Pluggable connector  | -  |                | pluggable        |                          | -   |
| Customized data format   | -  |                |                  |                          | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog inputs  | 2  |                |                  |                          |   |
| Signal type  | Current  |                |                  |                          |   |
| Signal type (current)  | 4 ... 20 mADC  |                |                  |                          | 3.8 ... 20.5 mADC   |
| Signal characteristics   | Differential   |                |                  |                          |   |
| Sensor connection  | 2 x (2-wire)   |                |                  |                          |   |
| Resolution [bit]   | 12 bits  |                |                  |                          |   |
| Conversion time (typ.)   | 2 ms   |                |                  |                          |   |
| Input resistance (max.)  | 220 Ω  |                |                  |                          |   |
| Input voltage (max.)   | 35 V   |                |                  |                          |   |
| Measurement error (reference temperature)                      | 25 °C  |                |                  |                          |   |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |                |                  |                          |   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |                |                  |                          |   |
| Current consumption (5 V system supply)                        | 70 mA  |                |                  |                          |   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional) |                |                  |                          |   |
| Isolation  | 500 V system/field                                   |                |                  |                          |   |
| Ambient temperature (operation)                                | 0 ... +55 °C   | -20 ... +60 °C |                  |                          | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm                                 |                |                  |                          |   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                |                |                  |                          |   |
| For data sheet and additional information, see:                | wago.com/750-454                                     |                | wago.com/753-454 | wago.com/750-454/000-200 |   |
| Accessories  | Item no.   | Item no.       | Item no.         | Item no.                 | Item no.  |
| Plug   | -  | -              | 753-110          | -                        | -   |

7.4





**2-Channel Analog Input; 4 ... 20 mA; Differential input**  
 ext. temperature; ext. measurement range

750-454/025-003

2AI; 4-20mA; Diff; EM; T

|  |
|--|
| -  |
| -  |
| 2  |
| Current  |
| 3.8 ... 20.5 mADC                                    |
| Differential   |
| 2 x (2-wire)   |
| 12 bits  |
| 2 ms   |
| 220 Ω  |
| 35 V   |
| 25 °C  |
| 0.2 %  |
| 0.01 %/K   |
| 70 mA  |
| 2 x 16-bit data; 2 x 8-bit control/status (optional) |
| 500 V system/field                                   |
| -20 ... +60 °C                                       |
| (12 x 100 x 69.8) mm                                 |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                |
| wago.com/750-454/000-200                             |

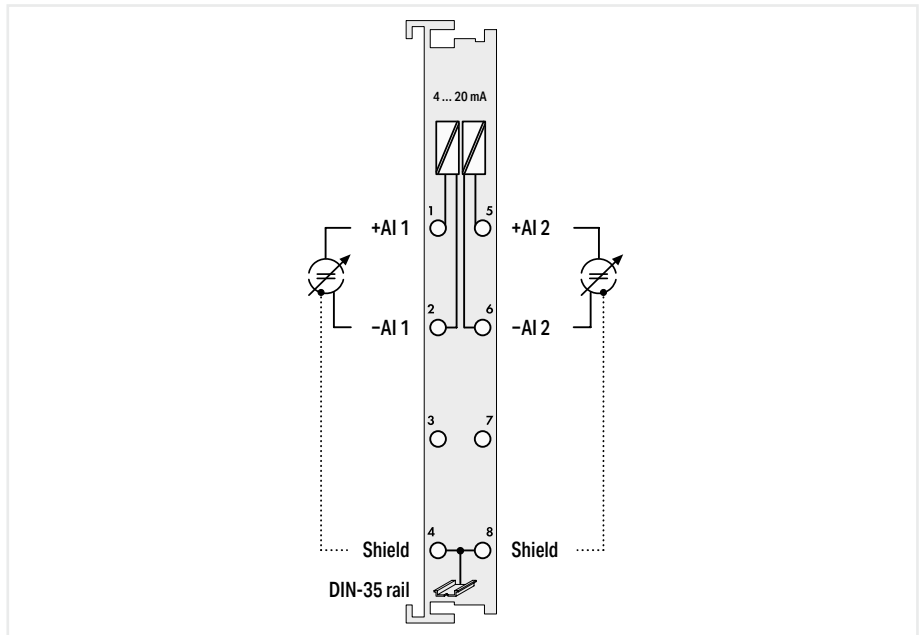
**Item no.**

-

## Analog input ▶ 4 ... 20 mA ▶ Differential



750-492

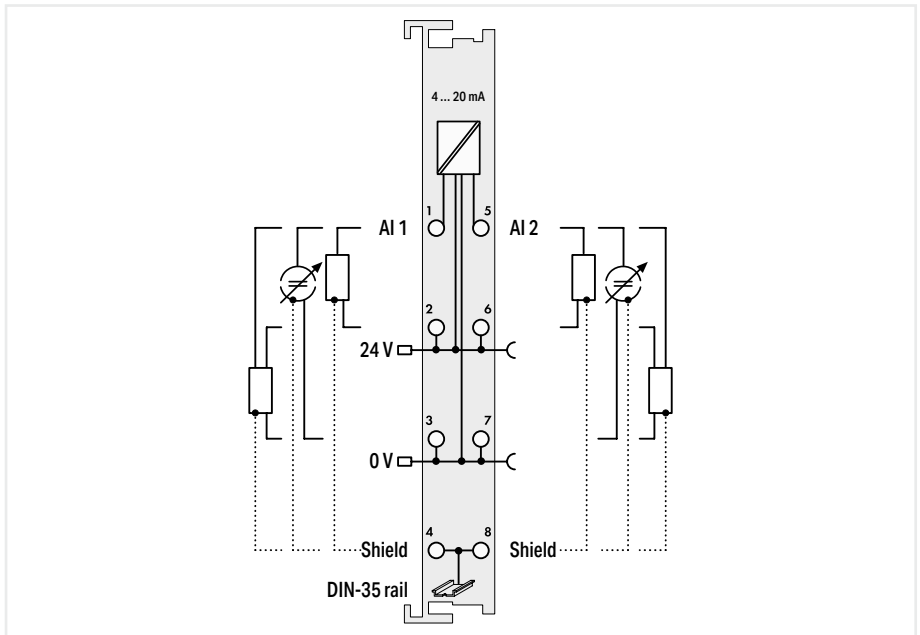


|  |  |  |
|--|--|--|
| Item description   | <b>2-Channel Analog Input; 4 ... 20 mA; Differential input</b> |  |
| Version  | Standard   | pluggable (delivery without connector) |
| Item no.   | 750-492  | 753-492                                |
| Order Text   | 2AI; 4-20mA; Diff  | 2AI; 4-20mA; Diff                      |
| Technical data   |  |  |
| Extended functionality   | Time-synchronized measured value acquisition within the module |  |
| Pluggable connector  | -  | pluggable                              |
| Number of analog inputs  | 2  |  |
| Signal type  | Current  |  |
| Signal type (current)  | 4 ... 20 mA DC   |  |
| Signal characteristics   | Differential   |  |
| Sensor connection  | 2 x (2-wire)   |  |
| Resolution [bit]   | 13 bits  |  |
| Input resistance (max.)  | 270 Ω  |  |
| Admissible continuous overload                                 | 30 V   |  |
| Measurement error (reference temperature)                      | 25 °C  |  |
| Measurement error, deviation (max.) from the upper-range value | 0.05 %   |  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |  |
| Current consumption (5 V system supply)                        | 80 mA  |  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)           |  |
| Isolation  | 500 V system/field or channel/channel                          |  |
| Ambient temperature (operation)                                | 0 ... +55 °C   |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm   |  |
| Approvals  | CE;  OrdLoc/HazLoc;  ATEX/IECEx                                |  |
| For data sheet and additional information, see:                | wago.com/750-492   | wago.com/753-492                       |
| Accessories  | Item no.   | Item no.                               |
| Plug   | -  | 753-110                                |

## Analog input ▶ 4 ... 20 mA ▶ Single-ended



750-466

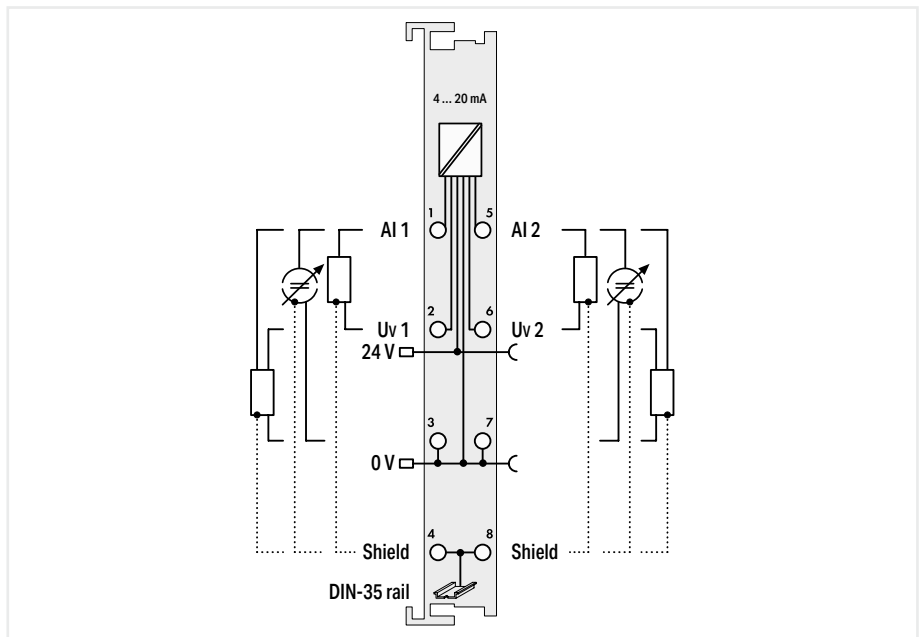


| Item description   |   | 2-Channel Analog Input; 4 ... 20 mA; Single-ended |  |   |                            |  |
|--|---|---|--|---|----------------------------|--|
| Version  | Standard  | ext. temperature                                  | pluggable (delivery without connector) | Data format (S5 control)  | Extended measurement range |  |
| 750-466  | 750-466   | 750-466/025-000                                   | 753-466                                | 750-466/000-200   | 750-466/000-003            |  |
| Order Text   | 2AI; 4-20mA; SE   | 2AI; 4-20mA; SE; T                                | 2AI; 4-20mA; SE                        | 2AI; 4-20mA; SE; S5   | 2AI; 4-20mA; SE; EM        |  |
| Technical data   |   |   |  |   |                            |  |
| Pluggable connector  | -   | pluggable   |  | -   |                            |  |
| Customized data format   | -   |   |  | The S5 format allows you to import data with the standard S5 FB 250 function block. |                            |  |
| Number of analog inputs  | 2   |   |  |   |                            |  |
| Signal type  | Current   |   |  |   |                            |  |
| Signal type (current)  | 4 ... 20 mADC   |   |  |   | 3.8 ... 20.5 mADC          |  |
| Signal characteristics   | Single-ended  |   |  |   |                            |  |
| Sensor connection  | 2 x (2-wire, 3-wire)  |   |  |   |                            |  |
| Resolution [bit]   | 12 bits   |   |  |   |                            |  |
| Conversion time (typ.)   | 2 ms  |   |  |   |                            |  |
| Input resistance (max.)  | 220 Ω   |   |  |   |                            |  |
| Input voltage (max.)   | 10 V  |   |  |   |                            |  |
| Measurement error (reference temperature)                      | 25 °C   |   |  |   |                            |  |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %   |   |  |   |                            |  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |   |  |   |                            |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |   |  |   |                            |  |
| Current consumption (5 V system supply)                        | 75 mA   |   |  |   |                            |  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |   |  |   |                            |  |
| Isolation  | 500 V system/field  |   |  |   |                            |  |
| Ambient temperature (operation)                                | 0 ... +55 °C  | -20 ... +60 °C                                    | 0 ... +55 °C                           |   |                            |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |   |  |   |                            |  |
| Approvals  | CE, OrdLoc/HazLoc, ATEX/IECEx   |   |  |   |                            |  |
| For data sheet and additional information, see:                | wago.com/750-466  | wago.com/753-466                                  | wago.com/750-466/000-200               |   |                            |  |
| Accessories  | Item no.  | Item no.  | Item no.                               | Item no.  | Item no.                   |  |
| Plug   | -   | -   | 753-110                                | -   | -                          |  |

## Analog input ▶ 4 ... 20 mA ▶ Single-ended



750-473



|                  |  |                       |
|------------------|--|-----------------------|
| Item description | <b>2-Channel Analog Input; 4 ... 20 mA; Single-ended</b> |                       |
| Version          | Standard   | 60 Hz                 |
| Item no.         | 750-473  | 750-473/005-000       |
| Order Text       | 2AI; 4-20mA; SE  | 2AI; 4-20mA; SE; 60Hz |

|  |   |       |
|--|---|-------|
| Technical data   |   |       |
| Extended functionality   | Short-circuit-protected sensor supply   |       |
| Number of analog inputs  | 2   |       |
| Signal type  | Current   |       |
| Signal type (current)  | 4 ... 20 mADC   |       |
| Signal characteristics   | Single-ended  |       |
| Sensor connection  | 2 x (2-wire, 3-wire)  |       |
| Resolution [bit]   | 12 bits   |       |
| Conversion time (typ.)   | 80 ms   |       |
| Input resistance (max.)  | 160 Ω   |       |
| Input filter frequency (analog)                                | 50 Hz   | 60 Hz |
| Measurement error (reference temperature)                      | 25 °C   |       |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |       |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |       |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |       |
| Current consumption (5 V system supply)                        | 100 mA  |       |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |       |
| Isolation  | 500 V system/field  |       |
| Ambient temperature (operation)                                | 0 ... +55 °C  |       |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |       |
| Approvals  |   |       |

For data sheet and additional information, see:

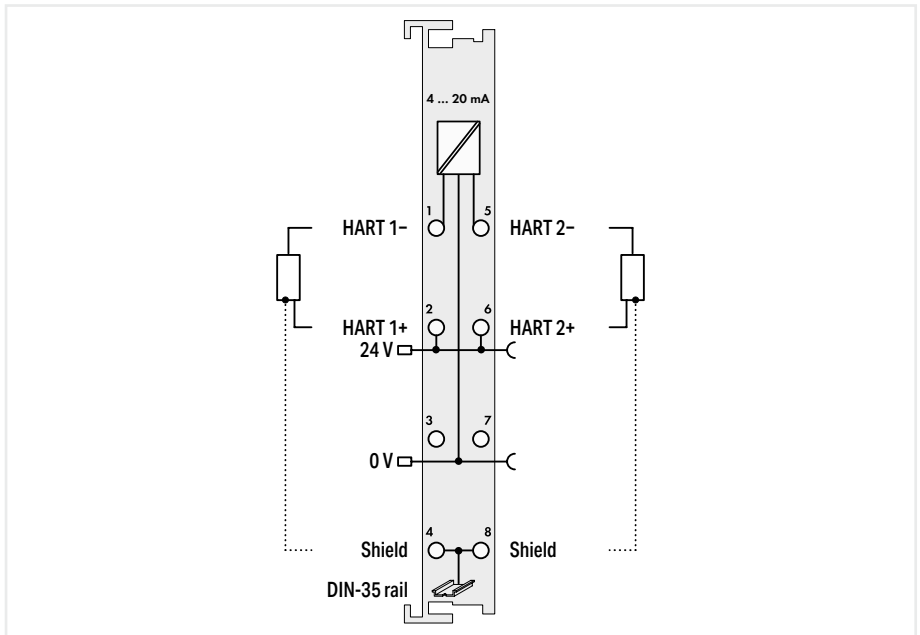
wago.com/750-473

7.4

# Analog input ▶ 4 ... 20 mA ▶ Single-ended



750-482



|                  |  |                     |  |
|------------------|--|---------------------|--|
| Item description | 2-Channel Analog Input; 4 ... 20 mA HART |                     |  |
| Version          | Standard                                 | ext. temperature    | pluggable (delivery without connector) |
| Item no.         | 750-482                                  | 750-482/025-000     | 753-482                                |
| Order Text       | 2AI; 4-20mA HART                         | 2AI; 4-20mA HART; T | 2AI; 4-20mA HART                       |

|  |   |                  |              |
|--|---|------------------|--------------|
| Technical data   |   |                  |              |
| Extended functionality   | Overload protection   |                  |              |
| Pluggable connector  | -   |                  | pluggable    |
| Number of analog inputs  | 2   |                  |              |
| Signal type  | Current   |                  |              |
| Signal type (current)  | 4 ... 20 mADC   |                  |              |
| Signal characteristics   | Single-ended  |                  |              |
| Sensor connection  | 2 x (2-wire)  |                  |              |
| Resolution [bit]   | 12 bits   |                  |              |
| Conversion time (typ.)   | 10 ms   |                  |              |
| Input voltage (max.)   | 24 V  |                  |              |
| Measurement error (reference temperature)                      | 25 °C   |                  |              |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |                  |              |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |                  |              |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)     |                  |              |
| Current consumption (5 V system supply)                        | 65 mA   |                  |              |
| Data width   | 2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox |                  |              |
| Configurable functions   | 4 HART dynamic variables (PV, SV, TV, QV)   |                  |              |
| Isolation  | 500 V system/field  |                  |              |
| Ambient temperature (operation)                                | 0 ... +55 °C  | -20 ... +60 °C   | 0 ... +55 °C |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                  |              |
| Approvals  | CE, IEC, OrdLoc/HazLoc, ATEX/IECEx  |                  |              |
| For data sheet and additional information, see:                | wago.com/750-482  | wago.com/753-482 |              |

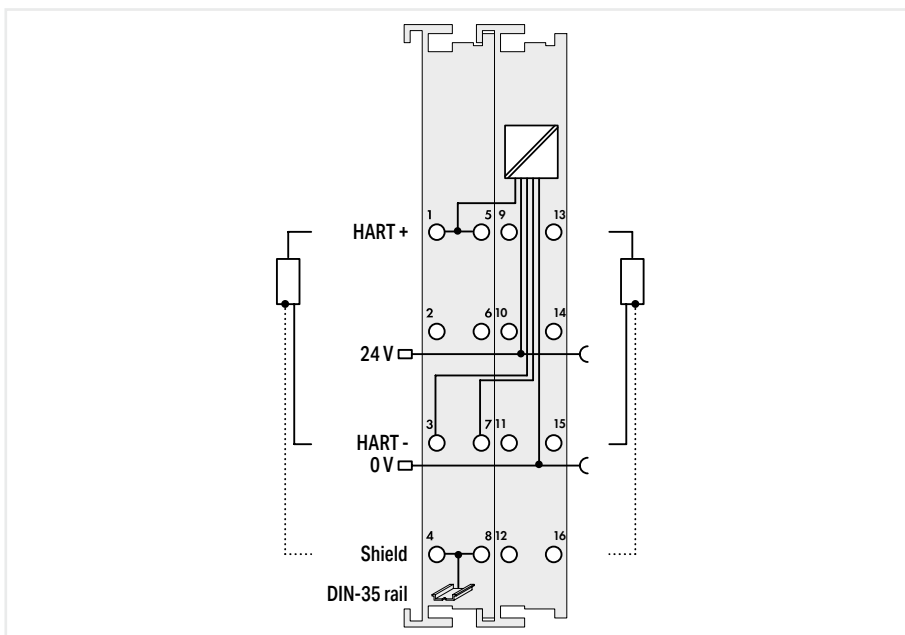
|             |          |          |          |
|-------------|----------|----------|----------|
| Accessories | Item no. | Item no. | Item no. |
| Plug        | -        | -        | 753-110  |

HART devices per channel: 1 device (SingleDrop, no MultiDrop)  
 For select fieldbus couplers, FDT/DTM device drivers are available that can be used to integrate the I/O module into a higher-level control system.

## Analog input ▶ 4 ... 20 mA ▶ Single-ended



750-482/000-001



|                  |   |
|------------------|---|
| Item description | 2-Channel Analog Input; 4 ... 20 mA HART; NAMUR NE 43 |
| Version          | NAMUR NE43  |
| Item no.         | 750-482/000-001                                       |
| Order Text       | 2AI; 4-20mA HART; NE43                                |

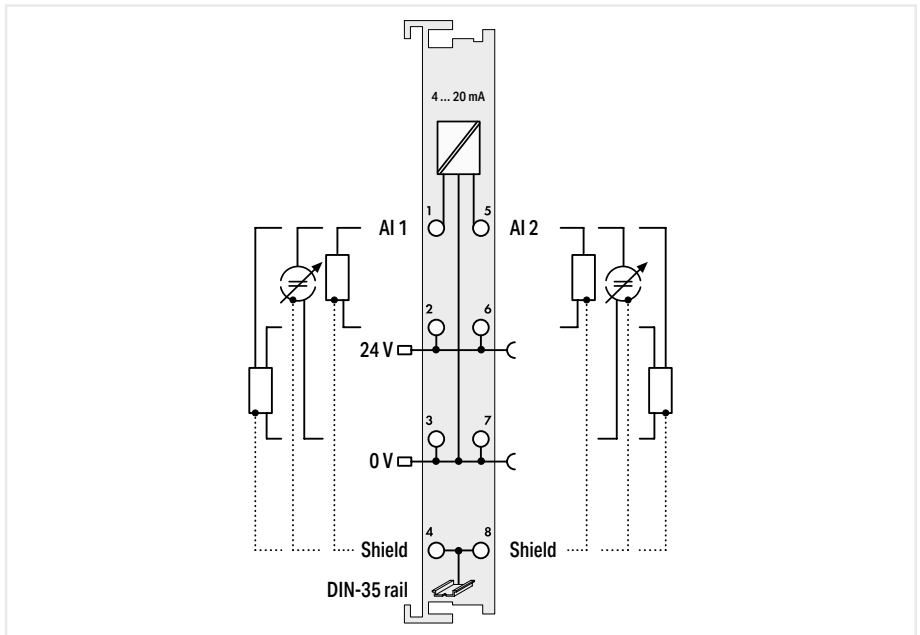
|  |   |
|--|---|
| Technical data   |   |
| Extended functionality   | Overload protection   |
| Number of analog inputs  | 2   |
| Signal type  | Current   |
| Signal type (current)  | 3.6 ... 21 mADC   |
| Signal characteristics   | Single-ended  |
| Sensor connection  | 2 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 315 ms  |
| Input voltage (max.)   | 24 V  |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)                     |
| Current consumption (5 V system supply)                        | 25 mA   |
| Data width   | 2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox |
| Configurable functions   | 4 HART dynamic variables (PV, SV, TV, QV)   |
| Isolation  | 300 VAC system/supply   |
| Ambient temperature (operation)                                | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Approvals  | CE; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                | wago.com/750-482/000-001  |

HART devices per channel: 1 device (SingleDrop, no MultiDrop)  
 For select fieldbus couplers, FDT/DTM device drivers are available that can be used to integrate the I/O module into a higher-level control system.

## Analog input ▶ 4 ... 20 mA ▶ Single-ended



750-474

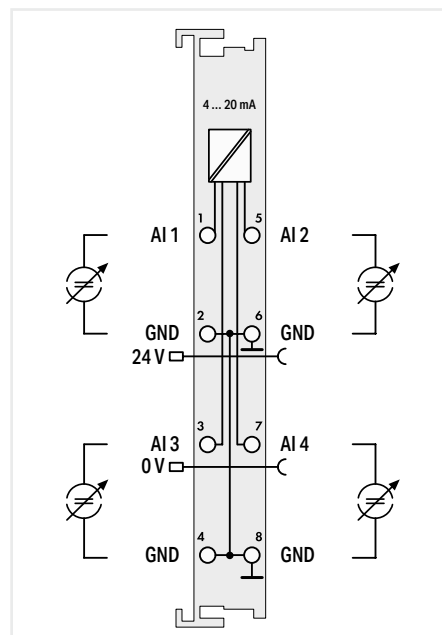
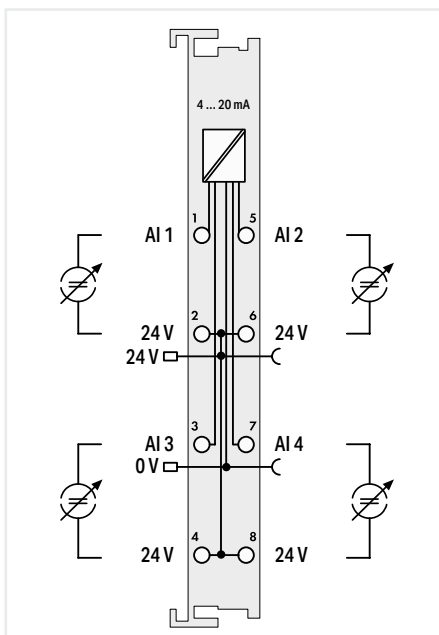


|  |   |  |   |                               |
|--|---|--|---|-------------------------------|
| Item description   | <b>2-Channel Analog Input; 4 ... 20 mA; Single-ended; 16 bits</b>   |  |   |                               |
| Version  | Standard  | pluggable (delivery without connector) | Data format (S5 control)  | 60 Hz                         |
| Item no.   | 750-474   | 753-474                                | 750-474/000-200   | 750-474/005-000               |
| Order Text   | 2AI; 4-20mA; SE; 16bits   | 2AI; 4-20mA; SE; 16bits                | 2AI; 4-20mA; SE; 16bits; S5   | 2AI; 4-20mA; SE; 16bits; 60Hz |
| Technical data   |   |  |   |                               |
| Extended functionality   | Overload protection   |  |   |                               |
| Pluggable connector  | -   | pluggable                              | -   |                               |
| Customized data format   | -   |  | The S5 format allows you to import data with the standard S5 FB 250 function block. | -                             |
| Number of analog inputs  | 2   |  |   |                               |
| Signal type  | Current   |  |   |                               |
| Signal type (current)  | 4 ... 20 mA DC  |  |   |                               |
| Signal characteristics   | Single-ended  |  |   |                               |
| Sensor connection  | 2 x (2-wire, 3-wire)  |  |   |                               |
| Resolution [bit]   | 15 bits   |  |   |                               |
| Conversion time (typ.)   | 80 ms   |  |   |                               |
| Input resistance (max.)  | 220 Ω   |  |   |                               |
| Input voltage (max.)   | 24 V  |  |   |                               |
| Input filter frequency (analog)                                | 50 Hz   |  | 60 Hz   |                               |
| Measurement error (reference temperature)                      | 25 °C   |  |   |                               |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |  |   |                               |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |  |   |                               |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |   |                               |
| Current consumption (5 V system supply)                        | 75 mA   |  |   |                               |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |  |   |                               |
| Isolation  | 500 V system/field  |  |   |                               |
| Ambient temperature (operation)                                | 0 ... +55 °C  |  |   |                               |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |   |                               |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |  |   |                               |
| For data sheet and additional information, see:                | wago.com/750-474  | wago.com/753-474                       | wago.com/750-474/000-200  |                               |
| Accessories  | Item no.  | Item no.                               | Item no.  | Item no.                      |
| Plug   | -   | 753-110                                | -   | -                             |

## Analog input ▶ 4 ... 20 mA ▶ Single-ended

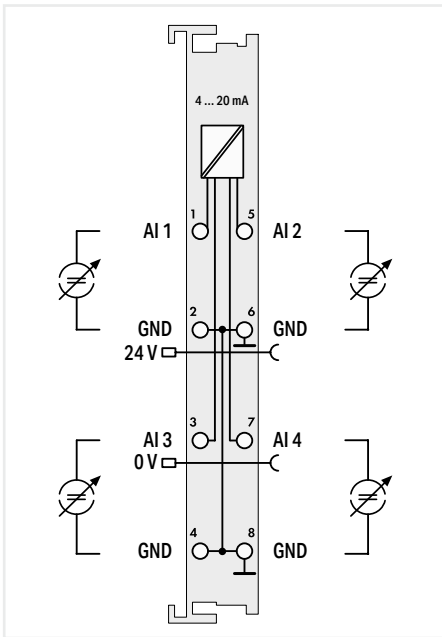


750-455/020-000



| Item description   | 4-Channel Analog Input; 4 ... 20 mA; Single-ended; 4 x 24 V   | 4-Channel Analog Input; 4 ... 20 mA; Single-ended; 4 x GND  |                    |
|--|---|---|--------------------|
| Version  | 4 x 24 V  | Standard  | ext. temperature   |
| Item no.   | 750-455/020-000   | 750-455   | 750-455/025-000    |
| Order Text   | 4AI; 4-20mA; SE; 4x24V  | 4AI; 4-20mA; SE   | 4AI; 4-20mA; SE; T |
| <b>Technical data</b>  |   |   |                    |
| Pluggable connector  | -   | -   |                    |
| Number of analog inputs  | 4   | 4   |                    |
| Signal type  | Current   | Current   |                    |
| Signal type (current)  | 4 ... 20 mA DC  | 4 ... 20 mA DC  |                    |
| Signal characteristics   | Single-ended  | Single-ended  |                    |
| Sensor connection  | 4 x (2-wire)  | 4 x (2-wire)  |                    |
| Resolution [bit]   | 12 bits   | 12 bits   |                    |
| Conversion time (typ.)   | 10 ms   | 10 ms   |                    |
| Input resistance (max.)  | 100 Ω   | 100 Ω   |                    |
| Input voltage (max.)   | 32 V  | 32 V  |                    |
| Measurement error (reference temperature)                      | 25 °C   | 25 °C   |                    |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   | 0.1 %   |                    |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  | 0.01 %/K  |                    |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| Current consumption (5 V system supply)                        | 65 mA   | 65 mA   |                    |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |                    |
| Isolation  | 500 V system/field  | 500 V system/field  |                    |
| Ambient temperature (operation)                                | 0 ... +55 °C  | 0 ... +55 °C  | -20 ... +60 °C     |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  | (12 x 100 x 69.8) mm  |                    |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |                    |
| For data sheet and additional information, see:                | wago.com/750-455/020-000  | wago.com/750-455/020-000  |                    |
| <b>Accessories</b>   | <b>Item no.</b>   | <b>Item no.</b>   | <b>Item no.</b>    |
| Plug   | -   | -   | -                  |





4-Channel Analog Input; 4 ... 20 mA; Single-ended; 4 x GND

pluggable (delivery without connector)

753-455

4AI; 4-20mA; SE

pluggable

4

Current

4 ... 20 mADC

Single-ended

4 x (2-wire)

12 bits

10 ms

100 Ω

32 V

25 °C

0.1 %

0.01 %/K

24 VDC (-25 ... +30 %); via power jumper contacts  
(power supply via blade contact; transmission via spring contact)

65 mA

4 x 16-bit data; 4 x 8-bit control/status (optional)

500 V system/field

0 ... +55 °C

(12 x 100 x 69.8) mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

wago.com/753-455

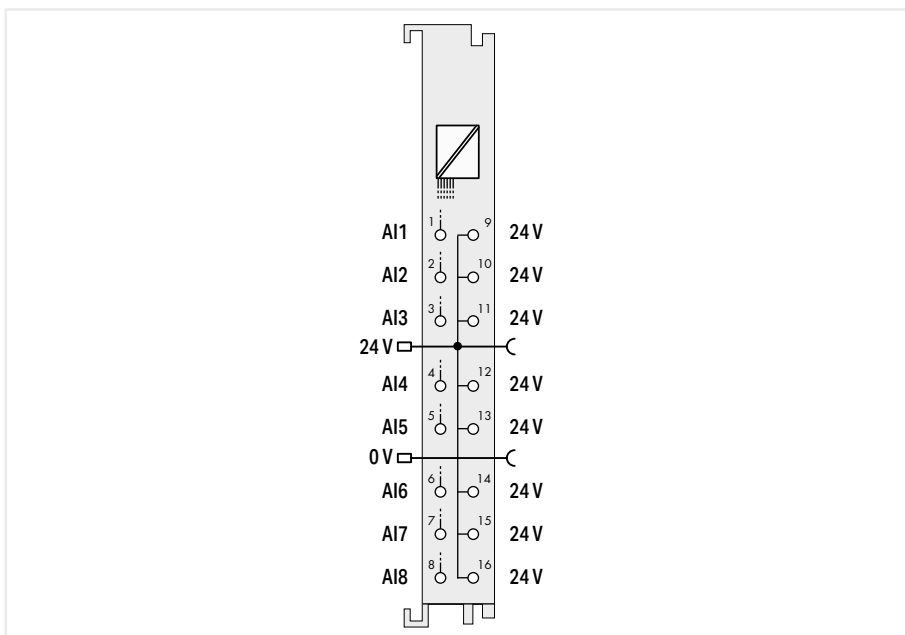
Item no.

753-110

## Analog input ► Configurable: current



750-496



|                  |  |
|------------------|--|
| Item description | <b>8-Channel Analog Input; 0/4 ... 20 mA; Single-ended</b> |
| Version          | <b>Standard with 16 connectors</b>                         |
| Item no.         | <b>750-496</b>   |
| Order Text       | <b>8AI; 0/4-20mA; SE</b>                                   |

|  |   |
|--|---|
| Technical data   |   |
| Number of analog inputs  | 8   |
| Signal type  | Current   |
| Signal type (current)  | 0 ... 20 mADC; 4 ... 20 mADC; 3.6 ... 21 mADC   |
| Sensor connection  | 8 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 220 Ω   |
| Input voltage (max.)   | 31.2 V  |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                        | 69 mA   |
| Data width   | 8 x 16-bit data; 8 x 8-bit control/status (optional)  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

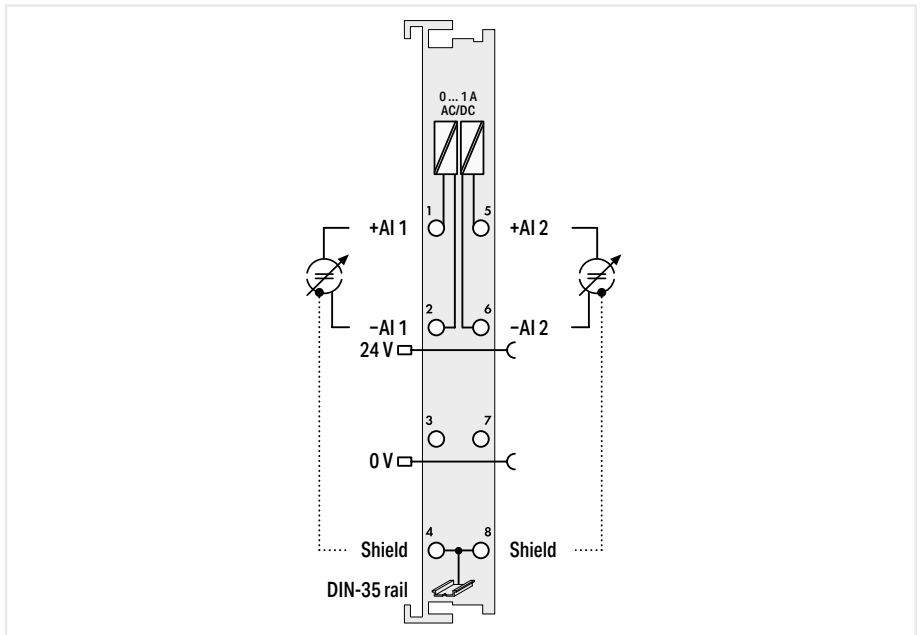
For data sheet and additional information, see:

wago.com/750-496

Analog input ▶ 0 ... 1 A rms (peak value 2.0 A) ▶ Differential



750-475

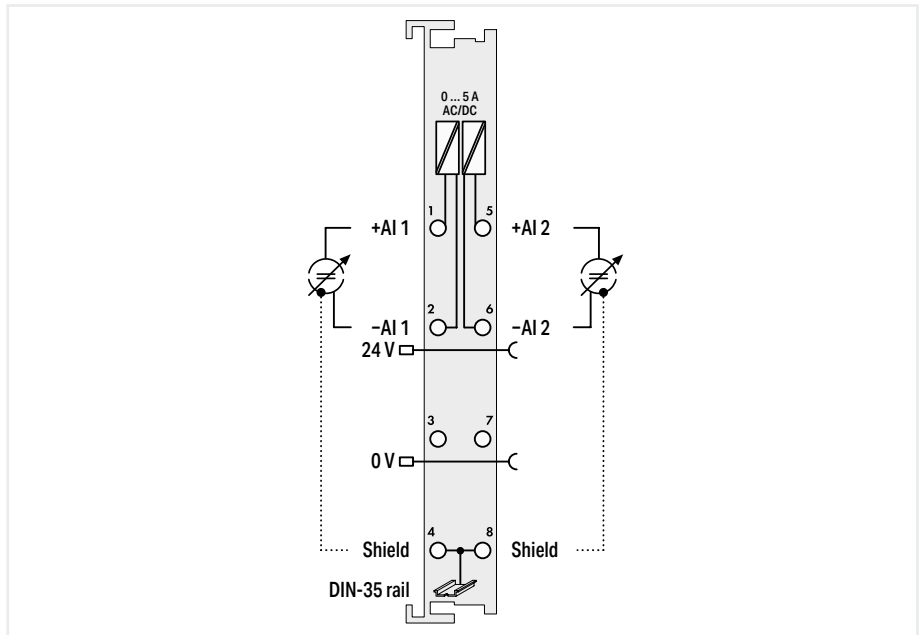


|  |   |  |
|--|---|--|
| Item description   | <b>2-Channel Analog Input; 0 ... 1 VAC/DC; Differential input</b>   |  |
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-475   | 753-475                                |
| Order Text   | 2AI; 0-1A AC/DC; Diff   | 2AI; 0-1A AC/DC; Diff                  |
| Technical data   |   |  |
| Pluggable connector  | -   | pluggable                              |
| Number of analog inputs  | 2   |  |
| Signal type  | Current   |  |
| Signal type (current)  | 0 ... 1 AAC/DC  |  |
| Signal characteristics   | Differential  |  |
| Sensor connection  | 2 x (2-wire)  |  |
| Resolution [bit]   | 15 bits   |  |
| Conversion time (typ.)   | 200 ms  |  |
| Input resistance (max.)  | 0.022 Ω   |  |
| Input voltage (max.)   | 24 VAC/DC (-20 ... +20 %)   |  |
| Measurement error (reference temperature)                      | 25 °C   |  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |  |
| Temperature coefficient  | < ± 110 ppm / K of the full scale value   |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                        | 80 mA   |  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |  |
| Isolation  | 500 V system/field or channel/channel   |  |
| Ambient temperature (operation)                                | 0 ... +55 °C  |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |  |
| For data sheet and additional information, see:                | wago.com/750-475  | wago.com/753-475                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

## Analog input ▶ 0 ... 5 A rms (peak value 6.0 A) ▶ Differential



750-475/020-000

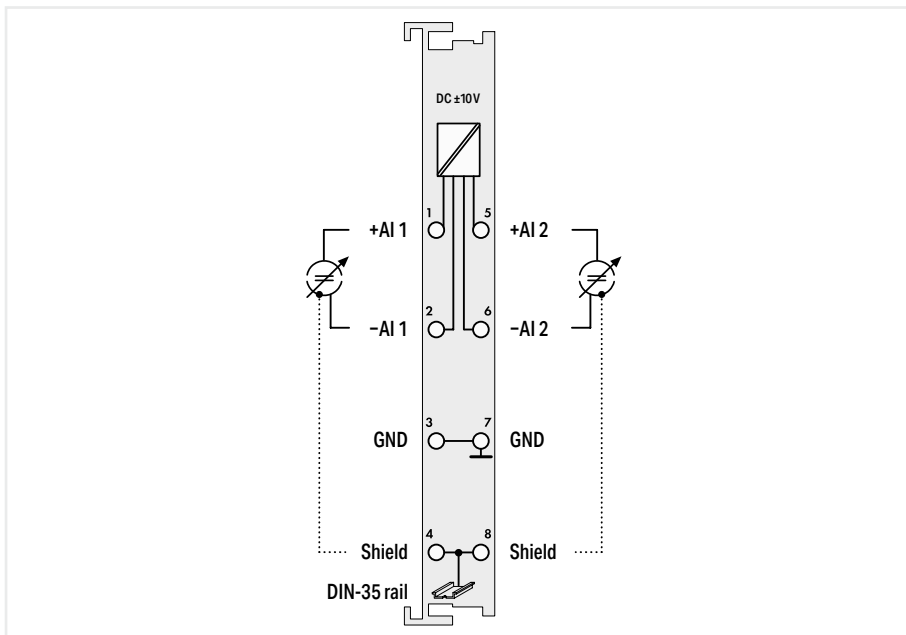


|  |   |
|--|---|
| Item description   | 2-Channel Analog Input; 0 ... 5 VAC/DC; Differential input  |
| Version  | 0 ... 5 AAC/DC  |
| Item no.   | 750-475/020-000   |
| Order Text   | 2AI; 0-5A AC/DC; Diff   |
| Technical data   |   |
| Number of analog inputs  | 2   |
| Signal type  | Current   |
| Signal type (current)  | 0 ... 5 AAC/DC  |
| Signal characteristics   | Differential  |
| Sensor connection  | 2 x (2-wire)  |
| Resolution [bit]   | 15 bits   |
| Input resistance (max.)  | 0.022 Ω   |
| Input voltage (max.)   | 24 VAC/DC (-20 ... +20 %)   |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                        | 80 mA   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Isolation  | 500 V system/field or channel/channel   |
| Ambient temperature (operation)                                | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:                | wago.com/750-475/020-000  |

## Analog input ▶ ±10 V ▶ Differential



750-456

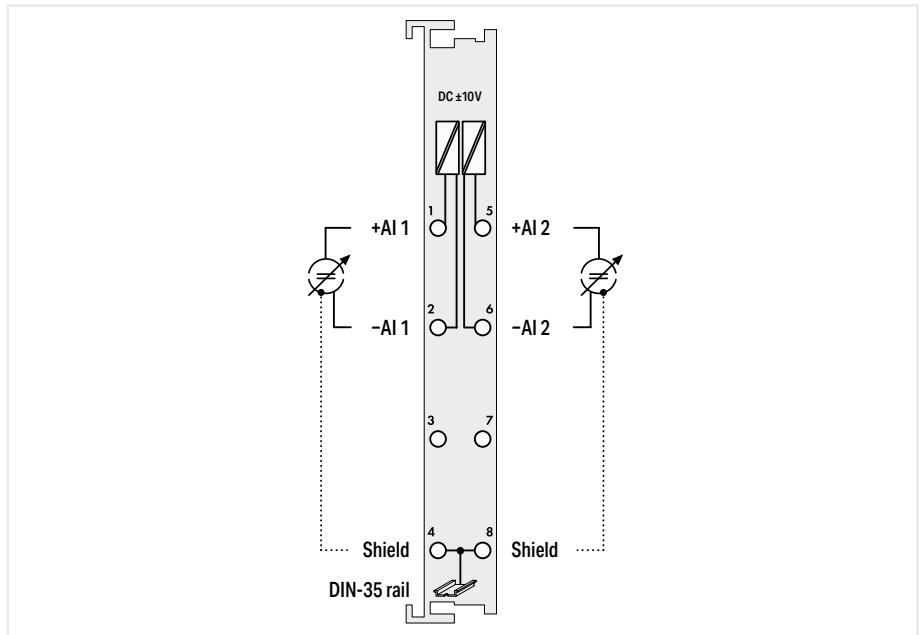


| Item description   |  |                  |   |
|--|--|------------------|---|
| Version  | 2-Channel Analog Input; ±10 VDC; Differential input  |                  |   |
| Item no.   | 750-456  | 753-456          | 750-456/000-200   |
| Order Text   | 2AI; ±10 VDC   | 2AI; ±10 VDC     | 2AI; ±10 VDC; S5  |
| Technical data   |  |                  |   |
| Pluggable connector  | -  | pluggable        | -   |
| Customized data format   | -  | -                | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog inputs  | 2  |                  |   |
| Signal type  | Voltage  |                  |   |
| Signal type (voltage)  | -10 ... +10 VDC                                      |                  |   |
| Signal characteristics   | Differential   |                  |   |
| Sensor connection  | 2 x (2-wire)   |                  |   |
| Resolution [bit]   | 12 bits  |                  |   |
| Conversion time (typ.)   | 2 ms   |                  |   |
| Internal resistance  | 570 kΩ   |                  |   |
| Input voltage (max.)   | 35 V   |                  |   |
| Measurement error (reference temperature)                      | 25 °C  |                  |   |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |                  |   |
| Temperature error (max.) of the upper-range value              | 0.015 %/K  |                  |   |
| Current consumption (5 V system supply)                        | 80 mA  |                  |   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional) |                  |   |
| Isolation  | 500 V system/field                                   |                  |   |
| Ambient temperature (operation)                                | 0 ... +55 °C   |                  |   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm                                 |                  |   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX             |                  |   |
| For data sheet and additional information, see:                | wago.com/750-456                                     | wago.com/753-456 | wago.com/750-456/000-200  |
| Accessories  |  |                  |   |
| Item no.   | Item no.   | Item no.         | Item no.  |
| Plug   | -  | 753-110          | -   |

## Analog input ▶ ±10 V ▶ Differential



750-479



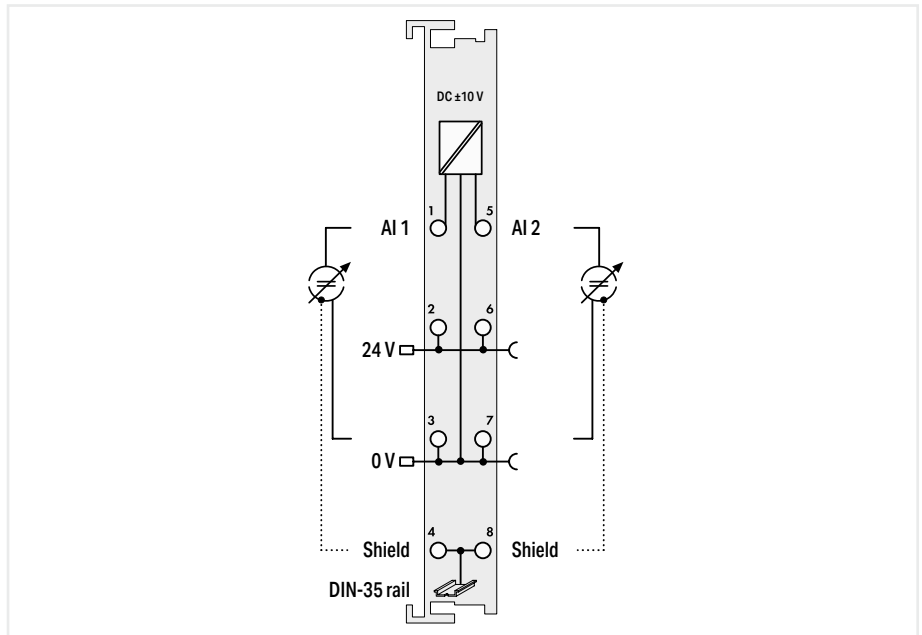
|  |                    |  |  |
|--|--------------------|--|--|
| <b>Item description</b>  |                    | <b>2-Channel Analog Input; ±10 VDC; Differential input</b>       |  |
| Version  |                    | Standard   | pluggable (delivery without connector)                         |
| Item no.   | 750-479            |  | 753-479  |
| Order Text   | 2AI; ±10 VDC; Diff |  | 2AI; ±10 VDC; Diff   |
| <b>Technical data</b>  |                    |  |  |
| Extended functionality   |                    |  | Time-synchronized measured value acquisition within the module |
| Pluggable connector  | -                  |  | pluggable  |
| Number of analog inputs  |                    | 2  |  |
| Signal type  |                    | Voltage  |  |
| Signal type (voltage)  |                    | -10 ... +10 VDC  |  |
| Signal characteristics   |                    | Differential   |  |
| Sensor connection  |                    | 2 x (2-wire)   |  |
| Resolution [bit]   |                    | 14 bits  |  |
| Internal resistance  |                    | 1000 kΩ  |  |
| Admissible continuous overload                                 |                    | 60 V   |  |
| Measurement error (reference temperature)                      |                    | 25 °C  |  |
| Measurement error, deviation (max.) from the upper-range value |                    | 0.05 %   |  |
| Temperature error (max.) of the upper-range value              |                    | 0.01 %/K   |  |
| Current consumption (5 V system supply)                        |                    | 100 mA   |  |
| Data width   |                    | 2 x 16-bit data; 2 x 8-bit control/status (optional)             |  |
| Isolation  |                    | 500 V system/field or channel/channel                            |  |
| Ambient temperature (operation)                                |                    | 0 ... +55 °C   |  |
| Dimensions W x H x D   |                    | (12 x 100 x 69.8) mm   |  |
| Approvals  |                    | CE; [Symbol] Marine; [Symbol] OrdLoc/HazLoc; [Symbol] ATEX/IECEX |  |
| For data sheet and additional information, see:                | wago.com/750-479   |  | wago.com/753-479   |
| <b>Accessories</b>   |                    | <b>Item no.</b>  |  |
| Plug   | -                  |  | 753-110  |

7.4

## Analog input ▶ ±10 V ▶ Single-ended



750-476

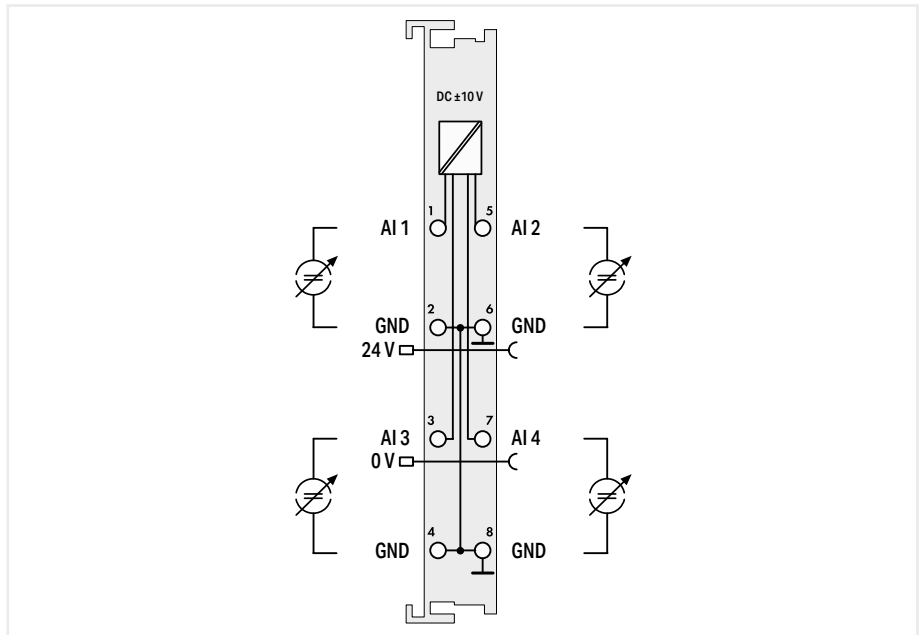


|  |   |                  |   |
|--|---|------------------|---|
| <b>Item description</b>  |   |                  |   |
| Version  |   |                  |   |
| <b>Item no.</b>  |   |                  |   |
| <b>Order Text</b>  |   |                  |   |
| <b>Technical data</b>  |   |                  |   |
| Pluggable connector  | -   | pluggable        | -   |
| Customized data format   | -   | -                | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog inputs  | 2   |                  |   |
| Signal type  | Voltage   |                  |   |
| Signal type (voltage)  | -10 ... +10 VDC   |                  |   |
| Signal characteristics   | Single-ended  |                  |   |
| Sensor connection  | 2 x (2-wire)  |                  |   |
| Resolution [bit]   | 16 bits   |                  |   |
| Conversion time (typ.)   | 80 ms   |                  |   |
| Internal resistance  | 130 kΩ  |                  |   |
| Input voltage (max.)   | 24 V  |                  |   |
| Input filter frequency (analog)                                | 50 Hz   |                  | 60 Hz   |
| Measurement error (reference temperature)                      | 25 °C   |                  |   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |                  |   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |                  |   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                  |   |
| Current consumption (5 V system supply)                        | 75 mA   |                  |   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |                  |   |
| Isolation  | 500 V system/field  |                  |   |
| Ambient temperature (operation)                                | 0 ... +55 °C  |                  |   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                  |   |
| Approvals  |   |                  |   |
| For data sheet and additional information, see:                | wago.com/750-476  | wago.com/753-476 | wago.com/750-476/000-200  |
| <b>Accessories</b>   | <b>Item no.</b>   | <b>Item no.</b>  | <b>Item no.</b>   |
| Plug   | -   | 753-110          | -   |

## Analog input ▶ ±10 V ▶ Single-ended



750-457



|  |   |                     |  |
|--|---|---------------------|--|
| Item description   | <b>4-Channel Analog Input; ±10 VDC; Single-ended</b>  |                     |  |
| Version  | Standard  | ext. temperature    | pluggable (delivery without connector) |
| Item no.   | 750-457   | 750-457/025-000     | 753-457                                |
| Order Text   | 4AI; ±10 VDC; SE  | 4AI; ±10 VDC; SE; T | 4AI; ±10 VDC; SE                       |
| Technical data   |   |                     |  |
| Pluggable connector  | -   |                     | pluggable                              |
| Number of analog inputs  | 4   |                     |  |
| Signal type  | Voltage   |                     |  |
| Signal type (voltage)  | -10 ... +10 VDC   |                     |  |
| Signal characteristics   | Single-ended  |                     |  |
| Sensor connection  | 4 x (2-wire)  |                     |  |
| Resolution [bit]   | 12 bits   |                     |  |
| Conversion time (typ.)   | 10 ms   |                     |  |
| Internal resistance  | 100 kΩ  |                     |  |
| Input voltage (max.)   | ±40 V   |                     |  |
| Measurement error (reference temperature)                      | 25 °C   |                     |  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |                     |  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |                     |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                     |  |
| Current consumption (5 V system supply)                        | 65 mA   |                     |  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |                     |  |
| Isolation  | 500 V system/field  |                     |  |
| Ambient temperature (operation)                                | 0 ... +55 °C  | -20 ... +60 °C      | 0 ... +55 °C                           |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                     |  |
| Approvals  |   |                     |  |
| For data sheet and additional information, see:                | wago.com/750-457  |                     | wago.com/753-457                       |
| Accessories  | Item no.  | Item no.            | Item no.                               |
| Plug   | -   | -                   | 753-110                                |

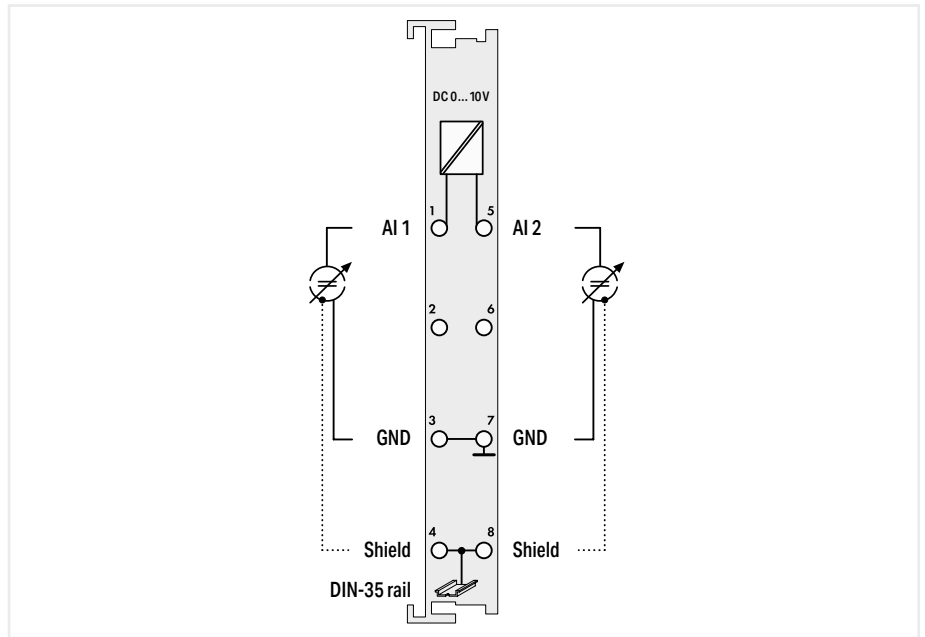
7.4



## Analog input ▶ 0 ... 10 V ▶ Single-ended



750-467



|                  |                   |
|------------------|-------------------|
| Item description |                   |
| Version          |                   |
| Item no.         | 750-467           |
| Order Text       | 2AI; 0-10 VDC; SE |

|  |  |
|--|--|
| 2-Channel Analog Input; 0 ... 10 VDC; Single-ended |  |
| Standard   | pluggable (delivery without connector) |
| Item no.   | 753-467                                |
| Order Text   | 2AI; 0-10 VDC; SE                      |

|  |  |
|--|--|
| Technical data   |  |
| Pluggable connector  | -  |
| Number of analog inputs  | 2  |
| Signal type  | Voltage  |
| Signal type (voltage)  | 0 ... 10 VDC   |
| Signal characteristics   | Single-ended   |
| Sensor connection  | 2 x (2-wire)   |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 2 ms   |
| Internal resistance  | 130 kΩ   |
| Input voltage (max.)   | 35 V   |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 60 mA  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional) |
| Isolation  | 500 V system/field                                   |
| Ambient temperature (operation)                                | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm                                 |
| Approvals  | CE,  OrdLoc/HazLoc,  ATEX/IECEx                      |
| For data sheet and additional information, see:                | wago.com/750-467   wago.com/753-467                  |

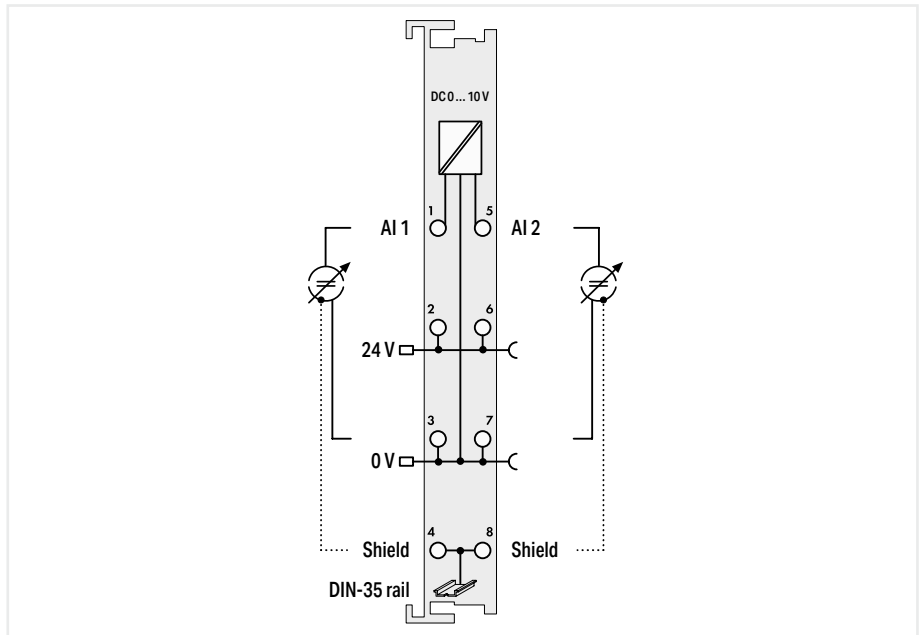
|             |  |
|-------------|--|
| Accessories |  |
| Plug        |  |

|          |  |          |         |
|----------|--|----------|---------|
| Item no. |  | Item no. | 753-110 |
|----------|--|----------|---------|

## Analog input ▶ 0 ... 10 V ▶ Single-ended



750-478



|                  |   |  |                                 |
|------------------|---|--|---------------------------------|
| Item description | 2-Channel Analog Input; 0 ... 10 VDC; Single-ended; 16 bits |  |                                 |
| Version          | Standard  | pluggable (delivery without connector) | 60 Hz                           |
| Item no.         | 750-478   | 753-478                                | 750-478/005-000                 |
| Order Text       | 2AI; 0-10 VDC; SE; 16bits                                   | 2AI; 0-10 VDC; SE; 16bits              | 2AI; 0-10 VDC; SE; 16bits; 60Hz |

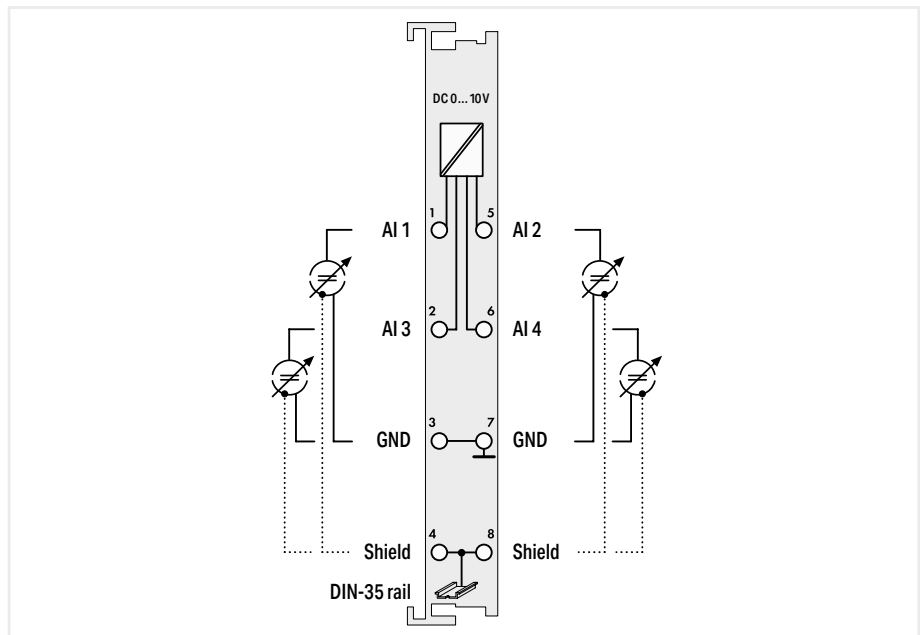
|  |   |                  |                          |
|--|---|------------------|--------------------------|
| Technical data   |   |                  |                          |
| Pluggable connector  | -   | pluggable        | -                        |
| Number of analog inputs  | 2   |                  |                          |
| Signal type  | Voltage   |                  |                          |
| Signal type (voltage)  | 0 ... 10 VDC  |                  |                          |
| Signal characteristics   | Single-ended  |                  |                          |
| Sensor connection  | 2 x (2-wire)  |                  |                          |
| Resolution [bit]   | 16 bits   |                  |                          |
| Conversion time (typ.)   | 80 ms   |                  |                          |
| Internal resistance  | 130 kΩ  |                  |                          |
| Input voltage (max.)   | 24 V  |                  |                          |
| Input filter frequency (analog)                                | 50 Hz   |                  | 60 Hz                    |
| Measurement error (reference temperature)                      | 25 °C   |                  |                          |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |                  |                          |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |                  |                          |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                  |                          |
| Current consumption (5 V system supply)                        | 75 mA   |                  |                          |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |                  |                          |
| Isolation  | 500 V system/field  |                  |                          |
| Ambient temperature (operation)                                | 0 ... +55 °C  |                  |                          |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |                  |                          |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |                  |                          |
| For data sheet and additional information, see:                | wago.com/750-478  | wago.com/753-478 | wago.com/750-478/005-000 |
| Accessories  | Item no.  | Item no.         | Item no.                 |
| Plug   | -   | 753-110          | -                        |

7.4

## Analog input ▶ 0 ... 10 V ▶ Single-ended



750-468

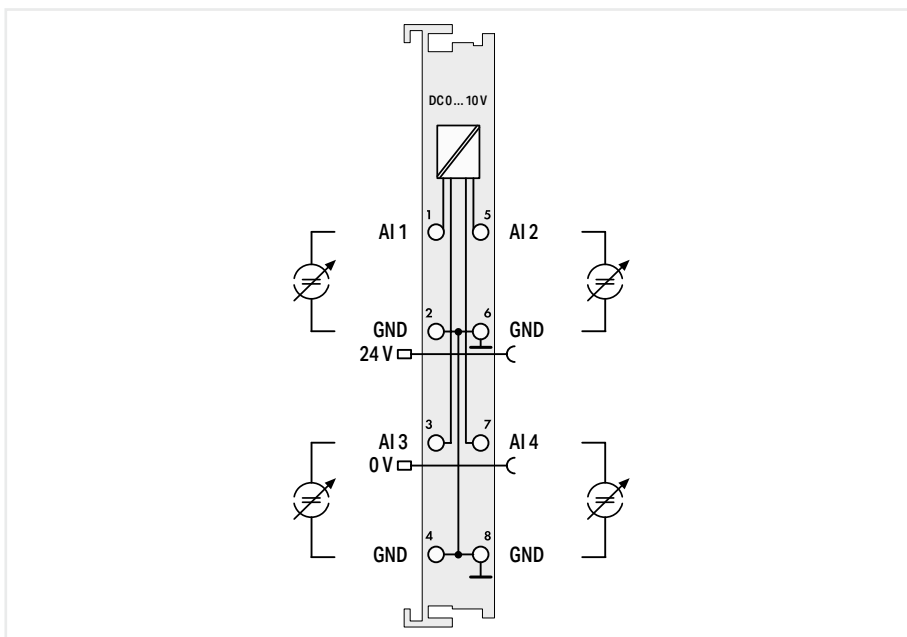


|  |  |                      |
|--|--|----------------------|
| Item description   | 4-Channel Analog Input; 0 ... 10 VDC; Single-ended   |                      |
| Version  | Standard   | ext. temperature     |
| Item no.   | 750-468  | 750-468/025-000      |
| Order Text   | 4AI; 0-10 VDC; SE                                    | 4AI; 0-10 VDC; SE; T |
| Technical data   |  |                      |
| Number of analog inputs  | 4  |                      |
| Signal type  | Voltage  |                      |
| Signal type (voltage)  | 0 ... 10 VDC   |                      |
| Signal characteristics   | Single-ended   |                      |
| Sensor connection  | 4 x (2-wire)   |                      |
| Resolution [bit]   | 12 bits  |                      |
| Conversion time (typ.)   | 4 ms   |                      |
| Internal resistance  | 133 kΩ   |                      |
| Input voltage (max.)   | 35 V   |                      |
| Measurement error (reference temperature)                      | 25 °C  |                      |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |                      |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |                      |
| Current consumption (5 V system supply)                        | 60 mA  |                      |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional) |                      |
| Isolation  | 500 V system/field                                   |                      |
| Ambient temperature (operation)                                | 0 ... +55 °C   | -20 ... +60 °C       |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm                                 |                      |
| Approvals  |  |                      |
| For data sheet and additional information, see:                | wago.com/750-468                                     |                      |

## Analog input ▶ 0 ... 10 V ▶ Single-ended



750-459

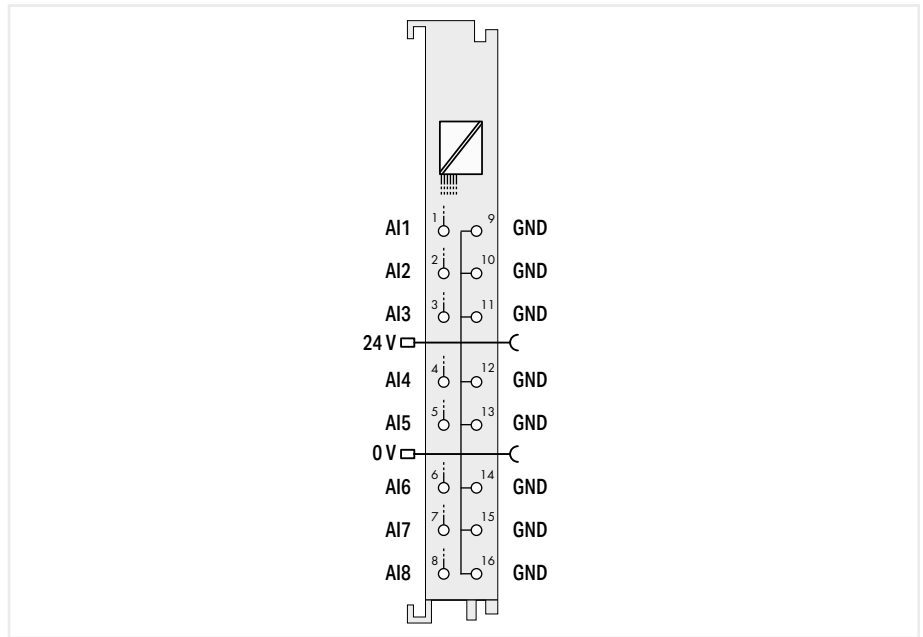


| Item description   | 4-Channel Analog Input; 0 ... 10 VDC; Single-ended  |  |
|--|---|--|
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-459   | 753-459                                |
| Order Text   | 4AI; 0-10 VDC; SE   | 4AI; 0-10 VDC; SE                      |
| Technical data   |   |  |
| Pluggable connector  | -   | pluggable                              |
| Number of analog inputs  |   | 4                                      |
| Signal type  |   | Voltage                                |
| Signal type (voltage)  |   | 0 ... 10 VDC                           |
| Signal characteristics   |   | Single-ended                           |
| Sensor connection  |   | 4 x (2-wire)                           |
| Resolution [bit]   |   | 12 bits                                |
| Conversion time (typ.)   |   | 10 ms                                  |
| Internal resistance  |   | 100 kΩ                                 |
| Input voltage (max.)   |   | ±40 V                                  |
| Measurement error (reference temperature)                      |   | 25 °C                                  |
| Measurement error, deviation (max.) from the upper-range value |   | 0.1 %                                  |
| Temperature error (max.) of the upper-range value              |   | 0.01 %/K                               |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                        |   | 65 mA                                  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |  |
| Isolation  |   | 500 V system/field                     |
| Ambient temperature (operation)                                |   | 0 ... +55 °C                           |
| Dimensions W x H x D   |   | (12 x 100 x 69.8) mm                   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |  |
| For data sheet and additional information, see:                | wago.com/750-459  | wago.com/753-459                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

## Analog input ► Configurable: voltage



750-497

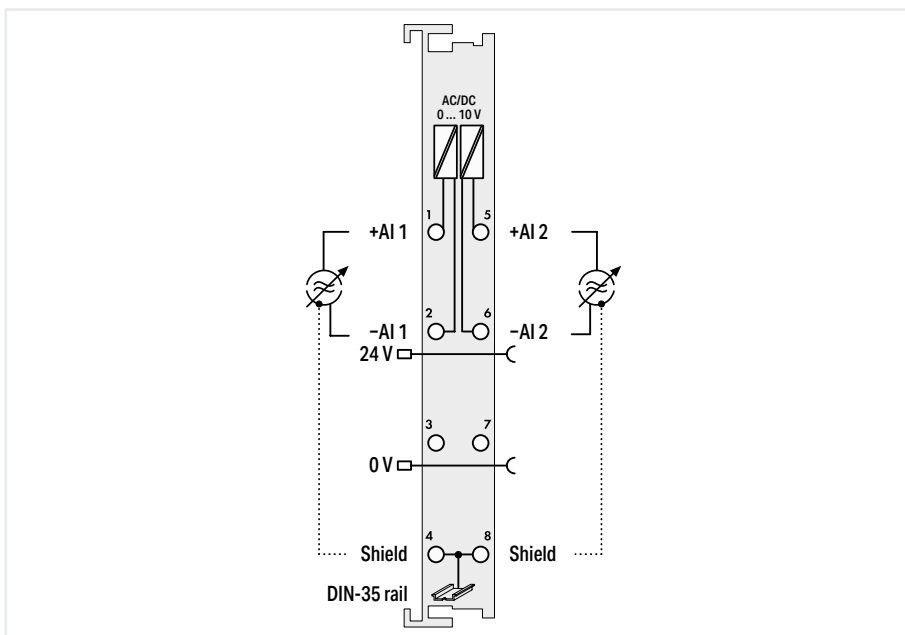


|  |   |
|--|---|
| Item description   | <b>8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-ended</b>   |
| Version  | Standard with 16 connectors   |
| Item no.   | <b>750-497</b>  |
| Order Text   | <b>8AI; 0-10 V/±10 VDC; SE</b>  |
| <b>Technical data</b>  |   |
| Number of analog inputs  | 8   |
| Signal type  | Voltage   |
| Signal type (voltage)  | 0 ... 10 VDC; -10 ... +10 VDC   |
| Sensor connection  | 8 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Internal resistance  | 100 kΩ  |
| Input voltage (max.)   | 35 V  |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                        | 105 mA  |
| Data width   | 8 x 16-bit data; 8 x 8-bit control/status (optional)  |
| Isolation  | 500 V system/field  |
| Ambient temperature (operation)                                | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see:                | wago.com/750-497  |

## Analog input ▶ 0 ... 10 V rms (peak value 20 V) ▶ Differential



750-477

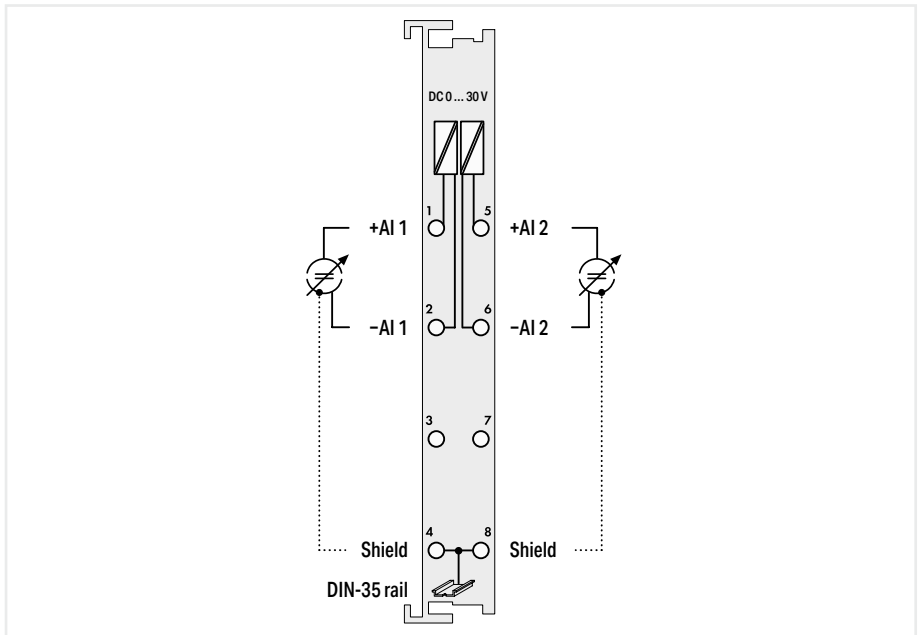


|  |   |  |
|--|---|--|
| Item description   | <b>2-Channel Analog Input; 0 ... 10 VAC/DC; Differential input</b>  |  |
| Version  | Standard  | pluggable (delivery without connector) |
| Item no.   | 750-477   | 753-477                                |
| Order Text   | 2AI; 0-10 VDC; Diff   | 2AI; 0-10 VAC/VDC; Diff                |
| Technical data   |   |  |
| Pluggable connector  | -   | pluggable                              |
| Number of analog inputs  | 2   |  |
| Signal type  | Voltage   |  |
| Signal type (voltage)  | 0 ... 10 VAC/DC   |  |
| Signal characteristics   | Differential  |  |
| Sensor connection  | 2 x (2-wire)  |  |
| Resolution [bit]   | 15 bits   |  |
| Conversion time (typ.)   | 200 ms  |  |
| Internal resistance  | 120 kΩ  |  |
| Measurement error (reference temperature)                      | 25 °C   |  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |  |
| Temperature coefficient  | < ±110 ppm/K of greatest measurement range  |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                        | 80 mA   |  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |  |
| Isolation  | 500 V system/field or channel/channel   |  |
| Ambient temperature (operation)                                | 0 ... +55 °C  |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |
| Approvals  | CE;  OrdLoc/HazLoc;  ATEX/IECEx   |  |
| For data sheet and additional information, see:                | wago.com/750-477  | wago.com/753-477                       |
| Accessories  | Item no.  | Item no.                               |
| Plug   | -   | 753-110                                |

# Analog input ▶ 0 ... 30 V ▶ Differential



750-483



|                  |  |
|------------------|--|
| Item description | 2-Channel Analog Input; 0 ... 30 VDC; Differential input |
| Version          | Standard   |
| Item no.         | 750-483  |
| Order Text       | 2AI; 0-30 VDC; Diff                                      |

|            |  |
|------------|--|
| Standard   | pluggable (delivery without connector) |
| Item no.   | 753-483                                |
| Order Text | 2AI; 0-30 VDC; Diff                    |

|  |  |
|--|--|
| Technical data   |  |
| Extended functionality   | Time-synchronized measured value acquisition within the module |
| Pluggable connector  | - pluggable  |
| Number of analog inputs  | 2  |
| Signal type  | Voltage  |
| Signal type (voltage)  | 0 ... 30 VDC   |
| Signal characteristics   | Differential   |
| Sensor connection  | 2 x (2-wire)   |
| Resolution [bit]   | 14 bits  |
| Internal resistance  | 1000 kΩ  |
| Admissible continuous overload                                 | 60 V   |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.05 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 80 mA  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)           |
| Isolation  | 500 V system/field or channel/channel                          |
| Ambient temperature (operation)                                | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm   |
| Approvals  | CE, [Symbol], Marine, OrdLoc/HazLoc, ATEX/IECEX                |
| For data sheet and additional information, see:                | wago.com/750-483   wago.com/753-483                            |

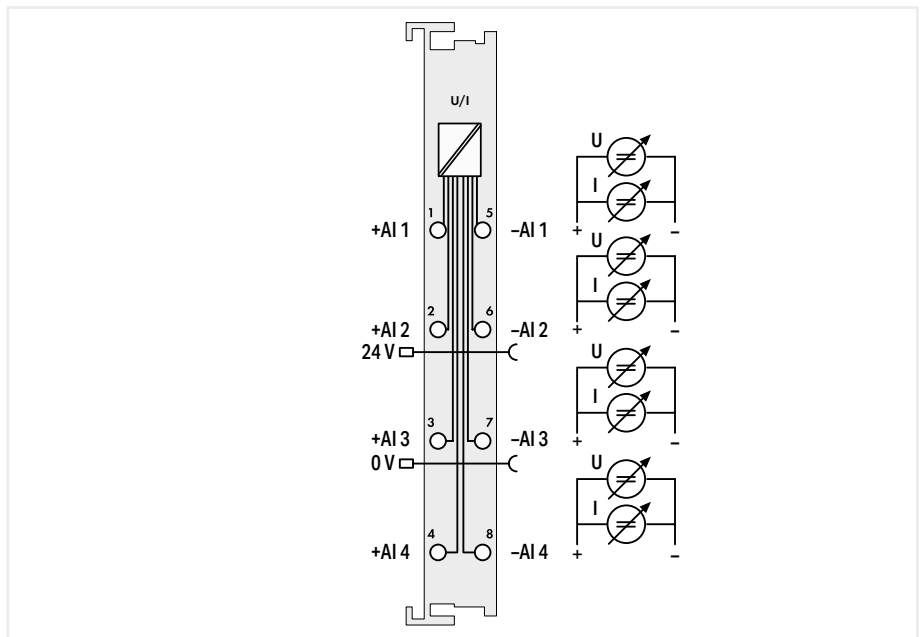
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|-------------|----------|
| Accessories | Item no. |
| Plug        | -        |

|             |          |
|-------------|----------|
| Accessories | Item no. |
| Plug        | 753-110  |

## Analog input ► Voltages and currents (configurable channel for channel) ► Differential



750-471



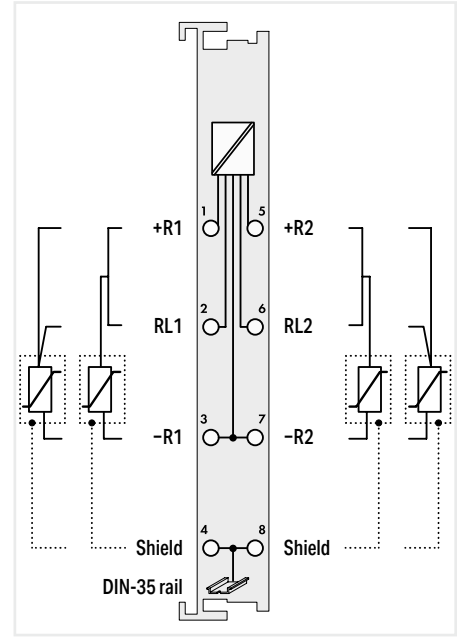
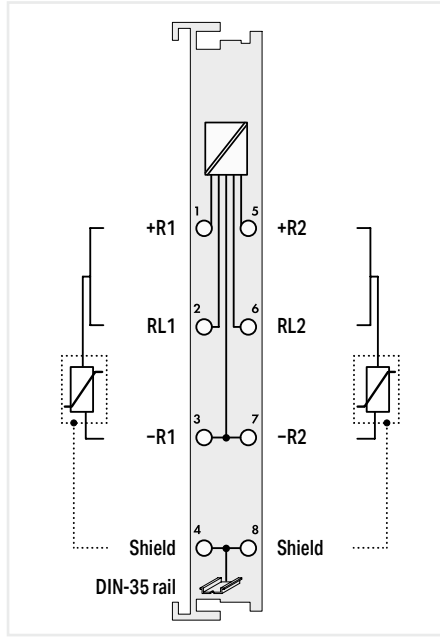
|  |   |
|--|---|
| Item description   | <b>4-Channel Analog Input; for voltage/current</b>  |
| Version  | <b>Standard</b>   |
| Item no.   | <b>750-471</b>  |
| Order Text   | <b>4AI; U/I; Diff; 16bits; Diagn</b>  |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Voltage; Current  |
| Signal type (current)  | 0 ... 20 mADC; 4 ... 20 mADC; 3.6 ... 21 mADC; -20 ... +20 mADC                                     |
| Signal type (voltage)  | 0 ... 10 VDC; -10 ... +10 VDC; -0.2 ... +0.2 VDC  |
| Signal characteristics   | Differential  |
| Sensor connection  | 4 x (2-wire)  |
| Resolution [bit]   | 16 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 120 Ω   |
| Internal resistance  | 100 kΩ  |
| Input voltage (max.)   | 31.2 VDC  |
| Reference for measurement error                                  | Input ranges  |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.1 %   |
| Reference for measurement error (2)                              | ±200 mV   |
| Measurement error, reference temperature (2)                     | 25 °C   |
| Measurement error, deviation (max.) of the upper-range value (2) | 0.3 %   |
| Temperature error (max.) of the upper-range value                | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                          | 100 mA  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Isolation  | Functional insulation: 2000 VDC system/channel; 2000 VDC channel/channel                            |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                  | wago.com/750-471  |



Analog input ▶ Resistance sensors



750-461/020-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |
|---|
| <b>2-Channel Analog Input; for resistance sensors</b> |
| NTC 20k   |
| 750-461/020-000                                       |
| 2AI; NTC 20k  |

|   |
|---|
| <b>2-Channel Analog Input; Resistance measurement</b> |
| 10 ... 1200 Ohm                                       |
| 10 ... 5000 Ohm                                       |
| 750-461/000-002                                       |
| 750-461/000-007                                       |
| 2AI; 10R-1k2  |
| 2AI; 10R-5k0  |

|  |
|--|
| Technical data   |
| Number of analog inputs  |
| Signal type  |
| Sensor types   |
| Sensor connection  |
| Temperature range  |
| Resolution (over entire range)                                 |
| Conversion time (typ.)   |
| Measuring current (typ.)                                       |
| Measurement error (25 °C)                                      |
| Measurement error (reference temperature)                      |
| Measurement error, deviation (max.) from the upper-range value |
| Temperature error (max.) of the upper-range value              |
| Current consumption (5 V system supply)                        |
| Data width   |
| Isolation  |
| Ambient temperature (operation)                                |
| Dimensions W x H x D   |
| Approvals  |

|  |
|--|
| 2  |
| Resistance measurement                               |
| NTC 20 kOhm  |
| 2 x (2-wire)   |
| -30 ... +130 °C                                      |
| 0.1 °C   |
| 320 ms   |
| 0.05 mA  |
| 0.5 ... 3.0 K (temperature-dependent)                |
| -  |
| -  |
| 0.002 %/K  |
| 65 mA  |
| 2 x 16-bit data; 2 x 8-bit control/status (optional) |
| 500 V system/field                                   |
| 0 ... +55 °C   |
| (12 x 100 x 69.8) mm                                 |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                |

|  |
|--|
| 2  |
| Potentiometer positions                              |
| 10R ... 1k2  |
| 10R ... 5k0  |
| 2 x (2-wire)   |
| -  |
| 0.1 Ohm  |
| 0.5 Ohm  |
| 320 ms   |
| 0.5 mA   |
| -  |
| 25 °C  |
| 0.2 %  |
| 0.01 %/K   |
| 80 mA  |
| 2 x 16-bit data; 2 x 8-bit control/status (optional) |
| 500 V system/field                                   |
| 0 ... +55 °C   |
| (12 x 100 x 69.8) mm                                 |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                |

For data sheet and additional information, see:

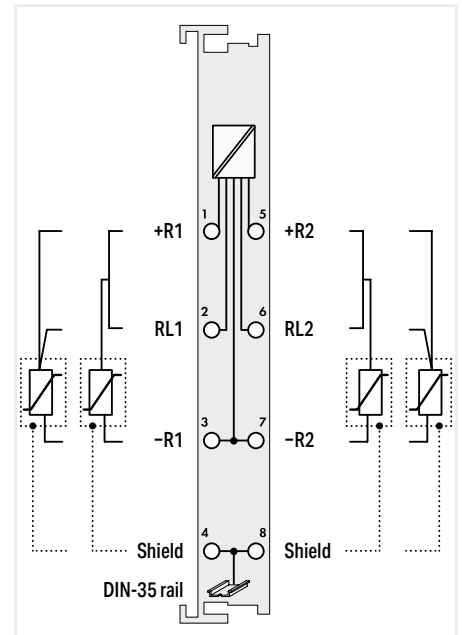
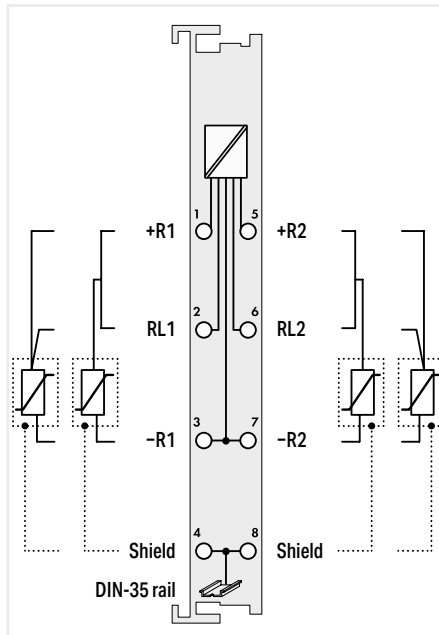
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## Analog input ▶ Resistance sensors

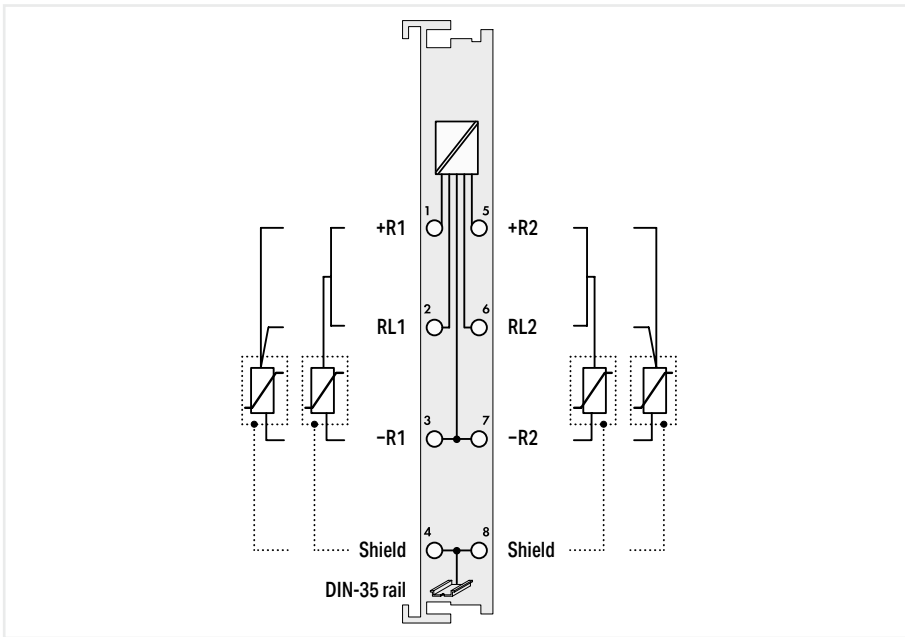


750-461/000-003



| Item description   | 2-Channel Analog Input; for resistance sensors   |                 | 2-Channel Analog Input; for Pt100/RTD resistance sensors   |                           |
|--|--|-----------------|--|---------------------------|
| Version  |  |                 | Standard   | ext. temperature          |
| Item no.   | 750-461/000-003  | 750-461/000-005 | 750-461  | 750-461/025-000           |
| Order Text   | 2AI; Pt1000/RTD  | 2AI; Ni1000/RTD | 2AI; Pt100/RTD   | 2AI; Pt100/RTD; Adjust; T |
| Technical data   |  |                 |  |                           |
| Pluggable connector  |  |                 |  |                           |
| Customized data format   |  |                 |  |                           |
| Number of analog inputs  | 2  |                 | 2  |                           |
| Signal type  | Resistance measurement   |                 | Resistance measurement   |                           |
| Sensor types   | Pt1000   | Ni1000 TK6180   | Pt100  |                           |
| Sensor connection  | 2 x (2-wire, 3-wire)   |                 | 2 x (2-wire, 3-wire)   |                           |
| Temperature range  | -200 ... +850 °C   | -60 ... +250 °C | -200 ... +850 °C   |                           |
| Resolution (over entire range)                                 | 0.1 °C   |                 | 0.1 °C   |                           |
| Conversion time (typ.)   | 320 ms   |                 | 320 ms   |                           |
| Measuring current (typ.)                                       | 0.5 mA   |                 | 0.5 mA   |                           |
| Measurement error (reference temperature)                      | 25 °C  |                 | 25 °C  |                           |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |                 | 0.2 %  |                           |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |                 | 0.01 %/K   |                           |
| Current consumption (5 V system supply)                        | 80 mA  |                 | 80 mA  |                           |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)   |                 | 2 x 16-bit data; 2 x 8-bit control/status (optional)   |                           |
| Isolation  | 500 V system/field   |                 | 500 V system/field   |                           |
| Ambient temperature (operation)                                | 0 ... +55 °C   |                 | 0 ... +55 °C   | -20 ... +60 °C            |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm   |                 | (12 x 100 x 69.8) mm   |                           |
| Approvals  | CE,  Marine,  OrdLoc/HazLoc,  ATEX/IECEX<br><a href="http://wago.com/750-461/000-003">wago.com/750-461/000-003</a> |                 | CE,  Marine,  OrdLoc/HazLoc,  ATEX/IECEX<br><a href="http://wago.com/750-461/000-003">wago.com/750-461/000-003</a> |                           |
| For data sheet and additional information, see:                |  |                 |  |                           |
| Accessories  | Item no.   | Item no.        | Item no.   | Item no.                  |
| Plug   | -  | -               | -  | -                         |

7.4



2-Channel Analog Input; for Pt100/RTD resistance sensors

| pluggable (delivery without connector) | Data format (S5 control) | adjustable             | pluggable (delivery without connector); adjustable |
|--|--------------------------|------------------------|--|
| 753-461                                | 750-461/000-200          | 750-461/003-000        | 753-461/003-000                                    |
| 2AI; Pt100/RTD                         | 2AI; Pt100/RTD; S5       | 2AI; Pt100/RTD; Adjust | 2AI; Pt100/RTD; Adjust                             |

|           |   |           |
|-----------|---|-----------|
| pluggable | -   | pluggable |
| -         | The S5 format allows you to import data with the standard S5 FB 250 function block. | -         |

2

| Resistance measurement                               |   |
|--|---|
| Pt100  | Pt100; Configurable: Pt, Ni, Ohm                  |
| 2 x (2-wire, 3-wire)                                 |   |
| -200 ... +850 °C                                     | -200 °C ... +850 °C (Pt), -60 °C ... +250 °C (Ni) |
| 0.1 °C   |   |
| 320 ms   |   |
| 0.5 mA   |   |
| 25 °C  |   |
| 0.2 %  |   |
| 0.01 %/K   |   |
| 80 mA  |   |
| 2 x 16-bit data; 2 x 8-bit control/status (optional) |   |
| 500 V system/field                                   |   |
| 0 ... +55 °C   |   |
| (12 x 100 x 69.8) mm                                 |   |

CE, Marine, OrdLoc/HazLoc, ATEX/IECEx

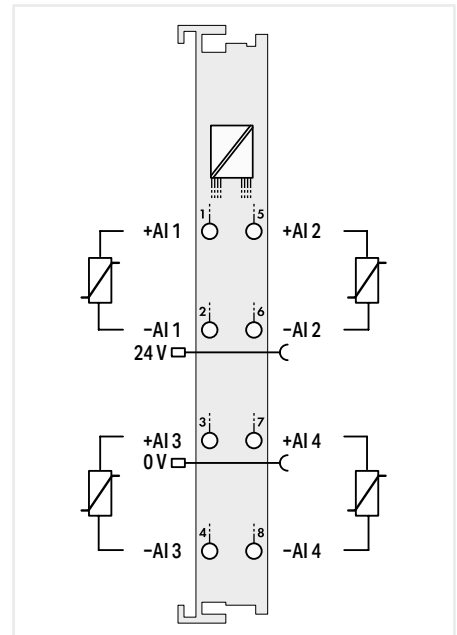
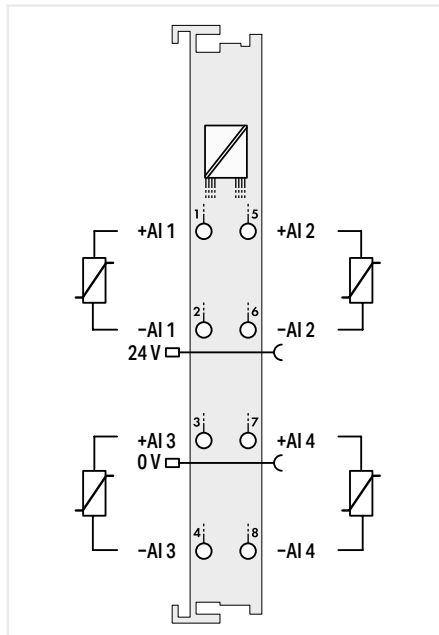
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| wago.com/753-461 | wago.com/750-461/000-200 | wago.com/753-461/003-000 |
|------------------|--------------------------|--------------------------|

| Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|
| 753-110  | -        | -        | 753-110  |

## Analog input ► Resistance sensors



750-464/020-000

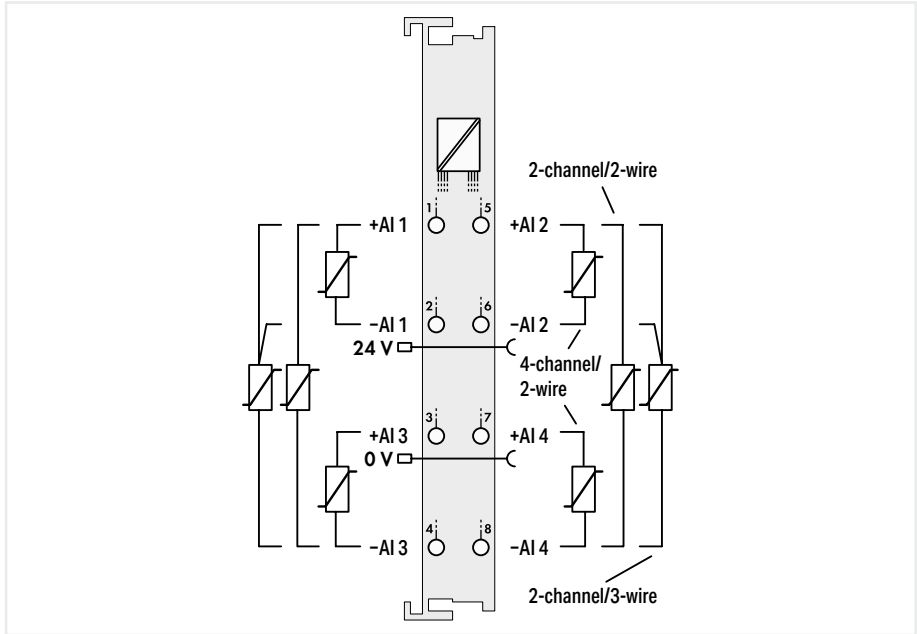


|   |   |   |
|---|---|---|
| Item description                                | 4-Channel Analog Input; for NTC resistance sensors; Adjustable  | 4-Channel Analog Input; Resistance measurement  |
| Version   | NTC   | Measurement range: -30 °C ... +150 °C   |
| Item no.  | 750-464/020-000   | 750-463   |
| Order Text                                      | 4AI; NTC; Adjust  | 4AI; RTD; -30°C...+150°C  |
| Technical data                                  |   |   |
| Number of analog inputs                         | 4   | 4   |
| Signal type                                     | Resistance measurement  | Resistance measurement  |
| Sensor types                                    | NTC 10 kOhm; Configurable: NTC 10 kOhm Thermokon, NTC 20 kOhm, NTC 20 kOhm Thermokon                                | Pt1000; Configurable: Ni1000, KTY 81  |
| Sensor connection                               | 4 x (2-wire)  | 4 x (2-wire)  |
| Temperature range                               | -30 ... +150 °C   | -30 ... +150 °C   |
| Resolution (over entire range)                  | 0.1 °C  | 0.1 °C  |
| Conversion time (typ.)                          | 320 ms  | -   |
| Measuring current (typ.)                        | ≤ 350 µA  | ≤ 350 µA  |
| Measurement error (25 °C)                       | ≤ 2 K within the entire temperature range   | ≤ 0.5 K in temperature range: -30 ... +150 °C   |
| Temperature coefficient                         | ≤ 20 ppm/K  | ≤ 20 ppm/K  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 50 mA   | 50 mA   |
| Data width                                      | 4 (2) x 16-bit data; 4 (2) x 8-bit control/status (optional)  | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Isolation                                       | 500 V system/field  | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   | CE; OrdLoc; ATEX/IECEx  |
| For data sheet and additional information, see: | wago.com/750-464/020-000  | wago.com/750-463  |

Analog input ▶ Resistance sensors



750-464

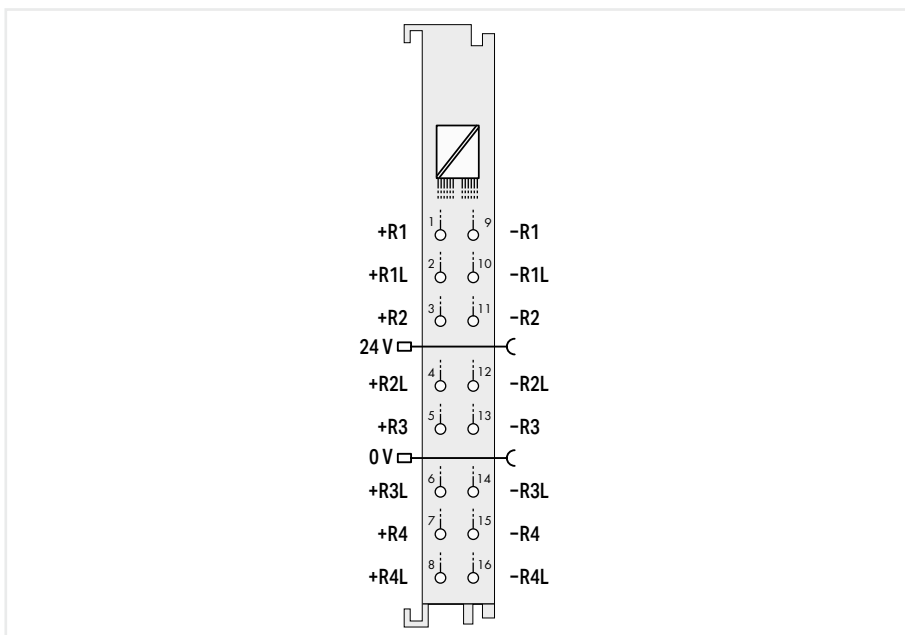


|   |  |
|---|--|
| Item description                                | 2/4-Channel Analog Input; Resistance measurement; Adjustable   |
| Version   | Standard   |
| Item no.  | 750-464  |
| Order Text                                      | 2/4AI; RTD; Adjust   |
| Technical data                                  |  |
| Number of analog inputs                         | 4  |
| Signal type                                     | Resistance measurement; Potentiometer positions  |
| Sensor types                                    | Pt100; Configurable: Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000; Potentiometer (2-channel operation only): 10R ... 1k $\Omega$ , 10R ... 5k $\Omega$ |
| Sensor connection                               | 4 x (2-wire); 2 x (3-wire)   |
| Temperature range                               | -200 ... +850 °C (Pt100), -60 ... +300 °C (Ni 100, Ni 1000), -60 ... +250 °C (Ni 1000 TK5000), -80 ... +260 °C (Ni 120)                              |
| Resolution (over entire range)                  | 0.1 °C   |
| Conversion time (typ.)                          | 320 ms   |
| Measuring current (typ.)                        | $\leq 350 \mu\text{A}$   |
| Measurement error (25 °C)                       | $\leq 1 \text{ K}$ within the entire temperature range, $\leq 0.5 \text{ K}$ within the temperature range (-30 ... +120 °C, Pt 1000)                 |
| Temperature coefficient                         | $\leq 20 \text{ ppm/K}$  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)                                  |
| Current consumption (5 V system supply)         | 50 mA  |
| Data width                                      | 4 (2) x 16-bit data; 4 (2) x 8-bit control/status (optional)   |
| Isolation                                       | 500 V system/field   |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm   |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-464   |

## Analog input ► Resistance sensors



750-450



|   |  |
|---|--|
| Item description                        | <b>4-Channel Analog Input; Resistance measurement; Adjustable</b>  |
| Version                                 | <b>Standard with 16 connectors</b>   |
| Item no.                                | <b>750-450</b>   |
| Order Text                              | <b>4AI; RTD; Adjust</b>  |
| Technical data                          |  |
| Number of analog inputs                 | 4  |
| Signal type                             | Resistance measurement; Potentiometer positions  |
| Sensor types                            | Pt100; Configurable: Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000 (TK6180 + TK5000), Potentiometer: 10R ... 1k $\Omega$ , 10R ... 5k $\Omega$        |
| Sensor connection                       | 4 x (2-wire, 3-wire, 4-wire)   |
| Temperature range                       | -200 ... +850 °C (Pt100, Pt200, Pt500, Pt1000), -60 ... +250 °C (Ni100, Ni1000), -80 ... +260 °C (Ni120)   |
| Resolution (over entire range)          | 0.1 °C (over the entire range); 0.01 °C (-50 ... 150 °C; Pt1000, Ni1000)   |
| Conversion time (typ.)                  | 100 ms   |
| Measuring current (typ.)                | $\leq$ 350 $\mu$ A   |
| Measurement error (25 °C)               | $\leq$ $\pm$ 0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); $\leq$ $\pm$ 0.2 K (Pt1000, Ni1000); $\pm$ 0.3 ... 0.7 $\Omega$ for resistance measurement |
| Supply voltage (field)                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)                                |
| Current consumption (5 V system supply) | 85 mA  |
| Data width                              | 4 x 16-bit data; 4 x 8-bit control/status (optional)   |
| Isolation                               | 500 V system/field   |
| Ambient temperature (operation)         | 0 ... +55 °C   |
| Dimensions W x H x D                    | (12 x 100 x 69) mm   |
| Approvals                               | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |

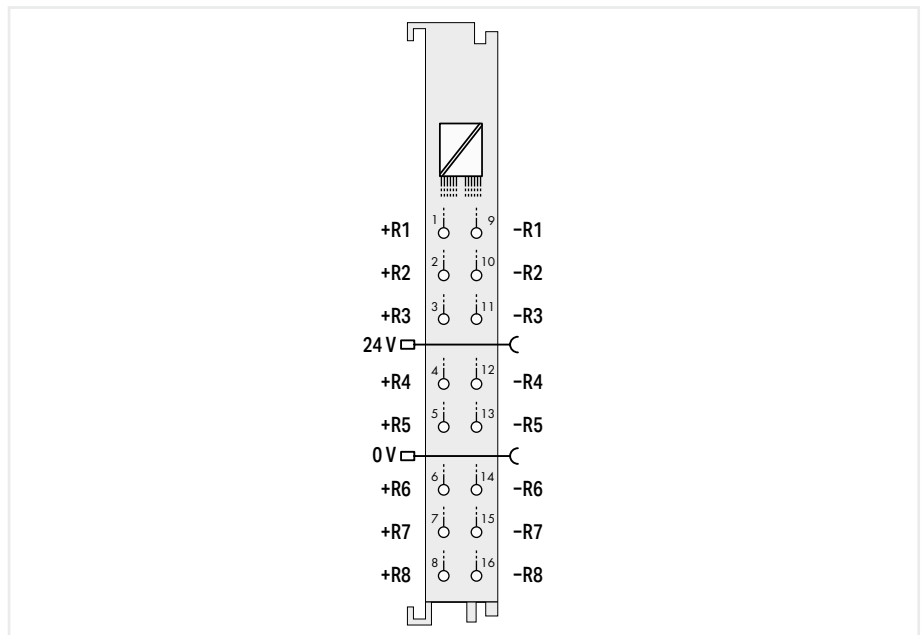
For data sheet and additional information, see:

wago.com/750-450

## Analog input ► Resistance sensors



750-451

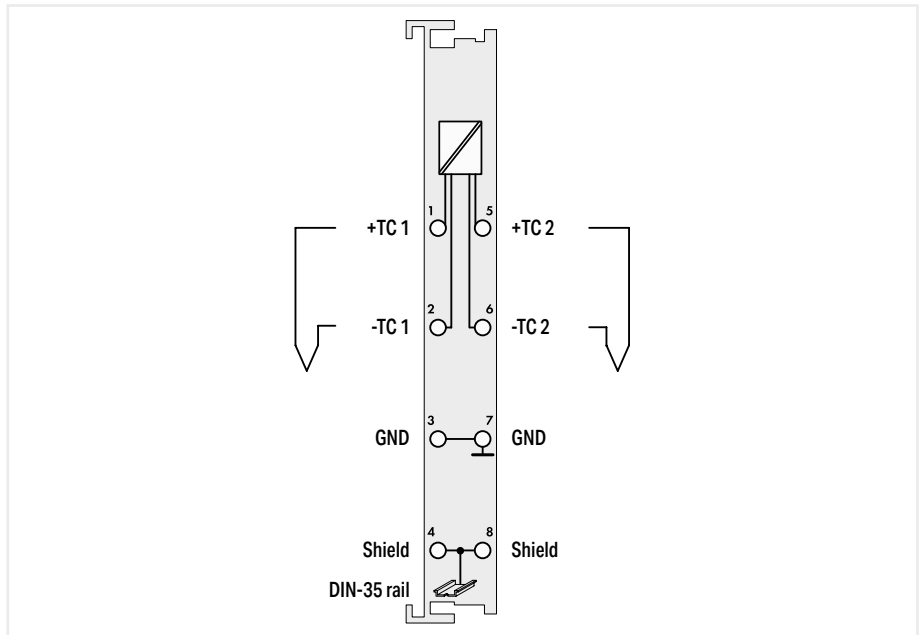


|   |  |                             |
|---|--|-----------------------------|
| Item description                                | <b>8-Channel Analog Input; Resistance measurement; Adjustable</b>  |                             |
| Version   | ext. temperature   | Standard with 16 connectors |
| Item no.  | 750-451/025-000  | 750-451                     |
| Order Text                                      | 8AI; RTD; Adjust; T  | 8AI; RTD; Adjust            |
| Technical data                                  |  |                             |
| Number of analog inputs                         | 8  |                             |
| Signal type                                     | Resistance measurement; Potentiometer positions  |                             |
| Sensor types                                    | Pt100; Configurable: Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000 (TK6180 + TK5000), Potentiometer: 10R ... 1k2, 10R ... 5k0 |                             |
| Sensor connection                               | 8 x (2-wire)   |                             |
| Temperature range                               | -200 ... +850 °C (Pt100, Pt200, Pt500, Pt1000), -60 ... +250 °C (Ni100, Ni1000), -80 ... +260 °C (Ni120)                   |                             |
| Resolution (over entire range)                  | 0.1 °C (over the entire range); 0.01 °C (-50 ... 150 °C; Pt1000, Ni1000)   |                             |
| Conversion time (typ.)                          | 100 ms   |                             |
| Measuring current (typ.)                        | ≤ 350 µA   |                             |
| Measurement error (25 °C)                       | ≤ ±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ≤ ±0.2 K (Pt1000, Ni1000); ≤ ±0.3 Ω for resistance measurement               |                             |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)        |                             |
| Current consumption (5 V system supply)         | 110 mA   |                             |
| Data width                                      | 8 x 16-bit data; 8 x 8-bit control/status (optional)   |                             |
| Isolation                                       | 500 V system/field   |                             |
| Ambient temperature (operation)                 | -20 ... +60 °C   | 0 ... +55 °C                |
| Dimensions W x H x D                            | (12 x 100 x 69) mm   |                             |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |                             |
| For data sheet and additional information, see: | wago.com/750-451/025-000   |                             |

## Analog input ▶ Thermocouples



750-469

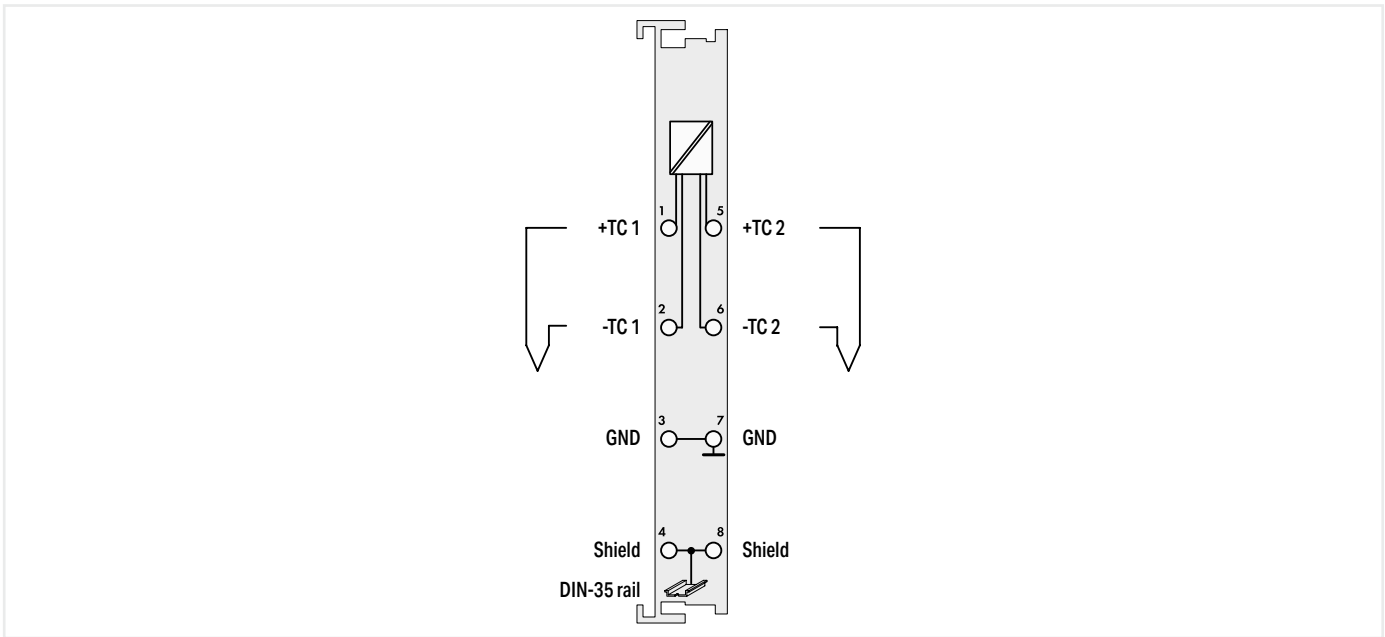


|                  |  |  |                          |                         |  |
|------------------|--|--|--------------------------|-------------------------|--|
| Item description | <b>2-Channel Analog Input; Thermocouple K; Diagnostics</b> |  |                          |                         |  |
| Version          | Standard   | pluggable (delivery without connector) | Data format (S5 control) | adjustable              | pluggable (delivery without connector); adjustable |
| Item no.         | 750-469  | 753-469                                | 750-469/000-200          | 750-469/003-000         | 753-469/003-000                                    |
| Order Text       | 2AI; TC K; Diagn   | 2AI; TC K; Diagn                       | 2AI; TC K; Diagn; S5     | 2AI; TC K; Diagn Adjust | 2AI; TC K; Diagn Adjust                            |

|   |  |                  |   |                          |           |
|---|--|------------------|---|--------------------------|-----------|
| Technical data                                  |  |                  |   |                          |           |
| Pluggable connector                             | -  | pluggable        | -   | -                        | pluggable |
| Customized data format                          | -  | -                | The S5 format allows you to import data with the standard S5 FB 250 function block. | -                        | -         |
| Number of analog inputs                         | 2  |                  |   |                          |           |
| Signal type                                     | Thermocouple   |                  | Thermocouple; Low voltages  |                          |           |
| Sensor types                                    | Thermocouple K   |                  | Thermocouple K; Configurable: L, J, E, T, N, U, B, R, S, mV                         |                          |           |
| Sensor connection                               | 2 x (2-wire)   |                  |   |                          |           |
| Temperature range                               | -100 ... +1370 °C  |                  | Sensor-specific   |                          |           |
| Resolution (over entire range)                  | 0.1 °C   |                  |   |                          |           |
| Conversion time (typ.)                          | 320 ms   |                  |   |                          |           |
| Internal resistance                             | 1000 kΩ  |                  |   |                          |           |
| Measurement error (25 °C)                       | < ±6 K (voltage input < ±2 K; cold junction compensation < ±4 K) |                  |   |                          |           |
| Temperature coefficient                         | < ±0.2 K/K   |                  |   |                          |           |
| Cold junction compensation                      | at each pair of terminal blocks                                  |                  |   |                          |           |
| Current consumption (5 V system supply)         | 65 mA  |                  |   |                          |           |
| Data width                                      | 2 x 16-bit data; 2 x 8-bit control/status (optional)             |                  |   |                          |           |
| Isolation                                       | 500 V system/field   |                  |   |                          |           |
| Ambient temperature (operation)                 | 0 ... +55 °C   |                  |   |                          |           |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |                  |   |                          |           |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                         |                  |   |                          |           |
| For data sheet and additional information, see: | wago.com/750-469   | wago.com/753-469 | wago.com/750-469/000-200  | wago.com/753-469/003-000 |           |
| Accessories                                     | Item no.   | Item no.         | Item no.  | Item no.                 | Item no.  |
| Plug  | -  | 753-110          | -   | -                        | 753-110   |

7.4





| 2-Channel Analog Input; Thermocouple; Diagnostics |                  |                  |                  |                  |                             |
|---|------------------|------------------|------------------|------------------|-----------------------------|
| Thermocouple S                                    | Thermocouple T   | Thermocouple J   | Thermocouple E   | Thermocouple L   | Thermocouple $\pm 120$ mV   |
| 750-469/000-001                                   | 750-469/000-002  | 750-469/000-006  | 750-469/000-008  | 750-469/000-012  | 750-469/000-003             |
| 2AI; TC S; Diagn                                  | 2AI; TC T; Diagn | 2AI; TC J; Diagn | 2AI; TC E; Diagn | 2AI; TC L; Diagn | 2AI; TC $\pm 120$ mV; Diagn |

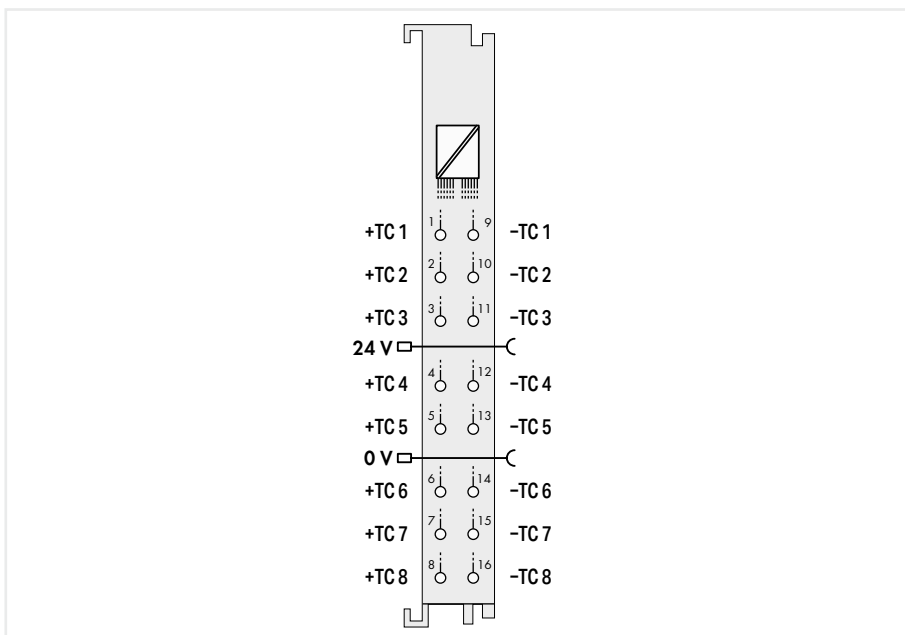
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| 2   |                  |                   |                   |                  |                           |
|---|------------------|-------------------|-------------------|------------------|---------------------------|
| Thermocouple S  | Thermocouple T   | Thermocouple J    | Thermocouple E    | Thermocouple L   | Low voltages $\pm 120$ mV |
| 2 x (2-wire)  |                  |                   |                   |                  |                           |
| -50 ... +1700 °C  | -100 ... +400 °C | -100 ... +1200 °C | -100 ... +1000 °C | -100 ... +900 °C | -                         |
| 0.1 °C  |                  |                   |                   |                  |                           |
| 320 ms  |                  |                   |                   |                  |                           |
| 1000 k $\Omega$   |                  |                   |                   |                  |                           |
| < $\pm 6$ K (voltage input < $\pm 2$ K; cold junction compensation < $\pm 4$ K) |                  |                   |                   |                  |                           |
| < $\pm 0.2$ K/K   |                  |                   |                   |                  |                           |
| at each pair of terminal blocks   |                  |                   |                   |                  |                           |
| 65 mA   |                  |                   |                   |                  |                           |
| 2 x 16-bit data; 2 x 8-bit control/status (optional)                            |                  |                   |                   |                  |                           |
| 500 V system/field  |                  |                   |                   |                  |                           |
| 0 ... +55 °C  |                  |                   |                   |                  |                           |
| (12 x 100 x 69.8) mm  |                  |                   |                   |                  |                           |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx<br>wago.com/750-469/000-001            |                  |                   |                   |                  |                           |
| Item no.  | Item no.         | Item no.          | Item no.          | Item no.         | Item no.                  |
| -   | -                | -                 | -                 | -                | -                         |

## Analog input ► Thermocouples



750-498



|   |  |
|---|--|
| Item description                                  | <b>8-Channel Analog Input; Thermocouple; Adjustable</b>  |
| Version   | <b>Standard with 16 connectors</b>   |
| Item no.  | <b>750-498</b>   |
| Order Text  | <b>8AI; TC; Adjust</b>   |
| Technical data                                    |  |
| Number of analog inputs                           | 8  |
| Signal type                                       | Thermocouple; Low voltages   |
| Sensor types                                      | Type K, J, B, E, N, R, S, T, C; Voltage measurement: $\pm 30$ mV; $\pm 60$ mV; $\pm 120$ mV; $\pm 240$ mV  |
| Sensor connection                                 | 8 x (2-wire)   |
| Resolution (over entire range)                    | 0.1 °C   |
| Measurement error (25 °C)                         | with cold junction compensation: $\leq \pm 1$ K (type E, N, K, T, J) at $\geq -50$ °C; $\leq \pm 2$ K (type S, R, C) at $\geq 100$ °C; $\leq \pm 3$ K (type B) at $\geq 350$ °C; (Please find additional measurement error information in the manual.) |
| Temperature coefficient                           | Type K: $\pm 0.05$ K/K of the upper-range value; Voltage measurements: $\pm 50$ ppm/K of the upper-range value   |
| Temperature error (max.) of the upper-range value | 0.05 %/K   |
| Cold junction compensation                        | Module-internal based on a cold junction temperature measurement   |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)  |
| Current consumption (5 V system supply)           | 100 mA   |
| Data width  | 8 x 16-bit data; 8 x 8-bit control/status (optional)   |
| Isolation   | 500 V system/field   |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |

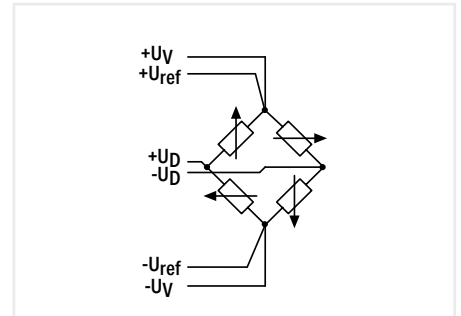
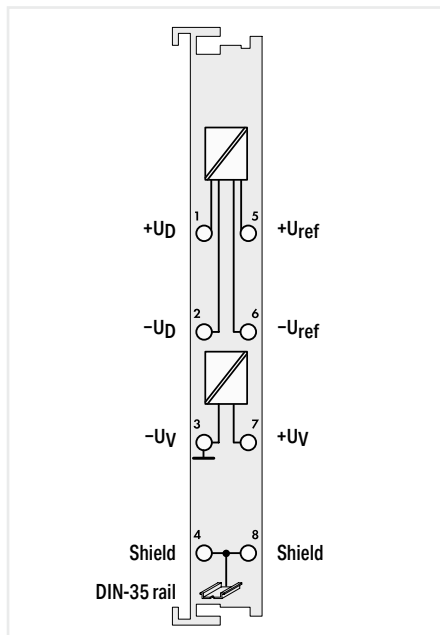
For data sheet and additional information, see:

wago.com/750-498

## Analog input ► Resistor bridge (strain gauge)



750-491

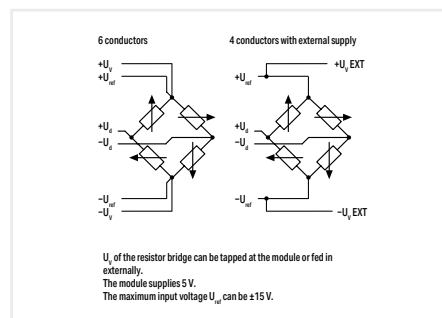
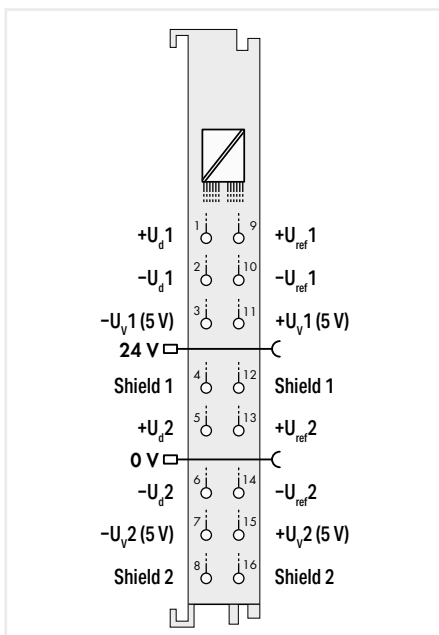


| Item description                                | 1-Channel Analog Input; Resistor bridges (strain gauge)        |                         |
|---|--|-------------------------|
| Version   | Standard   | Conversion time: 125 ms |
| Item no.  | 750-491  | 750-491/000-001         |
| Order Text                                      | 1AI; DMS   | 1AI; DMS; 125ms         |
| Technical data                                  |  |                         |
| Number of analog inputs                         | 1  |                         |
| Signal type                                     | Resistor bridge (strain gauge)                                 |                         |
| Signal voltage $U_D$                            | -15 ... +15 mV   |                         |
| Signal voltage $U_{ref}$                        | 2 ... 6 V  |                         |
| Supply voltage (sensor)                         | 5 VDC; Supply voltage $U_V$                                    |                         |
| Resolution [bit]                                | 16 bits  |                         |
| Conversion time (typ.)                          | 500 ms   |                         |
| Measurement error                               | $U_D$ : $\pm 30 \mu\text{V}$ ; $U_{ref}$ : $\pm 10 \text{ mV}$ |                         |
| Filter  | 50 Hz  | 200 Hz                  |
| Current consumption (5 V system supply)         | 65 mA  |                         |
| Data width                                      | 2 x 16-bit data; 2 x 8-bit control/status (optional)           |                         |
| Isolation                                       | 500 V system/field   |                         |
| Ambient temperature (operation)                 | 0 ... +55 °C   |                         |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |                         |
| Approvals                                       | CE,  |                         |
| For data sheet and additional information, see: | wago.com/750-491   |                         |

## Analog input ► Resistor bridge (strain gauge)



750-1491

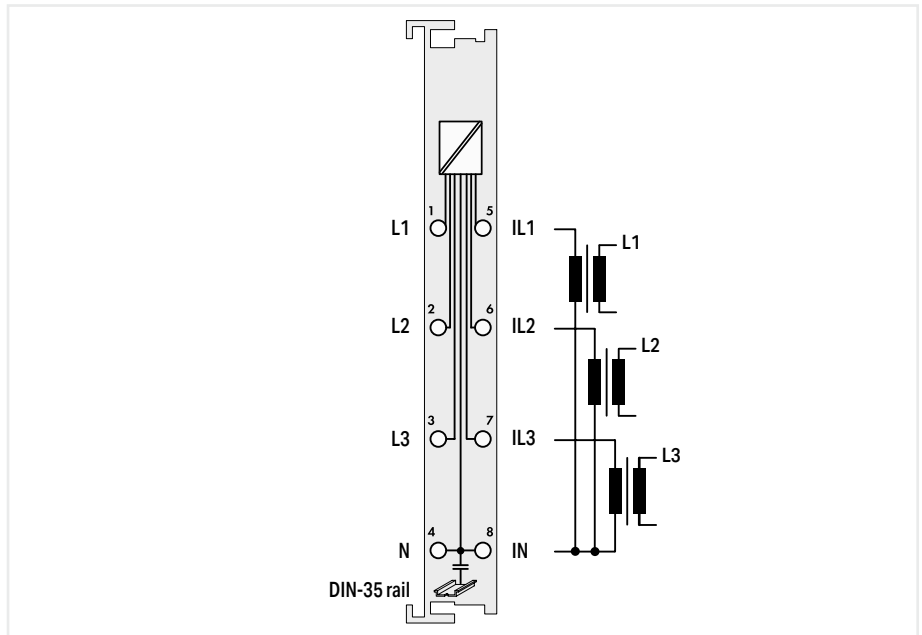


|   |   |
|---|---|
| Item description                                | <b>2-Channel Analog Input; Resistor bridges (strain gauge)</b>                  |
| Version   | <b>Standard with 16 connectors</b>  |
| Item no.  | <b>750-1491</b>   |
| Order Text                                      | <b>2AI Resistor Bridge (Strain Gauge)</b>                                       |
| Technical data                                  |   |
| Number of analog inputs                         | 2   |
| Signal type                                     | Resistor bridge (strain gauge)  |
| Signal voltage $U_D$                            | $\pm 15$ mV; $\pm 30$ mV; $\pm 60$ mV; $\pm 120$ mV; $\pm 240$ mV; $\pm 360$ mV |
| Signal voltage $U_{ref}$                        | Internal +5 V; external $\pm 5$ V; $\pm 10$ V; $\pm 15$ V                       |
| Supply voltage (sensor)                         | 5 VDC   |
| Resolution [bit]                                | 16 bits   |
| Measurement error (25 °C)                       | $U_D$ : $\pm 30$ $\mu$ V; $U_{ref}$ : $\pm 0.05$ % of the upper-range value     |
| Current consumption (5 V system supply)         | 70 mA   |
| Data width                                      | 4 x 16-bit data; 4 x 8-bit control/status (optional)                            |
| Isolation                                       | per UL 61010-2-201: 1.2 kVDC system/channel and channel/channel                 |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE;  OrdLoc/HazLoc  |
| For data sheet and additional information, see: | wago.com/750-1491   |

## Analog input; Power measurement ▶ Three-phase power measurement



750-493

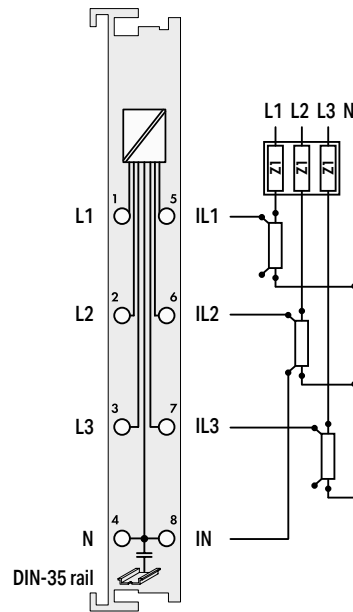


|  |   |   |                        |
|--|---|---|------------------------|
| Item description   | <b>3-Phase Power Measurement; 480 VAC 1 A</b>   |   |                        |
| Version  | Standard  | ext. temperature                                | 480 VAC, 5 A           |
| Item no.   | 750-493   | 750-493/025-000                                 | 750-493/000-001        |
| Order Text   | 3-PHASE POM; 480VAC 1A  | 3-PHASE POM; 480VAC 1A; T                       | 3-PHASE POM; 480VAC 5A |
| Technical data   | Power measurement   |   |                        |
| Signal type  | Active power, active energy, grid frequency, cos φ  |   |                        |
| Calculated values  | Voltage; Current; Effective power; reactive power; apparent power; Energy consumption; Frequency; cos phi |   |                        |
| Measured variable  | 6 (3 voltage measurement inputs, 3 current measurement inputs)  |   |                        |
| Number of measurement inputs                                   | U <sub>LN</sub> = 277 V AC/DC; U <sub>LL</sub> = 480 VAC  |   |                        |
| Rated voltage  | U <sub>LN</sub> = 277 VAC/DC; U <sub>LL</sub> = 480 VAC   |   |                        |
| Voltage path input resistance (typ.)                           | 1071 kΩ   |   |                        |
| Measurement current (max.)                                     | 1 A   | 1 A   | 5 A                    |
| Current path input resistance (typ.)                           | 0.022 Ω   |   | 0.005 Ω                |
| Resolution [bit]   | 16 bits   |   |                        |
| Measurement method   | True RMS measurement  |   |                        |
| Reference for measurement error                                | AC current/voltage  |   |                        |
| Measurement error (reference temperature)                      | 25 °C   |   |                        |
| Measurement error, deviation (max.) from the upper-range value | 0.5 %   | 0.6 %   | 0.5 %                  |
| Frequency range (mains frequency)                              | 45 ... 65 Hz  |   |                        |
| Limit frequency  | 7.2 kHz   |   |                        |
| Signal form  | Any periodic signals (considering the threshold frequencies)  | Any (taking the maximum frequency into account) |                        |
| Current consumption (5 V system supply)                        | 100 mA  |   |                        |
| Rated surge voltage  | 4 kV  |   |                        |
| Data width   | 2 x 48-bit data; 2 x 24-bit control/status (optional)   |   |                        |
| Isolation  | 4 kV system/field   |   |                        |
| Ambient temperature (operation)                                | 0 ... +55 °C  | -20 ... +60 °C                                  | 0 ... +55 °C           |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |   |                        |
| Approvals  | CE, OrdLoc/HazLoc, ATEX/IECEx   |   |                        |
| For data sheet and additional information, see:                | wago.com/750-493  |   |                        |

## Analog input; Power measurement ► Three-phase power measurement



750-494/000-005



|  |   |
|--|---|
| Item description   | Power Measurement; 277 VAC/DC; external shunts  |
| Version  | Standard  |
| Item no.   | 750-494/000-005   |
| Order Text   | Power measurement; 277 VAC/DC; external shunts  |
| Technical data   |   |
| Signal type  | Power measurement   |
| Calculated values  | Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD  |
| Measured variable  | Line-to-line voltage; Effective power; reactive power; apparent power; Energy sources; Power factor; Mains frequency; Harmonics analysis (up to 41st harmonic); THD |
| Number of measurement inputs                                     | 6 (3 voltage measurement inputs*, 3 current measurement inputs*) *Only 2 voltage/current measurement inputs can be used for DC measurement!                         |
| Rated voltage  | $V_{LN} = 277 \text{ V AC/DC}; V_{LL} = 480 \text{ V AC}$   |
| Voltage path input resistance (typ.)                             | 1072 k $\Omega$   |
| Measurement current (max.)                                       | 1 ... 20,000 A via ext. shunts (DIN 43703, DIN EN 60051 (50 ... 300 mV))  |
| Current path input resistance (typ.)                             | 15000 $\Omega$  |
| Resolution [bit]   | 24 bits   |
| Measurement method   | True RMS measurement  |
| Reference for measurement error                                  | AC current/voltage  |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.5 %   |
| Reference for measurement error (2)                              | AC current/voltage; DC measurement (2 channels only)  |
| Measurement error, reference temperature (2)                     | 25 °C   |
| Measurement error, deviation (max.) of the upper-range value (2) | 1 %   |
| Frequency range (mains frequency)                                | 45 ... 65 Hz  |
| Frequency range (harmonics analysis)                             | 0 ... 3300 Hz   |
| Limit frequency  | 15.9 kHz  |
| Signal form  | Any periodic signals (considering the threshold frequencies)  |
| Current consumption (5 V system supply)                          | 100 mA  |
| Data width   | 2 x 128-bit data; 2 x 64-bit control/status   |
| Isolation  | 4 kV system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |

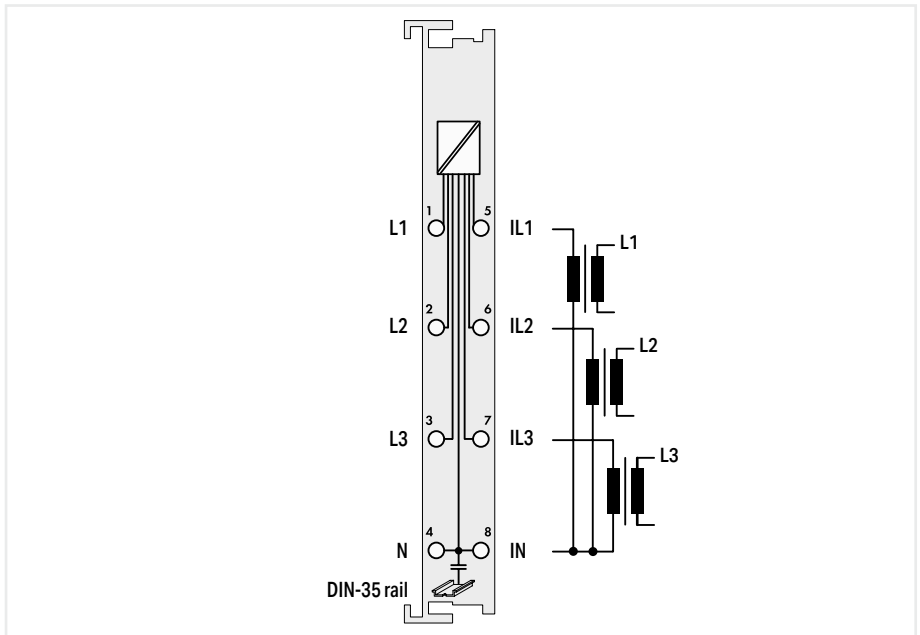
For data sheet and additional information, see:

[wago.com/750-494/000-005](http://wago.com/750-494/000-005)

# Analog input; Power measurement ▶ Three-phase power measurement



750-494



|   |                           |                        |                                   |  |
|---|---------------------------|------------------------|-----------------------------------|--|
| <b>Item description</b>                       |                           |                        |                                   |  |
| Version                                       |                           |                        |                                   |  |
| <b>Item no.</b>                               |                           |                        |                                   |  |
| <b>Order Text</b>                             |                           |                        |                                   |  |
| <b>3-Phase Power Measurement; 480 VAC 1 A</b> |                           |                        |                                   |  |
| Standard                                      | ext. temperature          | 480 VAC, 5 A           | 480 VAC 5 A; extended temperature |  |
| 750-494                                       | 750-494/025-000           | 750-494/000-001        | 750-494/025-001                   |  |
| 3-PHASE POM; 480VAC 1A                        | 3-PHASE POM; 480VAC 1A; T | 3-PHASE POM; 480VAC 5A | 3-PHASE POM; 480VAC 5A; T         |  |

|  |  |  |  |  |
|--|--|--|--|--|
| <b>Technical data</b>  |  |  |  |  |
| Signal type  |  |  |  |  |
| Calculated values  |  |  |  |  |
| Measured variable  |  |  |  |  |
| Number of measurement inputs                                   |  |  |  |  |
| Rated voltage  |  |  |  |  |
| Voltage path input resistance (typ.)                           |  |  |  |  |
| Measurement current (max.)                                     |  |  |  |  |
| Current path input resistance (typ.)                           |  |  |  |  |
| Resolution [bit]   |  |  |  |  |
| Measurement method   |  |  |  |  |
| Reference for measurement error                                |  |  |  |  |
| Measurement error (reference temperature)                      |  |  |  |  |
| Measurement error, deviation (max.) from the upper-range value |  |  |  |  |
| Frequency range (mains frequency)                              |  |  |  |  |
| Frequency range (harmonics analysis)                           |  |  |  |  |
| Limit frequency  |  |  |  |  |
| Signal form  |  |  |  |  |
| Current consumption (5 V system supply)                        |  |  |  |  |
| Rated surge voltage  |  |  |  |  |
| Data width   |  |  |  |  |
| Isolation  |  |  |  |  |
| Ambient temperature (operation)                                |  |  |  |  |
| Dimensions W x H x D   |  |  |  |  |
| Approvals  |  |  |  |  |

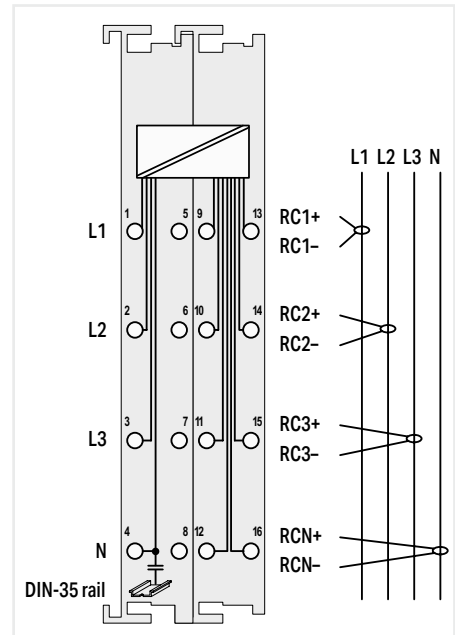
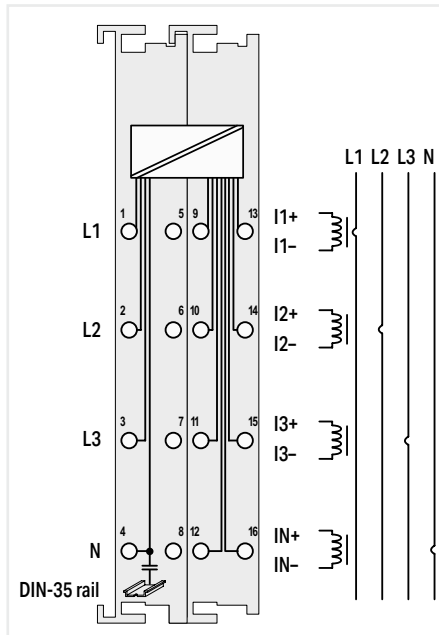
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|---|--|----------------|--|
| Power measurement   |  |                |  |
| Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD                    |  |                |  |
| Voltage; Current; Effective power; reactive power; apparent power; Energy consumption; Frequency; cos phi; Harmonics (up to 41st harmonic); THD |  |                |  |
| 6 (3 voltage measurement inputs, 3 current measurement inputs)  |  |                |  |
| $U_{LN} = 277 \text{ VAC/DC}; U_{LL} = 480 \text{ VAC}$   |  |                |  |
| 1072 kΩ   |  |                |  |
| 1 A   |  | 5 A            |  |
| 0.022 Ω   |  | 0.005 Ω        |  |
| 24 bits   |  |                |  |
| True RMS measurement  |  |                |  |
| AC current/voltage  |  |                |  |
| 25 °C   |  |                |  |
| 0.5 %   |  |                |  |
| 45 ... 65 Hz  |  |                |  |
| 0 ... 3300 Hz   |  |                |  |
| 15.9 kHz  |  |                |  |
| Any periodic signals (considering the threshold frequencies)  |  |                |  |
| 100 mA  |  |                |  |
| 4 kV  |  |                |  |
| 2 x 128-bit data; 2 x 64-bit control/status   |  |                |  |
| 4 kV system/field   |  |                |  |
| 0 ... +55 °C  |  | -20 ... +60 °C |  |
| 0 ... +55 °C  |  | -20 ... +60 °C |  |
| (12 x 100 x 67.8) mm  |  |                |  |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |  |                |  |
| wago.com/750-494  |  |                |  |

For data sheet and additional information, see:

## Analog input; Power measurement ▶ Three-phase power measurement



750-495



| Item description   | 3-Phase Power Measurement; 690 VAC 1 A  |   | 3-Phase Power Measurement; 690 VAC Rogowski coils   |
|--|---|---|---|
| Version  | Standard  | 690 VAC 5 A   | 690 VAC Rogowski coils  |
| Item no.   | 750-495   | 750-495/000-001   | 750-495/000-002   |
| Order Text   | 3-PHASE POM; 690VAC 1A  | 3-PHASE POM; 690VAC 5A  | 3-PHASE POM; 690VAC R.C.  |
| Technical data   |   |   |   |
| Signal type  | Power measurement   |   | Power measurement   |
| Calculated values  | Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD  |   | Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD  |
| Measured variable  | Voltage; Current; Effective power; reactive power; apparent power; Energy consumption; Frequency; cos phi; Harmonics (up to 41st harmonic); THD; Current measurement in N-conductor |   | Voltage; Current; Effective power; reactive power; apparent power; Energy consumption; Frequency; cos phi; Harmonics (up to 41st harmonic); THD; Current measurement in N-conductor |
| Number of measurement inputs                                   | 7 (3 voltage measurement inputs, 4 differential current measurement inputs)   | 7 (3 Spannungsmessingänge, 4 differentielle Strommessingänge) | 7 (3 Spannungsmessingänge, 4 differentielle Strommessingänge)   |
| Rated voltage  | $V_{LN} = 400 \text{ V AC}; V_{LL} = 690 \text{ V AC}$  | $U_{LN} = 400 \text{ V AC}; U_{LL} = 690 \text{ V AC}$        | $V_{LN} = 400 \text{ VAC}; V_{LL} = 690 \text{ VAC}$  |
| Voltage path input resistance (typ.)                           | 1429 kΩ   |   | 1429 kΩ   |
| Measurement current (max.)                                     | 1 A   | 5 A   | Rogowski Coils RT500/RT2000   |
| Current path input resistance (typ.)                           | 0.022 Ω   | 0.005 Ω   | 44000 Ω   |
| Resolution [bit]   | 24 bits   |   | 24 bits   |
| Measurement method   | True RMS measurement  |   | True RMS measurement  |
| Reference for measurement error                                | AC current/voltage  |   | AC current/voltage  |
| Measurement error (reference temperature)                      | 25 °C   |   | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.5 %   |   | 0.5 %   |
| Frequency range (mains frequency)                              | 45 ... 65 Hz  |   | 45 ... 65 Hz  |
| Frequency range (harmonics analysis)                           | 0 ... 3300 Hz   |   | 0 ... 3300 Hz   |
| Limit frequency  | 15.9 kHz  |   | 15.9 kHz  |
| Signal form  | Any periodic signals (considering the threshold frequencies)  |   | Any periodic signals (considering the threshold frequencies)  |
| Current consumption (5 V system supply)                        | 100 mA  |   | 100 mA  |
| Rated surge voltage  | 6 kV  |   | 6 kV  |
| Data width   | 2 x 128-bit data; 2 x 64-bit control/status   |   | 2 x 128-bit data; 2 x 64-bit control/status   |
| Isolation  | 6 kV system/field   |   | 6 kV system/field   |
| Ambient temperature (operation)                                | 0 ... +55 °C  |   | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |   | (24 x 100 x 67.8) mm  |
| Approvals  | CE,   Marine  |   | CE,   Marine  |
| For data sheet and additional information, see:                | wago.com/750-495  |   | wago.com/750-495  |





# Analog Output Modules

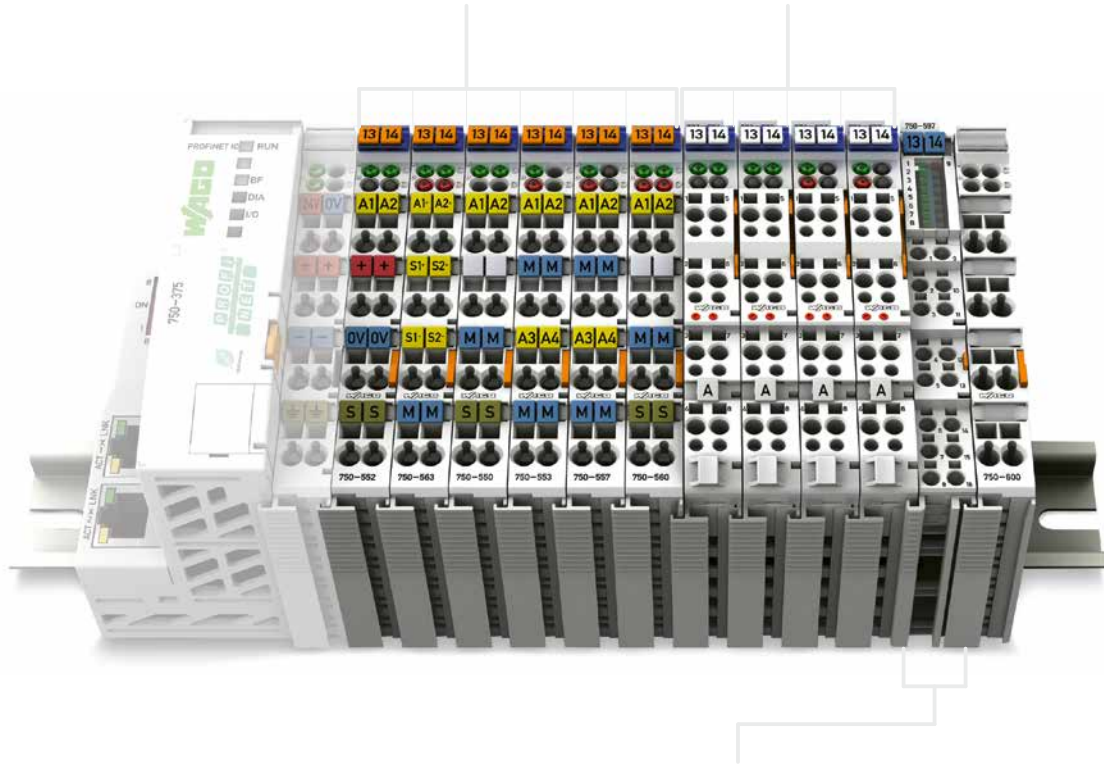


## Housing Design (750 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69.8 mm                           |
| Depth from upper edge of DIN-rail | 62.6 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch                       |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69.8 mm                           |
| Depth from upper edge of DIN-rail | 62.6 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 9 ... 10 mm / 0.37 inch                      |



## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN-rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |



I/O System – 750 XTR Series



# I/O System – 750 and 753 Series, Analog Output Modules

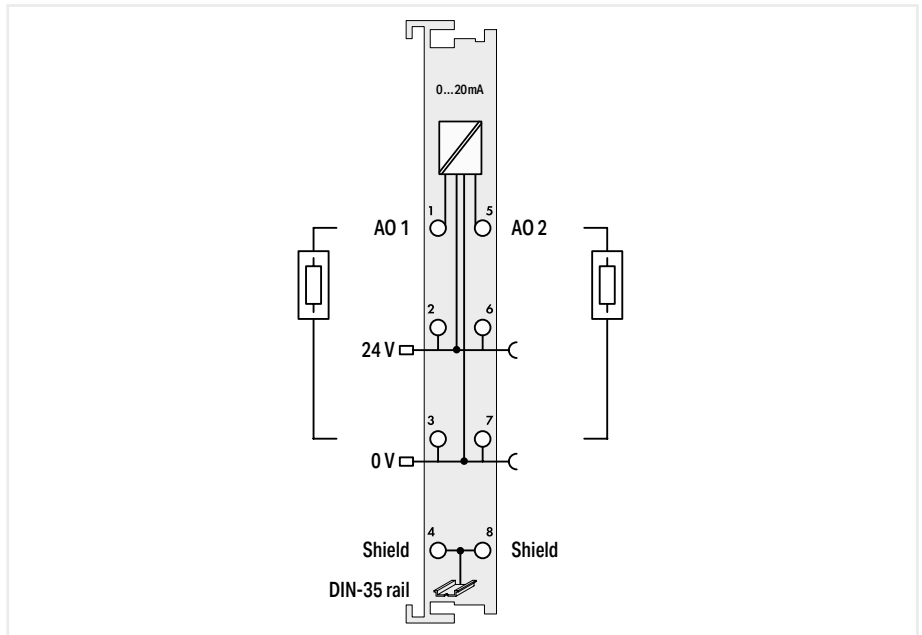
## Contents

| Function   | 2-Channel AO | 4-Channel AO | 8-Channel AO | Description   | Item Number     |                            |                      |           | Page |
|--|--------------|--------------|--------------|---|-----------------|----------------------------|----------------------|-----------|------|
|  |              |              |              |   | Standard        | /S5 Customized Data Format | Extended Temperature | Pluggable |      |
| 0 ... 20 mA  | ■            |              |              | 2-Channel Analog Output; 0 ... 20 mA                          | 750-552         | 750-552/000-200            | 750-552/025-000      | 753-552   | 362  |
|  |              | ■            |              | 4-Channel Analog Output; 0 ... 20 mA                          | 750-553         |                            |                      | 753-553   | 363  |
| 4 ... 20 mA  | ■            |              |              | 2-Channel Analog Output; 4 ... 20 mA                          | 750-554         | 750-554/000-200            | 750-554/025-000      | 753-554   | 364  |
|  |              | ■            |              | 4-Channel Analog Output; 4 ... 20 mA                          | 750-555         |                            |                      | 753-555   | 365  |
| 0/4 ... 20 mA  | ■            |              |              | 2-Channel Analog Output; 0/4 ... 20 mA; 16 Bits; 6 ... 18 VDC | 750-563*        |                            |                      |           | 366  |
| ±10 V  | ■            |              |              | 2-Channel Analog Output; ±10 VDC                              | 750-556         | 750-556/000-200            |                      | 753-556   | 367  |
|  |              | ■            |              | 4-Channel Analog Output; ±10 VDC                              | 750-557*        |                            |                      | 753-557   | 368  |
| 0 ... 10 V   | ■            |              |              | 2-Channel Analog Output; 0 ... 10 VDC; 10 Bits; 100 mW/24 V   | 750-560         |                            |                      |           | 369  |
|  | ■            |              |              | 2-Channel Analog Output; 0 ... 10 VDC                         | 750-550         | 750-550/000-200            |                      | 753-550   | 370  |
|  |              | ■            |              | 4-Channel Analog Output; 0 ... 10 VDC                         | 750-559*        |                            | 750-559/025-000      | 753-559   | 371  |
| 0 ... 10 V/±10 V   | ■            |              |              | 2-Channel Analog Output; 0 ... 10 VDC/±10 V; 16 Bits          | 750-562         |                            |                      |           | 372  |
|  |              |              | ■            | 8-Channel Analog Output; 0 ... 10 VDC/±10 V                   | 750-597         |                            |                      |           | 373  |
| Voltage/Current  |              | ■            |              | 4-Channel Analog Output; Voltage/Current                      | 750-564         |                            |                      |           | 374  |
| Ex i   |              |              |              |   | See Section 7.9 |                            |                      |           |      |
| *This module is also available as a variant of the 750 XTR Series. |              |              |              |   | See Section 8   |                            |                      |           |      |

## Analog output ▶ 0 ... 20 mA



750-552



|   |                         |   |                                 |  |
|---|-------------------------|---|---------------------------------|--|
| <b>Item description</b>                     |                         |   |                                 |  |
| Version                                     |                         |   |                                 |  |
| <b>Item no.</b>                             |                         |   |                                 |  |
| <b>Order Text</b>                           |                         |   |                                 |  |
| <b>2-Channel Analog Output; 0 ... 20 mA</b> |                         |   |                                 |  |
| <b>Standard</b>                             | <b>ext. temperature</b> | <b>pluggable (delivery without connector)</b> | <b>Data format (S5 control)</b> |  |
| 750-552                                     | 750-552/025-000         | 753-552                                       | 750-552/000-200                 |  |
| 2AO; 0-20mA                                 | 2AO; 0-20mA; T          | 2AO; 0-20mA                                   | 2AO; 0-20mA; S5                 |  |

|   |   |                |   |  |
|---|---|----------------|---|--|
| <b>Technical data</b>                                   |   |                |   |  |
| Pluggable connector                                     | -   |                | pluggable   |  |
| Customized data format                                  | -   |                | The S5 format allows you to import data with the standard S5 FB 250 function block. |  |
| Number of analog outputs                                | 2   |                |   |  |
| Signal type   | Current   |                |   |  |
| Signal type (current)                                   | 0 ... 20 mA/DC  |                |   |  |
| Actuator connection                                     | 2 x (2-wire)  |                |   |  |
| Load impedance (current output)                         | ≤ 600 Ω   |                |   |  |
| Resolution [bit]  | 12 bits   |                |   |  |
| Conversion time (typ.)                                  | 2 ms  |                |   |  |
| Linearity   | ±10 μA  |                |   |  |
| Output error, reference temperature                     | 25 °C   |                |   |  |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |                |   |  |
| Temperature error (max.) of the output range value      | 0.01 %/K  |                |   |  |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                |   |  |
| Current consumption (5 V system supply)                 | 70 mA   |                |   |  |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |                |   |  |
| Isolation   | 500 V system/field  |                |   |  |
| Ambient temperature (operation)                         | 0 ... +55 °C  | -20 ... +60 °C | 0 ... +55 °C  |  |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |                |   |  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |                |   |  |

For data sheet and additional information, see: [wago.com/750-552](http://wago.com/750-552)      [wago.com/753-552](http://wago.com/753-552)      [wago.com/750-552/000-200](http://wago.com/750-552/000-200)

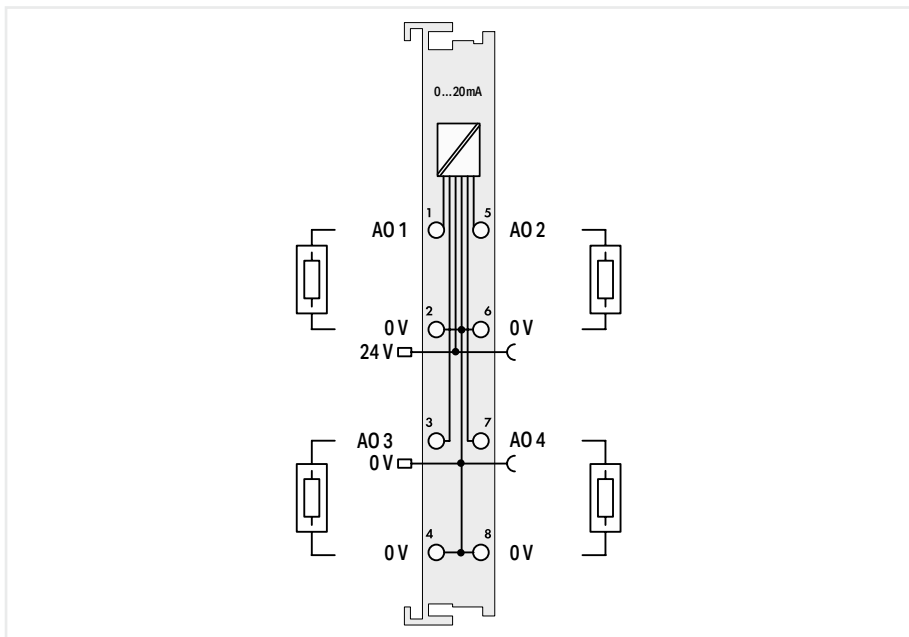
|                    |                 |                 |                 |                 |
|--------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Accessories</b> |                 |                 |                 |                 |
| <b>Plug</b>        | <b>Item no.</b> | <b>Item no.</b> | <b>Item no.</b> | <b>Item no.</b> |
|                    | -               | -               | 753-110         | -               |

7.5

# Analog output ▶ 0 ... 20 mA



750-553



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                      |  |
|--------------------------------------|--|
| 4-Channel Analog Output; 0 ... 20 mA |  |
| Standard                             | pluggable (delivery without connector) |
| 750-553                              | 753-553                                |
| 4AO; 0-20mA                          | 4AO; 0-20mA                            |

|   |
|---|
| Technical data  |
| Pluggable connector                                     |
| Number of analog outputs                                |
| Signal type   |
| Signal type (current)                                   |
| Actuator connection                                     |
| Load impedance  |
| Resolution [bit]  |
| Conversion time (typ.)                                  |
| Output error, reference temperature                     |
| Output error, deviation (max.) of the upper-range value |
| Temperature error (max.) of the output range value      |
| Supply voltage (field)                                  |
| Current consumption (5 V system supply)                 |
| Data width  |
| Isolation   |
| Ambient temperature (operation)                         |
| Dimensions W x H x D                                    |
| Approvals   |
| For data sheet and additional information, see:         |

|   |   |
|---|---|
| - | pluggable   |
| - | 4   |
| - | Current   |
| - | 0 ... 20 mADC   |
| - | 4 x (2-wire)  |
| - | Either 0 ... 300 Ω or 300 ... 600 Ω (same resistance for all load impedances)                                       |
| - | 12 bits   |
| - | 10 ms   |
| - | 25 °C   |
| - | 0.1 %   |
| - | 0.01 %/K  |
| - | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| - | 60 mA   |
| - | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| - | 500 V system/field  |
| - | 0 ... +55 °C  |
| - | (12 x 100 x 69.8) mm  |
| - | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| - | wago.com/750-553  |
| - | wago.com/753-553  |

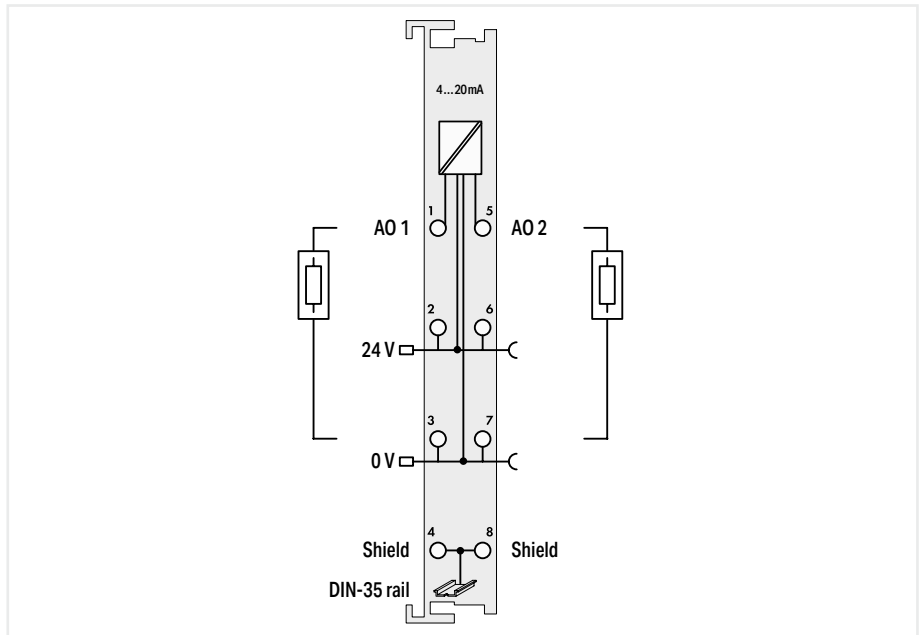
|             |
|-------------|
| Accessories |
| Plug        |

|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-110  |

## Analog output ▶ 4 ... 20 mA



750-554



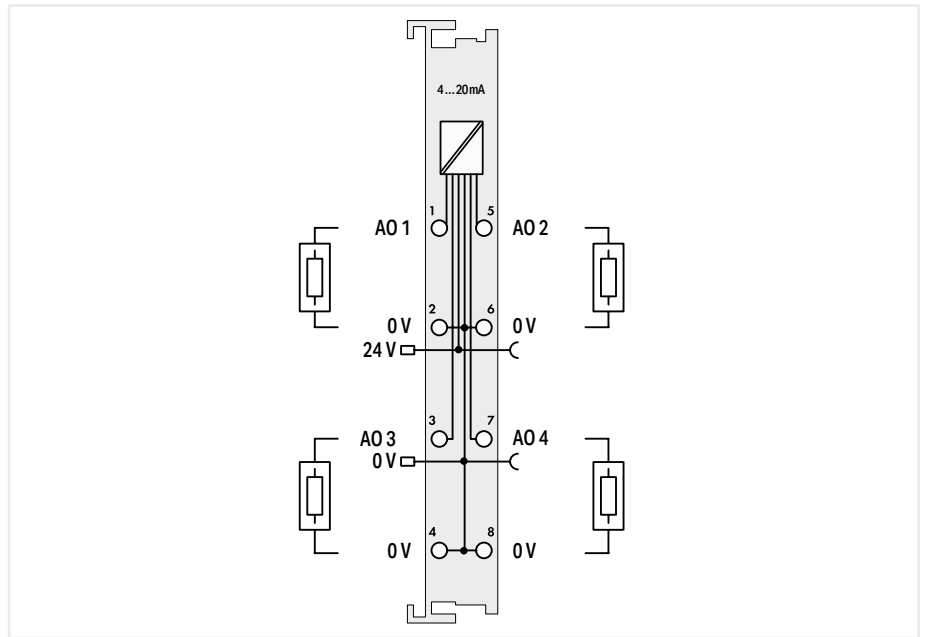
|   |   |   |   |                          |
|---|---|---|---|--------------------------|
| <b>Item description</b>                                 |   |   |   |                          |
| Version   |   |   |   |                          |
| <b>Item no.</b>   |   |   |   |                          |
| <b>Order Text</b>                                       |   |   |   |                          |
| <b>2-Channel Analog Output; 4 ... 20 mA</b>             |   |   |   |                          |
| <b>Standard</b>   | <b>ext. temperature</b>   | <b>pluggable (delivery without connector)</b> | <b>Data format (S5 control)</b>   |                          |
| 750-554   | 750-554/025-000   | 753-554                                       | 750-554/000-200   |                          |
| 2AO; 4-20mA   | 2AO; 4-20mA; T  | 2AO; 4-20mA                                   | 2AO; 4-20mA; S5   |                          |
| <b>Technical data</b>                                   |   |   |   |                          |
| Pluggable connector                                     | -   |   | pluggable   |                          |
| Customized data format                                  | -   |   | The S5 format allows you to import data with the standard S5 FB 250 function block. |                          |
| Number of analog outputs                                | 2   |   |   |                          |
| Signal type   | Current   |   |   |                          |
| Signal type (current)                                   | 4 ... 20 mA DC  |   |   |                          |
| Actuator connection                                     | 2 x (2-wire)  |   |   |                          |
| Load impedance (current output)                         | ≤ 600 Ω   |   |   |                          |
| Resolution [bit]  | 12 bits   |   |   |                          |
| Conversion time (typ.)                                  | 2 ms  |   |   |                          |
| Linearity   | ±10 μA  |   |   |                          |
| Output error, reference temperature                     | 25 °C   |   |   |                          |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |   |   |                          |
| Temperature error (max.) of the output range value      | 0.015 %/K   |   |   |                          |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |   |   |                          |
| Current consumption (5 V system supply)                 | 70 mA   |   |   |                          |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |   |   |                          |
| Isolation   | 500 V system/field  |   |   |                          |
| Ambient temperature (operation)                         | 0 ... +55 °C  | -20 ... +60 °C                                | 0 ... +55 °C  |                          |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |   |   |                          |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |   |   |                          |
| For data sheet and additional information, see:         | wago.com/750-554  |   | wago.com/753-554  | wago.com/750-554/000-200 |
| <b>Accessories</b>                                      |   |   |   |                          |
| Plug  | <b>Item no.</b>   | <b>Item no.</b>                               | <b>Item no.</b>   | <b>Item no.</b>          |
|   | -   | -   | 753-110   | -                        |

7.5

# Analog output ▶ 4 ... 20 mA



750-555



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                      |  |
|--------------------------------------|--|
| 4-Channel Analog Output; 4 ... 20 mA |  |
| Standard                             | pluggable (delivery without connector) |
| 750-555                              | 753-555                                |
| 4AO; 4-20mA                          | 4AO; 4-20mA                            |

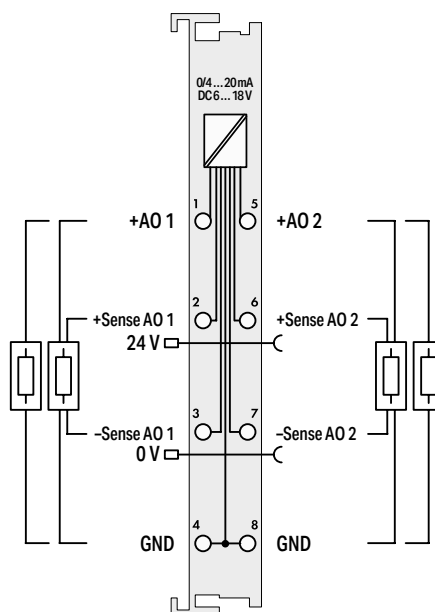
|   |
|---|
| Technical data  |
| Pluggable connector                                     |
| Number of analog outputs                                |
| Signal type   |
| Signal type (current)                                   |
| Actuator connection                                     |
| Load impedance  |
| Resolution [bit]  |
| Conversion time (typ.)                                  |
| Output error, reference temperature                     |
| Output error, deviation (max.) of the upper-range value |
| Temperature error (max.) of the output range value      |
| Supply voltage (field)                                  |
| Current consumption (5 V system supply)                 |
| Data width  |
| Isolation   |
| Ambient temperature (operation)                         |
| Dimensions W x H x D                                    |
| Approvals   |
| For data sheet and additional information, see:         |
| Accessories   |
| Plug  |

|          |   |
|----------|---|
|          | pluggable   |
|          | 4   |
|          | Current   |
|          | 4 ... 20 mA DC  |
|          | 4 x (2-wire)  |
|          | Either 0 ... 300 Ω or 300 ... 600 Ω (same resistance for all load impedances)                                       |
|          | 12 bits   |
|          | 10 ms   |
|          | 25 °C   |
|          | 0.1 %   |
|          | 0.01 %/K  |
|          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
|          | 60 mA   |
|          | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
|          | 500 V system/field  |
|          | 0 ... +55 °C  |
|          | (12 x 100 x 69.8) mm  |
|          | CE; L Marine; OrdLoc/HazLoc; ATEX/IECEx   |
|          | wago.com/750-555 wago.com/753-555   |
| Item no. | Item no.  |
| -        | 753-110   |

## Analog output ► Configurable: current/voltage



750-563



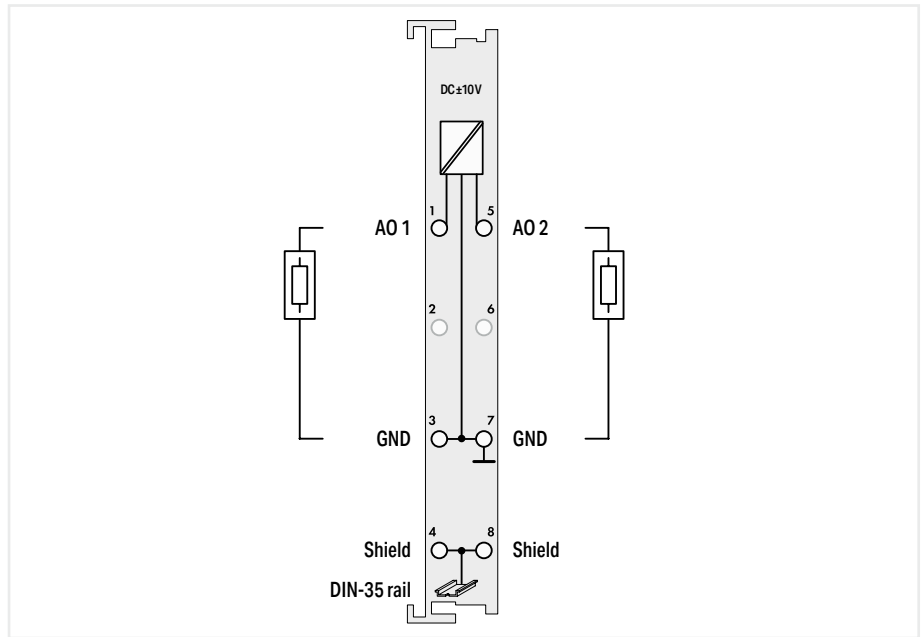
|   |   |
|---|---|
| Item description  | 2-Channel Analog Output; 0/4 ... 20 mA; 16 Bits; 6 ... 18 VDC   |
| Version   | Standard  |
| Item no.  | 750-563   |
| Order Text  | 2AO; 0/4-20mA; 16bits; 6-18 VDC   |
| Technical data  |   |
| Number of analog outputs                                | 2   |
| Signal type   | Voltage; Current  |
| Signal type (current)                                   | 0 ... 20 mADC; 4 ... 20 mADC  |
| Signal type (voltage)                                   | 6 ... 18 VDC  |
| Actuator connection                                     | 2 x (2-wire, 4-wire)  |
| Load impedance (current output)                         | ≤ 500 Ω   |
| Load impedance (voltage output)                         | ≥ 1.8 kΩ  |
| Resolution [bit]  | 16 bits   |
| Conversion time (typ.)                                  | 5 ms  |
| Output error, reference temperature                     | 25 °C   |
| Output error, deviation (max.) of the upper-range value | 0.05 %  |
| Temperature coefficient                                 | < ±100 ppm  |
| Supply voltage (field)                                  | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                 | 95 mA   |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Isolation   | 500 V system/field  |
| Ambient temperature (operation)                         | 0 ... +55 °C  |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:         | wago.com/750-563  |



# Analog output ▶ ±10 V



750-556

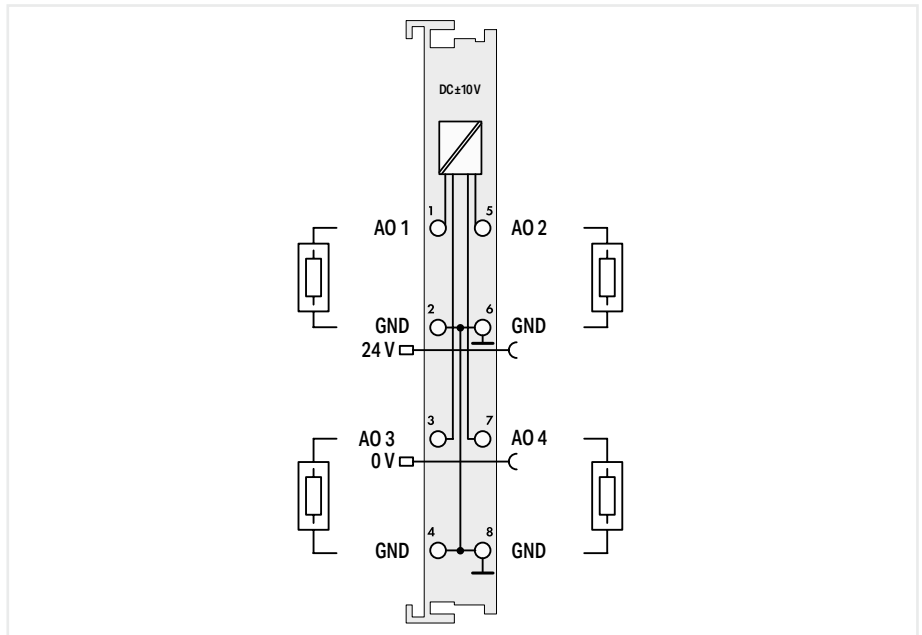


|   |  |  |   |
|---|--|--|---|
| Item description  | <b>2-Channel Analog Output; ±10 VDC</b>              |  |   |
| Version   | Standard   | pluggable (delivery without connector) | Data format (S5 control)  |
| Item no.  | 750-556  | 753-556                                | 750-556/000-200   |
| Order Text  | 2AO; ±10 VDC   | 2AO; ±10 VDC                           | 2AO; ±10 VDC; S5  |
| Technical data  |  |  |   |
| Pluggable connector                                     | -  | pluggable                              | -   |
| Customized data format                                  |  |  | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog outputs                                | 2  |  |   |
| Signal type   | Voltage  |  |   |
| Signal type (voltage)                                   | -10 ... +10 VDC                                      |  |   |
| Actuator connection                                     | 2 x (2-wire)   |  |   |
| Load impedance (voltage output)                         | ≥ 5 kΩ   |  |   |
| Resolution [bit]  | 12 bits  |  |   |
| Conversion time (typ.)                                  | 2 ms   |  |   |
| Linearity   | ±10 mV   |  |   |
| Output error, reference temperature                     | 25 °C  |  |   |
| Output error, deviation (max.) of the upper-range value | 0.1 %  |  |   |
| Temperature error (max.) of the output range value      | 0.01 %/K   |  |   |
| Current consumption (5 V system supply)                 | 65 mA  |  |   |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional) |  |   |
| Isolation   | 500 V system/field                                   |  |   |
| Ambient temperature (operation)                         | 0 ... +55 °C   |  |   |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm                                 |  |   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx             |  |   |
| For data sheet and additional information, see:         | wago.com/750-556                                     | wago.com/753-556                       | wago.com/750-556/000-200  |
| Accessories   | Item no.   | Item no.                               | Item no.  |
| Plug  | -  | 753-110                                | -   |

## Analog output ► ±10 V



750-557

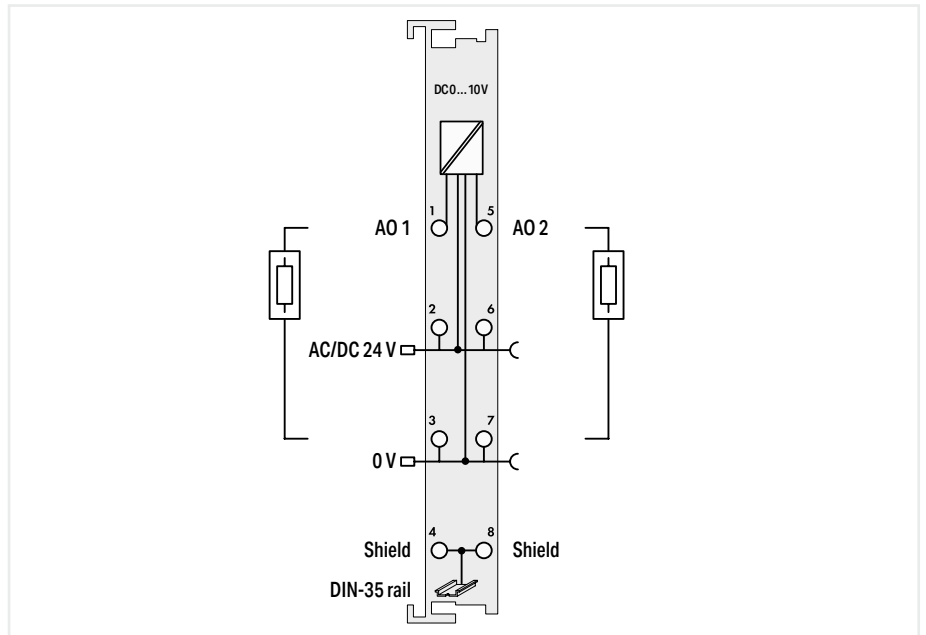


|   |   |  |
|---|---|--|
| Item description  | <b>4-Channel Analog Output; ±10 VDC</b>   |  |
| Version   | Standard  | pluggable (delivery without connector) |
| Item no.  | 750-557   | 753-557                                |
| Order Text  | 4AO; ±10 VDC  | 4AO; ±10 VDC                           |
| Technical data  |   |  |
| Pluggable connector                                     | -   | pluggable                              |
| Number of analog outputs                                | 4   |  |
| Signal type   | Voltage   |  |
| Signal type (voltage)                                   | -10 ... +10 VDC   |  |
| Actuator connection                                     | 4 x (2-wire)  |  |
| Load impedance (voltage output)                         | ≥ 5 kΩ  |  |
| Resolution [bit]  | 12 bits   |  |
| Conversion time (typ.)                                  | 10 ms   |  |
| Output error, reference temperature                     | 25 °C   |  |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |  |
| Temperature error (max.) of the output range value      | 0.01 %/K  |  |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                 | 125 mA  |  |
| Data width  | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |  |
| Isolation   | 500 V system/field  |  |
| Ambient temperature (operation)                         | 0 ... +55 °C  |  |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |  |
| For data sheet and additional information, see:         | wago.com/750-557  | wago.com/753-557                       |
| Accessories   | Item no.  | Item no.                               |
| Plug  | -   | 753-110                                |

## Analog output ► 0 ... 10 V



750-560

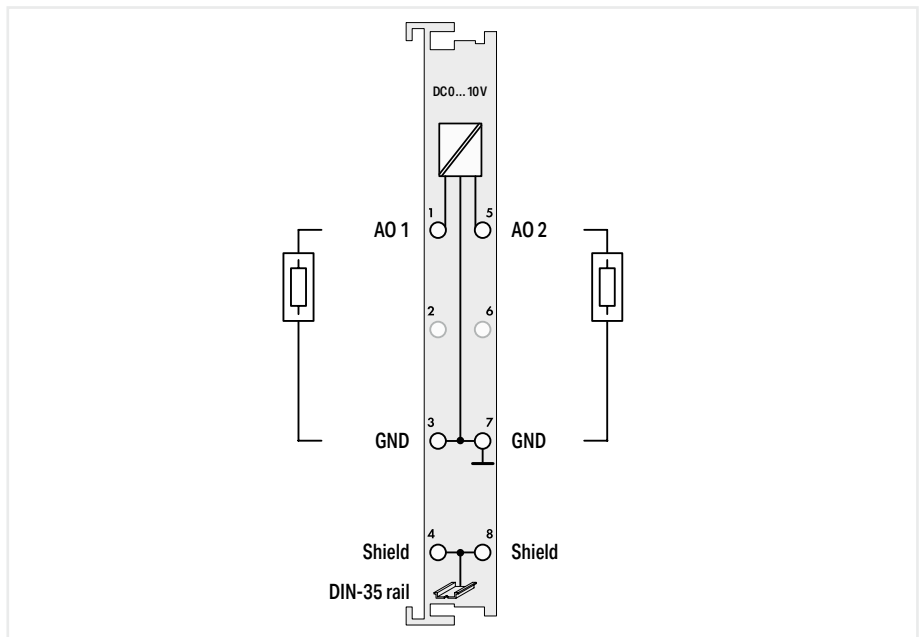


|   |  |
|---|--|
| Item description  | 2-Channel Analog Output; 0 ... 10 VDC; 10 Bits; 100 mW/24 V  |
| Version   | Standard   |
| Item no.  | 750-560  |
| Order Text  | 2AO; 0-10 VDC; 10Bit; 100mW/ 24V   |
| Technical data  |  |
| Number of analog outputs                                | 2  |
| Signal type   | Voltage  |
| Signal type (voltage)                                   | 0 ... 10 VDC   |
| Actuator connection                                     | 2 x (2-wire)   |
| Load impedance (voltage output)                         | ≥ 1 kΩ   |
| Resolution [bit]  | 10 bits  |
| Conversion time (typ.)                                  | 10 ms  |
| Output error, reference temperature                     | 25 °C  |
| Output error, deviation (max.) of the upper-range value | 0.2 %  |
| Temperature error (max.) of the output range value      | 0.02 %/K   |
| Supply voltage (field)                                  | 24 VAC/DC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                 | 16 mA  |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)   |
| Isolation   | 500 V system/field   |
| Ambient temperature (operation)                         | 0 ... +55 °C   |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm   |
| Approvals   | CE,  OrdLoc/HazLoc,  ATEX/IECEx  |
| For data sheet and additional information, see:         | wago.com/750-560   |

## Analog output ► 0 ... 10 V



750-550

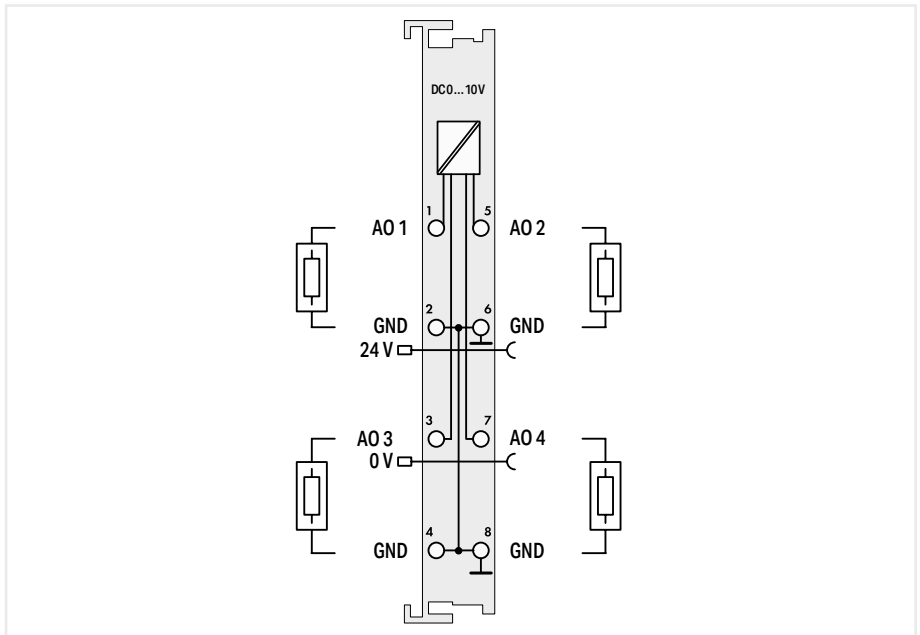


| Item description  |  |                  |   |
|---|--|------------------|---|
| Version   | 2-Channel Analog Output; 0 ... 10 VDC                |                  |   |
| Item no.  | 750-550  | 753-550          | 750-550/000-200   |
| Order Text  | 2AO; 0-10 VDC  | 2AO; 0-10 VDC    | 2AO; 0-10 VDC; S5   |
| Technical data  |  |                  |   |
| Pluggable connector                                     | -  | pluggable        | -   |
| Customized data format                                  | -  | -                | The S5 format allows you to import data with the standard S5 FB 250 function block. |
| Number of analog outputs                                | 2  |                  |   |
| Signal type   | Voltage  |                  |   |
| Signal type (voltage)                                   | 0 ... 10 VDC   |                  |   |
| Actuator connection                                     | 2 x (2-wire)   |                  |   |
| Load impedance (voltage output)                         | ≥ 5 kΩ   |                  |   |
| Resolution [bit]  | 12 bits  |                  |   |
| Conversion time (typ.)                                  | 2 ms   |                  |   |
| Linearity   | ±10 mV   |                  |   |
| Output error, reference temperature                     | 25 °C  |                  |   |
| Output error, deviation (max.) of the upper-range value | 0.1 %  |                  |   |
| Temperature error (max.) of the output range value      | 0.01 %/K   |                  |   |
| Current consumption (5 V system supply)                 | 65 mA  |                  |   |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional) |                  |   |
| Isolation   | 500 V system/field                                   |                  |   |
| Ambient temperature (operation)                         | 0 ... +55 °C   |                  |   |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm                                 |                  |   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx             |                  |   |
| For data sheet and additional information, see:         | wago.com/750-550                                     | wago.com/753-550 | wago.com/750-550/000-200  |
| Accessories   |  |                  |   |
| Plug  | Item no. -   | Item no. 753-110 | Item no. -  |

# Analog output ▶ 0 ... 10 V



750-559



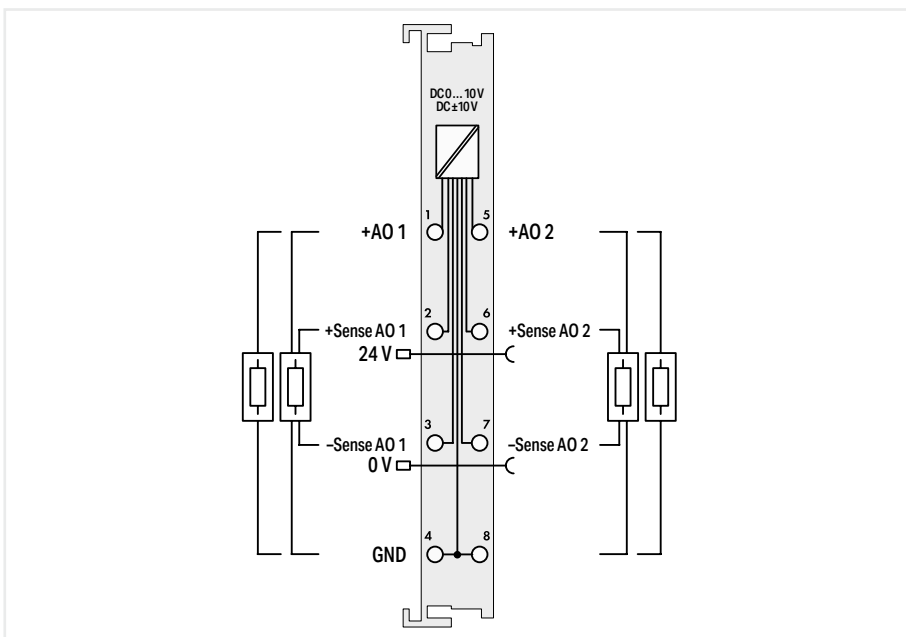
|   |   |                 |                  |
|---|---|-----------------|------------------|
| <b>Item description</b>                                 |   |                 |                  |
| Version   |   |                 |                  |
| <b>Item no.</b>   |   |                 |                  |
| <b>Order Text</b>                                       |   |                 |                  |
| <b>Technical data</b>                                   |   |                 |                  |
| Pluggable connector                                     |   |                 | pluggable        |
| Number of analog outputs                                | 4   |                 |                  |
| Signal type   | Voltage   |                 |                  |
| Signal type (voltage)                                   | 0 ... 10 VDC  |                 |                  |
| Actuator connection                                     | 4 x (2-wire)  |                 |                  |
| Load impedance (voltage output)                         | ≥ 5 kΩ  |                 |                  |
| Resolution [bit]  | 12 bits   |                 |                  |
| Conversion time (typ.)                                  | 10 ms   |                 |                  |
| Output error, reference temperature                     | 25 °C   |                 |                  |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |                 |                  |
| Temperature error (max.) of the output range value      | 0.01 %/K  |                 |                  |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                 |                  |
| Current consumption (5 V system supply)                 | 125 mA  |                 |                  |
| Data width  | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |                 |                  |
| Isolation   | 500 V system/field  |                 |                  |
| Ambient temperature (operation)                         | 0 ... +55 °C  | -20 ... +60 °C  | 0 ... +55 °C     |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |                 |                  |
| Approvals   |   |                 |                  |
| For data sheet and additional information, see:         | wago.com/750-559  |                 | wago.com/753-559 |
| <b>Accessories</b>                                      | <b>Item no.</b>   | <b>Item no.</b> | <b>Item no.</b>  |
| Plug  | -   | -               | 753-110          |

|  |                         |   |  |
|--|-------------------------|---|--|
| <b>4-Channel Analog Output; 0 ... 10 VDC</b> |                         |   |  |
| <b>Standard</b>                              | <b>ext. temperature</b> | <b>pluggable (delivery without connector)</b> |  |
| 750-559                                      | 750-559/025-000         | 753-559                                       |  |
| 4AO; 0-10 VDC                                | 4AO; 0-10 VDC; T        | 4AO; 0-10 VDC                                 |  |

## Analog output ► Configurable: voltage



750-562

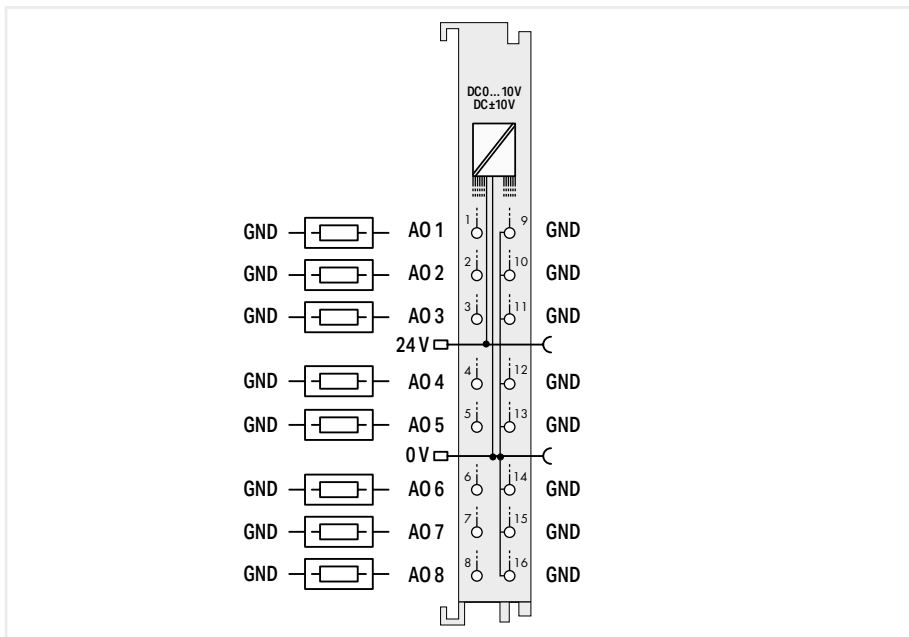


|   |   |
|---|---|
| Item description  | 2-Channel Analog Output; 0 ... 10 VDC/±10 V; 16 bits  |
| Version   | Standard  |
| Item no.  | 750-562   |
| Order Text  | 2AO; 0-10 V/±10 VDC; 16bits   |
| Technical data  |   |
| Number of analog outputs                                | 2   |
| Signal type   | Voltage   |
| Signal type (voltage)                                   | 0 ... 10 VDC; -10 ... +10 VDC   |
| Actuator connection                                     | 2 x (2-wire, 4-wire)  |
| Load impedance (voltage output)                         | ≥ 5 kΩ  |
| Resolution [bit]  | 16 bits   |
| Conversion time (typ.)                                  | 5 ms  |
| Output error, reference temperature                     | 25 °C   |
| Output error, deviation (max.) of the upper-range value | 0.05 %  |
| Temperature coefficient                                 | < ±100 ppm  |
| Supply voltage (field)                                  | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                 | 125 mA  |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Isolation   | 500 V system/field  |
| Ambient temperature (operation)                         | 0 ... +55 °C  |
| Dimensions W x H x D                                    | (12 x 100 x 69.8) mm  |
| Approvals   | CE;  OrdLoc/HazLoc;  ATEX/IECEx   |
| For data sheet and additional information, see:         | wago.com/750-562  |

## Analog output ► Configurable: voltage



750-597

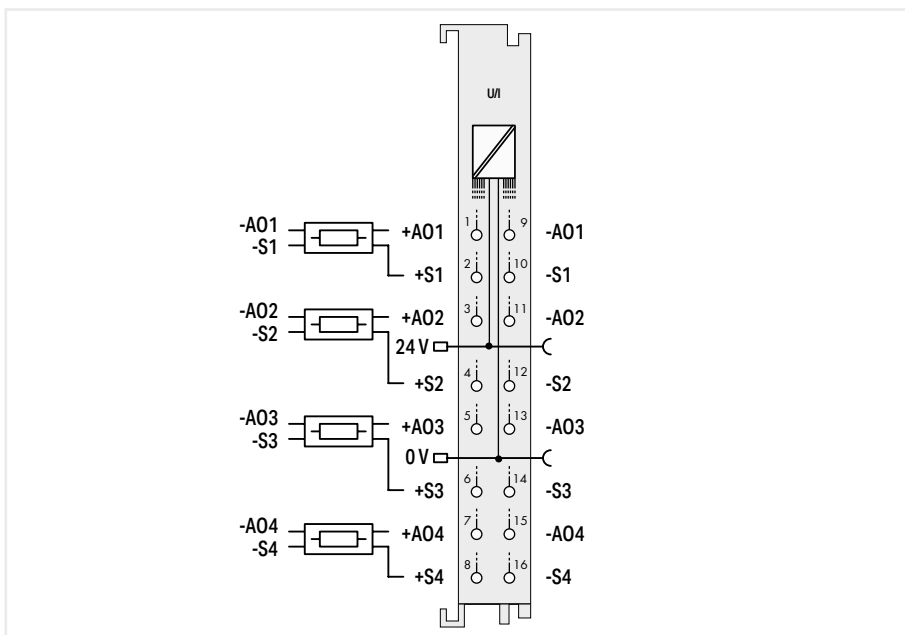


|   |   |
|---|---|
| Item description  | 8-Channel Analog Output; 0 ... 10 VDC/±10 V   |
| Version   | Standard with 16 connectors   |
| Item no.  | 750-597   |
| Order Text  | 8AO; 0-10 V/±10 VDC   |
| <b>Technical data</b>                                   |   |
| Number of analog outputs                                | 8   |
| Signal type   | Voltage   |
| Signal type (voltage)                                   | 0 ... 10 VDC  |
| Actuator connection                                     | 8 x (2-wire)  |
| Load impedance (voltage output)                         | ≥ 2 kΩ  |
| Resolution [bit]  | 12 bits   |
| Conversion time (typ.)                                  | 13 ms   |
| Output error, reference temperature                     | 25 °C   |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |
| Temperature coefficient                                 | ≤ ±10 ppm/K of the largest output area  |
| Supply voltage (field)                                  | 24 VDC (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)                 | 61 mA   |
| Data width  | 8 x 16-bit data; 8 x 8-bit control/status (optional)  |
| Isolation   | 500 V system/field  |
| Ambient temperature (operation)                         | 0 ... +55 °C  |
| Dimensions W x H x D                                    | (12 x 100 x 69) mm  |
| Approvals   | CE,  OrdLoc/HazLoc,  ATEX/IECEx   |
| For data sheet and additional information, see:         | wago.com/750-597  |

## Analog output ► Voltages and currents (configurable channel for channel)



750-564



|   |  |
|---|--|
| Item description  | 4-Channel Analog Output; Voltage/Current   |
| Version   | Standard with 16 connectors  |
| Item no.  | 750-564  |
| Order Text  | 4AO U/I  |
| Technical data  |  |
| Number of analog outputs                                | 4  |
| Signal type   | Voltage; Current   |
| Signal type (current)                                   | 0 ... 10 mA; 2 ... 10 mA; -10 ... +10 mA; 0 ... 20 mA; 4 ... 20 mA; -20 ... +20 mA; 0 ... 22 mA; -22 ... +22 mA; 0 ... 12 mA; -12 ... +12 mA |
| Signal type (voltage)                                   | 0 ... 5 V; 1 ... 5 V; -5 ... +5 V; 0 ... 10 V; 2 ... 10 V; -10 ... +10 V; 0 ... 12 V; -12 ... +12 V  |
| Actuator connection                                     | 4 x (2-wire); Voltage outputs can optionally be connected in 4-wire technology via the sense lines.  |
| Load impedance (current output)                         | $\leq 600 \Omega$  |
| Load impedance (voltage output)                         | $\geq 1 \text{ k}\Omega$   |
| Resolution [bit]  | 16 bits  |
| Conversion time (typ.)                                  | 3 ms   |
| Reference for measurement error                         | Voltage/current  |
| Output error, reference temperature                     | 25 °C  |
| Output error, deviation (max.) of the upper-range value | 0.05 %   |
| Temperature coefficient                                 | U: $\pm 25 \text{ ppm/K}$ of the upper-range value; I: $\pm 50 \text{ ppm/K}$ of the upper-range value                                       |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)                          |
| Current consumption (5 V system supply)                 | 55 mA  |
| Data width  | 4 x 16-bit data; 4 x 8-bit control/status (optional)   |
| Isolation   | 500 V system/field   |
| Ambient temperature (operation)                         | 0 ... +55 °C   |
| Dimensions W x H x D                                    | (12 x 100 x 69) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |
| For data sheet and additional information, see:         | wago.com/750-564   |





# Function/Technology Modules



## Housing Design (750 Series)

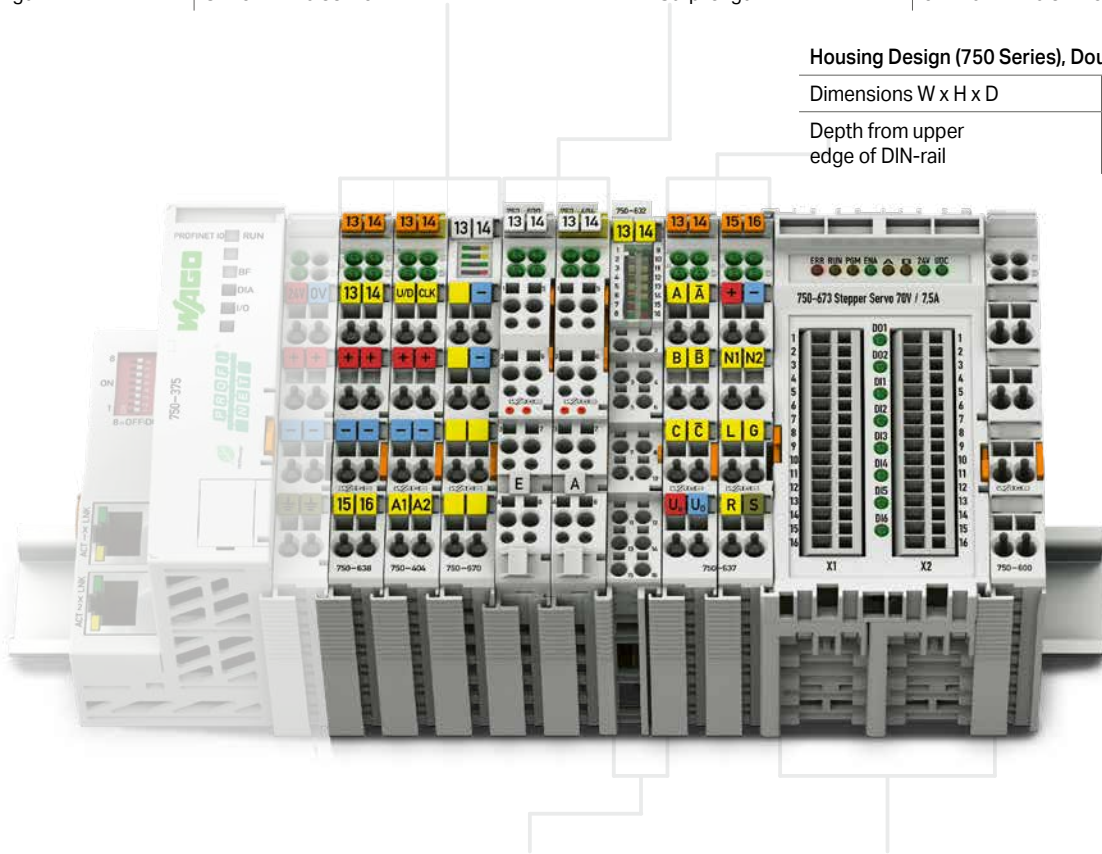
|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 60.6 mm                       |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                       |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 69 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 61.8 mm                     |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                     |
| Strip length                      | 9 ... 10 mm / 0.37 inch  |

## Housing Design (750 Series), Double Width

|                                   |                    |
|-----------------------------------|--------------------|
| Dimensions W x H x D              | 24 x 100 x 69.8 mm |
| Depth from upper edge of DIN-rail | 62.6 mm            |



## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN-rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Specialty Housing

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 51 x 100 x 69.8 mm                           |
| Depth from upper edge of DIN-rail | 62.6 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 5 ... 6 mm / 0.22 inch                       |



I/O System –  
750 XTR Series



# I/O System – 750 and 753 Series, Function/Technology Modules

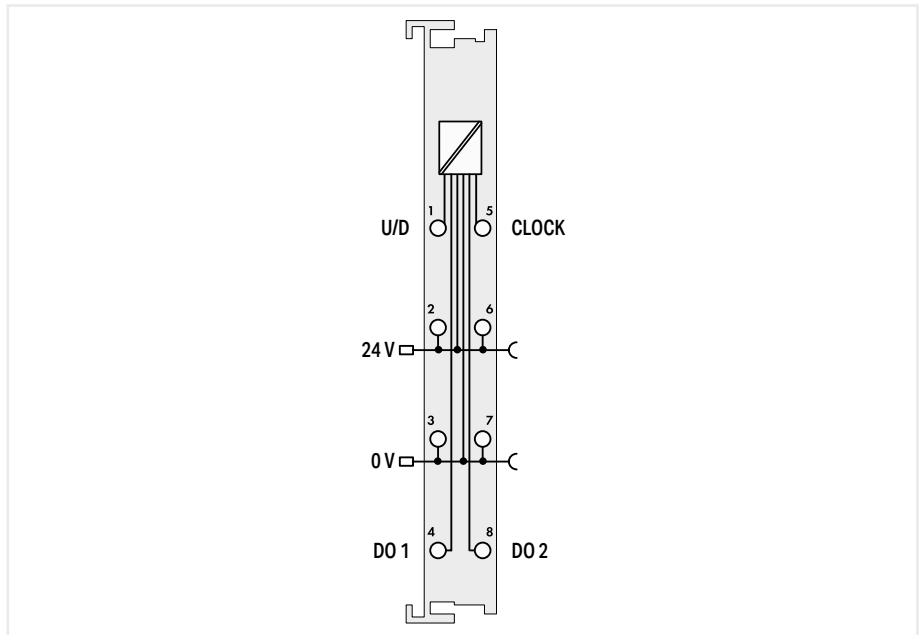
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| <b>Ex i</b>  |  |                  |                      |                 | See Section 7.9 |
| *This module is also available as a variant of the 750 XTR Series. |  |                  |                      |                 | See Section 8   |

## Counter ▶ Up/down counter



750-404



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

| Up/Down Counter |  |                                |                           |                   |
|-----------------|--|--------------------------------|---------------------------|-------------------|
| Standard        | pluggable (delivery without connector) | Switch output                  | Enable input              | Peak-time counter |
| 750-404         | 753-404                                | 750-404/000-004                | 750-404/000-001           | 750-404/000-002   |
| Up/Down Counter | Up/Down Counter                        | Up/Down Counter; Switch Output | Up Counter; Release Input | Peak Time Counter |

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Number of digital outputs                       |
| Number of counters                              |
| Output current per channel                      |
| Output current                                  |
| Voltage range for signal (0)                    |
| Voltage range for signal (1)                    |
| Input current (typ.)                            |
| Switching frequency (max.)                      |
| Counter depth                                   |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Data width                                      |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|                  |                  |   |   |        |
|------------------|------------------|---|---|--------|
| -                | pluggable        | -   | - | -      |
| -                | -                | 2   | - | -      |
| -                | -                | 1   | - | -      |
| -                | -                | 0.5 A   | - | -      |
| -                | -                | short-circuit-protected   | - | -      |
| -                | -                | -3 ... +5 VDC   | - | -      |
| -                | -                | 15 ... 30 VDC   | - | -      |
| -                | -                | 6 mA  | - | -      |
| -                | -                | 100 kHz   | - | 10 kHz |
| -                | -                | 32 bits   | - | -      |
| -                | -                | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) | - | -      |
| -                | -                | 70 mA   | - | -      |
| -                | -                | 32-bit data; 8-bit control/status   | - | -      |
| -                | -                | 500 V system/field  | - | -      |
| -                | -                | 0 ... +55 °C  | - | -      |
| -                | -                | (12 x 100 x 69.8) mm  | - | -      |
| -                | -                | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   | - | -      |
| wago.com/750-404 | wago.com/753-404 | wago.com/750-404/000-004  |   |        |

| Accessories |
|-------------|
| Plug        |

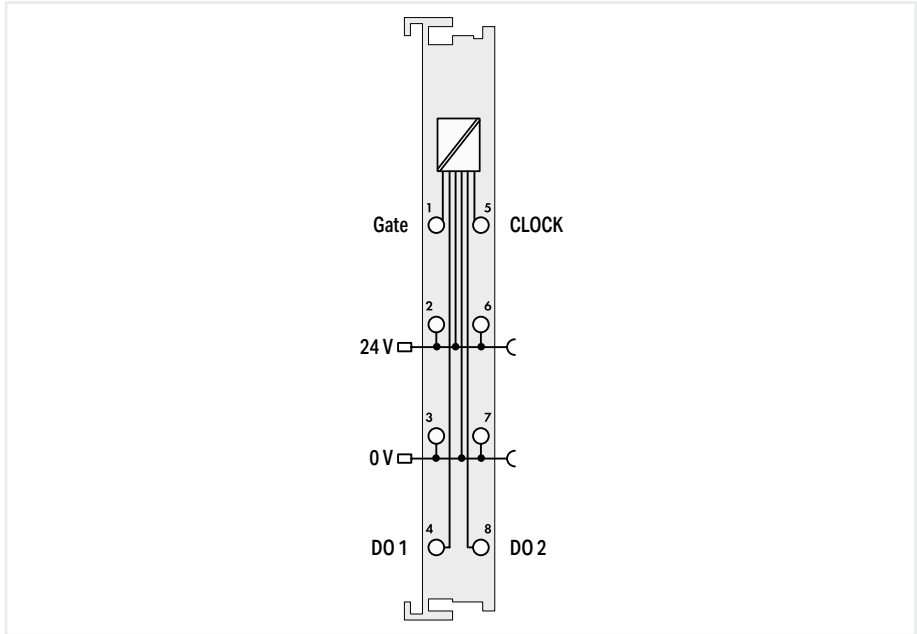
| Item no. | Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|----------|
| -        | 753-110  | -        | -        | -        |

|   |  |   |
|---|--|---|
| <p>Up/down counter: When the U/D input is switched with +24 V, the counting direction is upward. When an input is not switched or is 0 V, the counting direction is downward.</p> | <p>Up counter: The counting is locked when the GATE input is open or 0 V is present. Counting is enabled with +24 V at the GATE input.</p> | <p>Peak-time counter: The count pulses at the CLOCK input are recorded over a pre-set period of 10 seconds.</p> |
|---|--|---|

## Counter ▶ Frequency counter



750-404/000-003



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                   |  |
|-------------------|--|
| Frequency Counter |  |
| Standard          | pluggable (delivery without connector) |
| 750-404/000-003   | 753-404/000-003                        |
| Frequency Counter | Frequency Counter; 100kHz              |

|   |   |
|---|---|
| Technical data                                  |   |
| Pluggable connector                             | -   |
| Number of digital outputs                       | 2   |
| Number of counters                              | 1   |
| Output current per channel                      | 0.5 A   |
| Output current                                  | short-circuit-protected   |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |
| Input current (typ.)                            | 5 mA  |
| Switching frequency (max.)                      | 100 kHz   |
| Counter depth                                   | 32 bits   |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 70 mA   |
| Data width                                      | 32-bit data; 8-bit control/status   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-404/000-003   wago.com/753-404/000-003   |

|   |  |
|---|--|
| pluggable   |  |
| 2   |  |
| 1   |  |
| 0.5 A   |  |
| short-circuit-protected   |  |
| -3 ... +5 VDC   |  |
| 15 ... 30 VDC   |  |
| 5 mA  |  |
| 100 kHz   |  |
| 32 bits   |  |
| 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| 70 mA   |  |
| 32-bit data; 8-bit control/status   |  |
| 500 V system/field  |  |
| 0 ... +55 °C  |  |
| (12 x 100 x 69.8) mm  |  |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |  |
| wago.com/750-404/000-003   wago.com/753-404/000-003   |  |

|             |
|-------------|
| Accessories |
| Plug        |

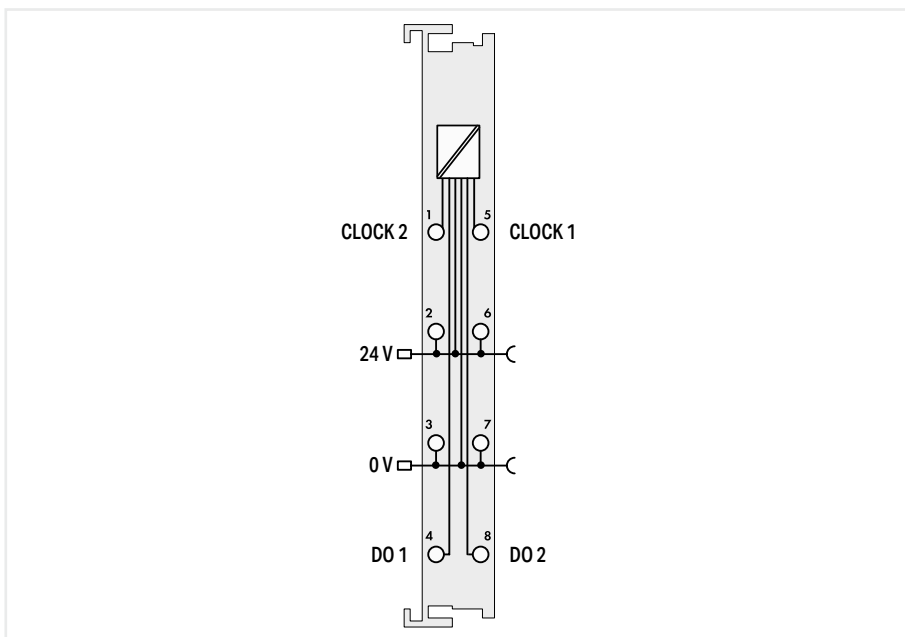
|          |   |         |
|----------|---|---------|
| Item no. | - | 753-110 |
|----------|---|---------|

The frequency counter measures the 24 V signal pulse period at the CLOCK input and converts it to a frequency value. The measurement is enabled when the GATE input is open or 0 V is present. Measurement is disabled when 24 V are present at the GATE input.

## Counter ▶ 2 up counters



750-404/000-005



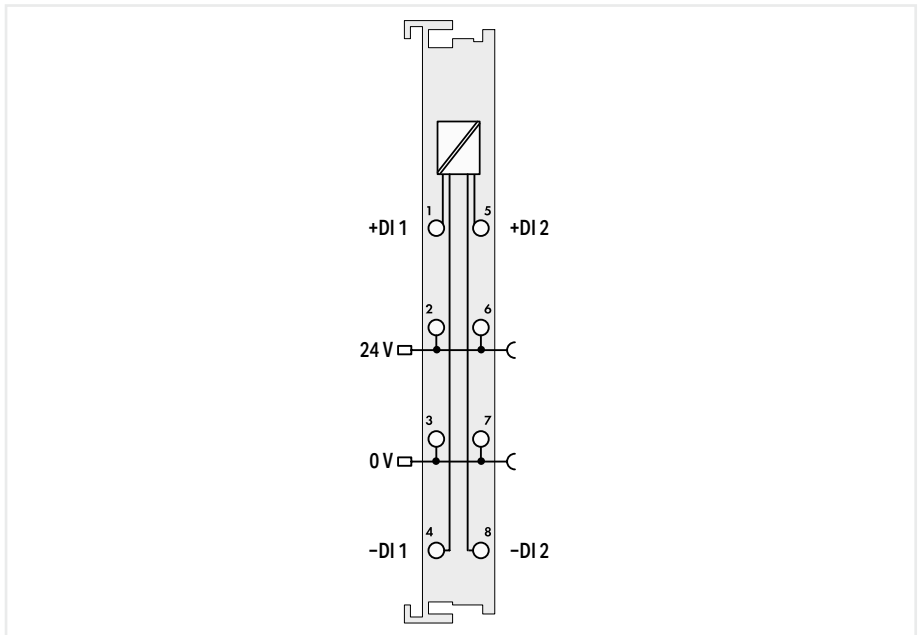
|   |   |  |
|---|---|--|
| Item description                                | <b>2 Up Counters; 16 bits</b>   |  |
| Version   | Standard  | pluggable (delivery without connector) |
| Item no.  | 750-404/000-005   | 753-404/000-005                        |
| Order Text                                      | 2Up Counter; 16bits   | 2Up Counter; 16bits                    |
| Technical data                                  |   |  |
| Pluggable connector                             | -   | pluggable                              |
| Number of digital outputs                       |   | 2                                      |
| Number of counters                              |   | 2                                      |
| Output current per channel                      |   | 0.5 A                                  |
| Output current                                  |   | short-circuit-protected                |
| Voltage range for signal (0)                    |   | -3 ... +5 VDC                          |
| Voltage range for signal (1)                    |   | 15 ... 30 VDC                          |
| Input current (typ.)                            |   | 5 mA                                   |
| Switching frequency (max.)                      |   | 5 kHz                                  |
| Counter depth                                   |   | 16 bits                                |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)         |   | 70 mA                                  |
| Data width                                      | 32-bit data; 8-bit control/status   |  |
| Isolation                                       | 500 V system/field  |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |  |
| For data sheet and additional information, see: | wago.com/750-404/000-005  | wago.com/753-404/000-005               |
| Accessories                                     | Item no.  | Item no.                               |
| Plug  | -   | 753-110                                |

This module features two 16-bit up counters. The count pulses are recorded at the CLOCK 1 and CLOCK 2 inputs.

## Counter ▶ 2 up/down counters



750-638

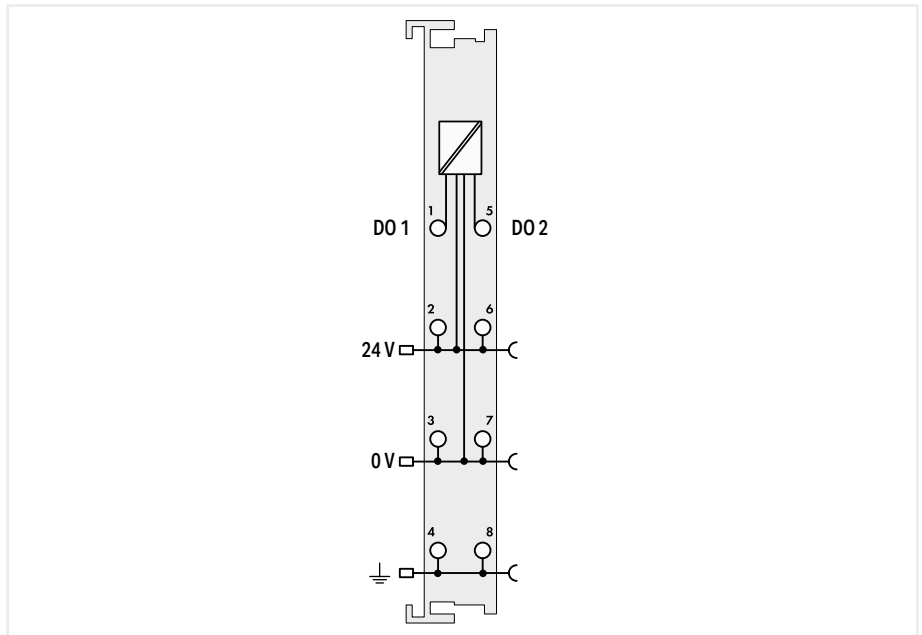


|   |   |                            |  |
|---|---|----------------------------|--|
| Item description                                | <b>2 Up/Down Counters; 16 bits; 500 Hz</b>  |                            |  |
| Version   | Standard  | ext. temperature           | pluggable (delivery without connector) |
| Item no.  | 750-638   | 750-638/025-000            | 753-638                                |
| Order Text                                      | 2Up/Down Counter; 16bits; 500Hz   | 2Up/Down Counter; 500Hz; T | 2Up/Down Counter; 16bits; 500Hz        |
| Technical data                                  |   |                            |  |
| Pluggable connector                             | -   |                            | pluggable                              |
| Number of counters                              | 2   |                            |  |
| Voltage range for signal (0)                    | -3 ... +5 VDC (per EN 61131 Type 1)   |                            |  |
| Voltage range for signal (1)                    | 15 ... 30 VDC (per EN 61131 Type 1)   |                            |  |
| Switching frequency (max.)                      | 500 Hz  |                            |  |
| Minimum pulse width (0, 1)                      | 1 ms  |                            |  |
| Counter depth                                   | 16 bits   |                            |  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                            |  |
| Current consumption (5 V system supply)         | 10 mA   |                            |  |
| Data width                                      | 2 x 16-bit data; 2 x 8-bit control/status   |                            |  |
| Isolation                                       | 500 V system/field  |                            |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  | -20 ... +60 °C             | 0 ... +55 °C                           |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |                            |  |
| Approvals                                       | CE,  OrdLoc/HazLoc;  ATEX/IECEx   |                            |  |
| For data sheet and additional information, see: | wago.com/750-638  |                            | wago.com/753-638                       |
| Accessories                                     | Item no.  | Item no.                   | Item no.                               |
| Plug  | -   | -                          | 753-110                                |

# Pulse width output

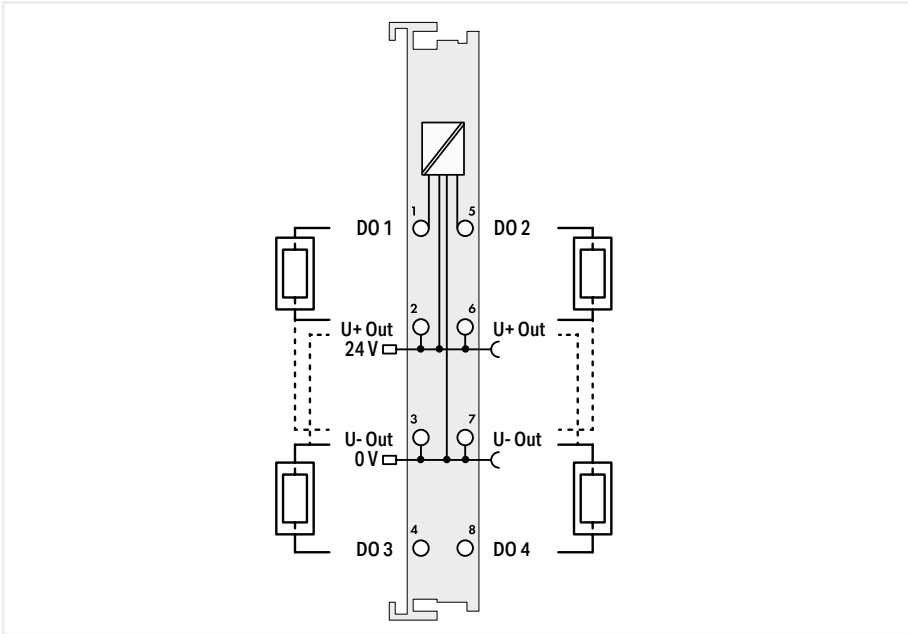


750-511



|   |   |  |   |                           |
|---|---|--|---|---------------------------|
| Item description                                | <b>2 Pulse Width Outputs; 24 VDC; 0.1 A; 250 Hz</b>   |  |   |                           |
| Version   | Standard  | pluggable (delivery without connector) | 2 kHz; Frequency counter                    | 100 Hz                    |
| Item no.  | 750-511   | 753-511                                | 750-511/000-001                             | 750-511/000-002           |
| Order Text                                      | 2PWM; 24 VDC; 0.1A; 250kHz  | 2PWM; 24 VDC; 0.1A; 250Hz              | 2PWM; 24 VDC; 0.1A; 2kHz; Frequency Counter | 2PWM; 24 VDC; 0.1A; 100Hz |
| Technical data                                  |   |  |   |                           |
| Pluggable connector                             | -   | pluggable                              | -   |                           |
| Number of digital outputs                       | 2   |  |   |                           |
| Load type                                       | Resistive, inductive  |  |   |                           |
| Pulse frequency                                 | 250 Hz  |  | 2 Hz ... 2 kHz                              | 100 Hz                    |
| Duty cycle                                      | 0 ... 100 %   |  | 50 %  | 0 ... 100 %               |
| Output current per channel                      | 0.1 A   |  |   |                           |
| Output current                                  | short-circuit-protected   |  |   |                           |
| Switching frequency (max.)                      | -   |  |   |                           |
| Resolution [bit]                                | 10 bits   |  |   |                           |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |   |                           |
| Current consumption (5 V system supply)         | 70 mA   |  |   |                           |
| Data width                                      | 2 x 16-bit data; 2 x 8-bit control/status   |  |   |                           |
| Operating mode                                  | -   |  |   |                           |
| Isolation                                       | 500 V system/field  |  |   |                           |
| Ambient temperature (operation)                 | 0 ... +55 °C  |  |   |                           |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |  |   |                           |
| Approvals                                       | CE;  OrdLoc/HazLoc;  ATEX/IECEx   |  |   |                           |
| Approvals (pending)                             | -   |  |   |                           |
| For data sheet and additional information, see: | wago.com/750-511  | wago.com/753-511                       | wago.com/750-511/000-001                    |                           |
| Accessories                                     | Item no.  | Item no.                               | Item no.                                    | Item no.                  |
| Plug  | -   | 753-110                                | -   | -                         |





**4-Channel Pulse Width Outputs; 24 VDC; 0.2 A; 20 kHz**

Standard

750-677

4PWM; 24 VDC; 0.2A; 20kHz

|  |
|--|
| -  |
| 4  |
| -  |
| 0 ... 20,000 Hz; integer   |
| 0 ... 100 %; 11-bit resolution   |
| 0.2 A  |
| short-circuit-protected; 0.4 A, short-circuit-protected in bridge mode   |
| 20 kHz   |
| -  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)        |
| 85 mA  |
| 4 x 16-bit data; 4 x 8-bit control/status  |
| 1: PWM DC (variable duty cycle); 2: PWM Frq (variable frequency); 3: PWM Frq - Cnt; 4: Pulse Frq - Cnt; 5: PWM Pulse - Dir |
| 500 V system/field   |
| 0 ... +55 °C   |
| (12 x 100 x 67.8) mm   |
| CE   |
| Marine; OrdLoc/HazLoc  |
| wago.com/750-677   |

**Item no.**

-

This module outputs separately adjustable PWM signals at four channels. The channels can be individually configured as LSS (low-side switching) or HSS (high-side switching) and are short-circuit protected. The PWM signals are each 16 bits wide.

The module supports five operating modes. In both "PWM DC" and "PWM Frq" operating modes, all four channels may be used independently. The bridge mode can also be activated if the same operating mode is set on each channel pair (1 and 2 or 3 and 4). Both channels work synchronously and can be connected in parallel. In the other three complex operating modes, two channels functionally correlate with each other.

The first channel outputs the PWM signal and the second channel a static signal ("0" or "1").

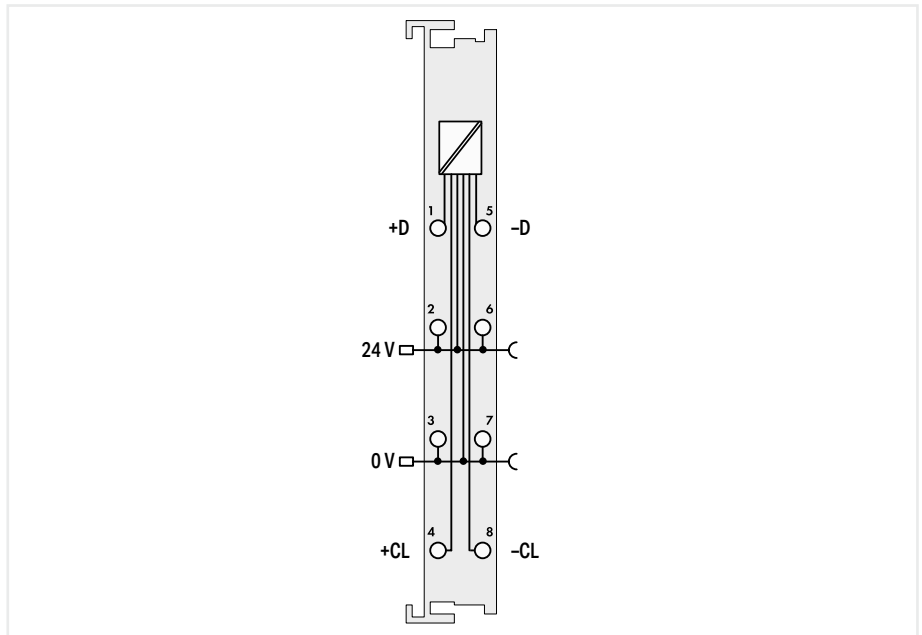
Refer to the manual ("Operating Modes" section) for all setting options and the bit signification in the process image.

The "PWM DC" operating mode is set by default.

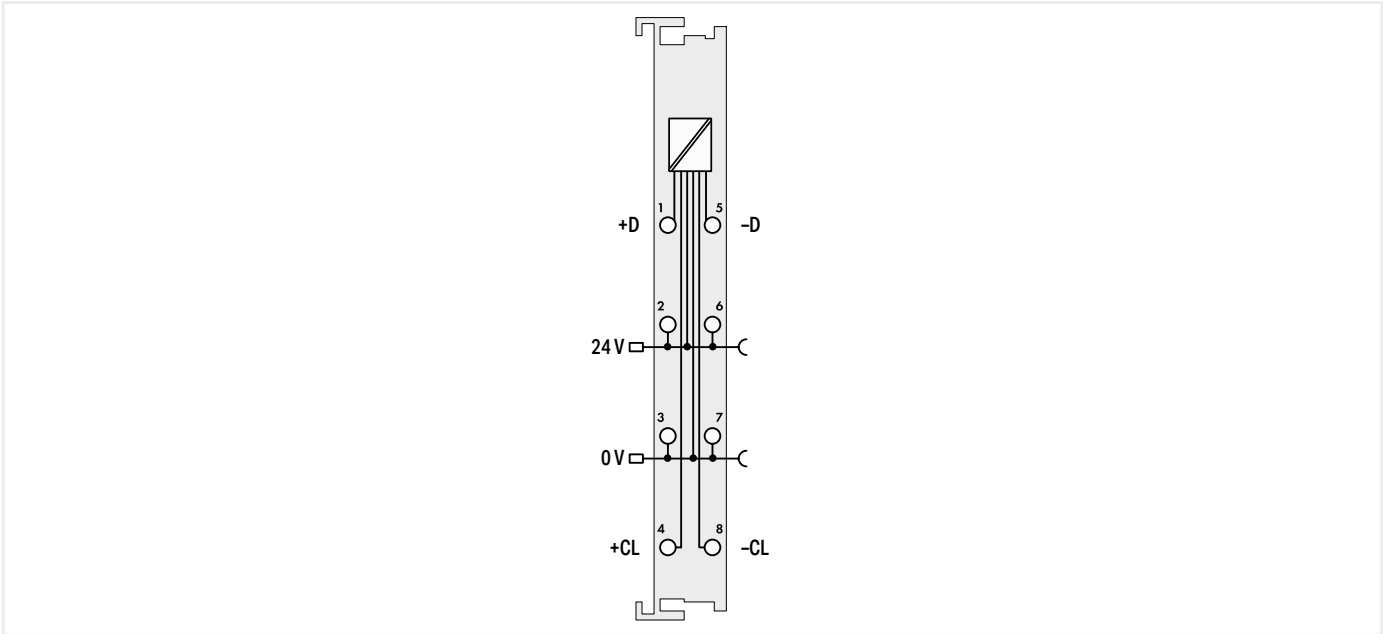
## Distance and angle measurement ► SSI transmitter interface



750-630/003-000



| Item description                                |   | SSI Transmitter Interface                       |   |   |                                     |
|---|---|---|---|---|-------------------------------------|
| Version   | adjustable  | 24 bits; 125 kHz; gray code                     | 24 bits; 125 kHz; gray code; status byte    | 15 bits; 125 kHz; gray code; status byte    | 24 bits; 250 kHz; gray code         |
| Item no.  | 750-630/003-000   | 750-630   | 750-630/000-004                             | 750-630/000-005                             | 750-630/000-006                     |
| Order Text                                      | SSI Interface; adjust   | SSI Interface; 24bits; 125kHz; Gray             | SSI Interface; 24bits; 125kHz; Gray; Status | SSI Interface; 15bits; 125kHz; Gray; Status | SSI Interface; 24bits; 250kHz; Gray |
| Technical data                                  |   |   |   |   |                                     |
| Encoder connection                              | On + D, -D / Off + CL, - CL   |   |   |   |                                     |
| Supply voltage (encoder)                        | 24 VDC; via power jumper contacts   |   |   |   |                                     |
| Data transmission rate                          | 250 kHz   | 125 kHz   |   | 250 kHz                                     |                                     |
| Serial input                                    | Data width: 1 ... 32 bits   | Data width: 24 bits                             |   | Data width: 15 bits                         | Data width: 24 bits                 |
| Code  | Gray code/binary code   | Gray code                                       |   |   |                                     |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |   |   |   |                                     |
| Current consumption (5 V system supply)         | 20 mA   |   |   |   |                                     |
| Data width                                      | 1 x 32 bits   | 1 x 32-bit; 1 x 8-bit control/status (optional) |   |   | 1 x 32 bits                         |
| Isolation                                       | 500 V system/field  |   |   |   |                                     |
| Ambient temperature (operation)                 | 0 ... +55 °C  |   |   |   |                                     |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |   |   |   |                                     |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |   |   |   |                                     |
| For data sheet and additional information, see: | wago.com/750-630/003-000  |   |   |   |                                     |



**SSI Transmitter Interface**

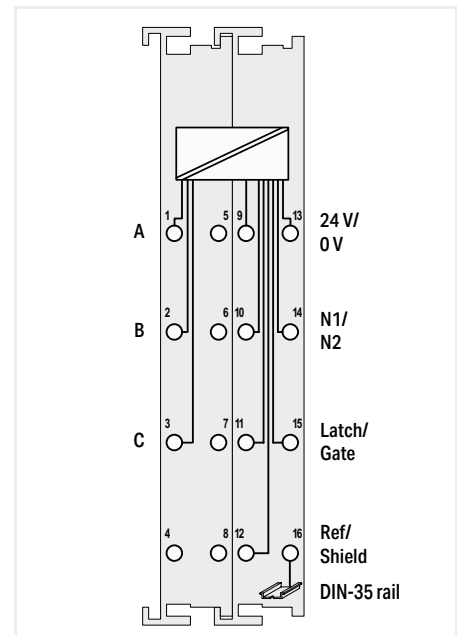
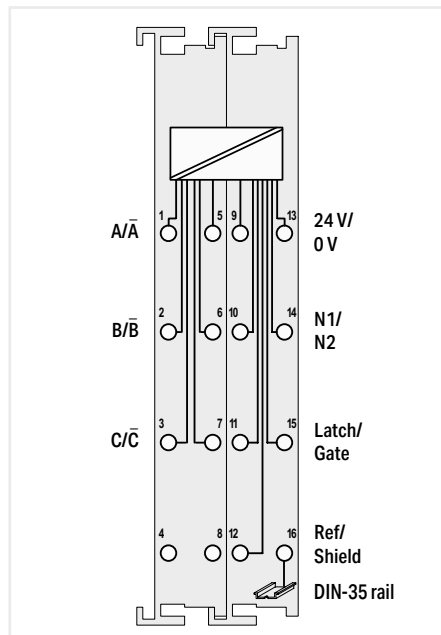
|                                     |                                     |                                    |                                    |                                    |                                    |                                    |
|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 25 bits; 125 kHz; gray code         | 13 bits; 125 kHz; gray code         | 24 bits; 125 kHz; bin. code        | 25 bits; 125 kHz; bin. code        | 29 bits; 125 kHz; bin. code        | 24 bits; 250 kHz; bin. code        | 13 bits; 250 kHz; bin. code        |
| 750-630/000-008                     | 750-630/000-012                     | 750-630/000-001                    | 750-630/000-011                    | 750-630/000-013                    | 750-630/000-002                    | 750-630/000-009                    |
| SSI Interface; 25bits; 125kHz; Gray | SSI Interface; 13bits; 125kHz; Gray | SSI Interface; 24bits; 125kHz; Bin | SSI Interface; 25bits; 125kHz; Bin | SSI Interface; 29bits; 125kHz; Bin | SSI Interface; 24bits; 250kHz; Bin | SSI Interface; 13bits; 250kHz; Bin |

|   |                     |                     |                     |                     |                     |                     |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| On + D, -D / Off + CL, - CL   |                     |                     |                     |                     |                     |                     |
| 24 VDC; via power jumper contacts   |                     |                     |                     |                     |                     |                     |
| 125 kHz   |                     |                     | 250 kHz             |                     |                     |                     |
| Data width: 25 bits   | Data width: 13 bits | Data width: 24 bits | Data width: 25 bits | Data width: 29 bits | Data width: 24 bits | Data width: 13 bits |
| Gray code   |                     | Binary code         |                     |                     |                     |                     |
| 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                     |                     |                     |                     |                     |                     |
| 20 mA   |                     |                     |                     |                     |                     |                     |
| 1 x 32 bits   |                     |                     |                     |                     |                     |                     |
| 500 V system/field  |                     |                     |                     |                     |                     |                     |
| 0 ... +55 °C  |                     |                     |                     |                     |                     |                     |
| (12 x 100 x 69.8) mm  |                     |                     |                     |                     |                     |                     |
| CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEX<br>wago.com/750-630/003-000  |                     |                     |                     |                     |                     |                     |

## Distance and angle measurement ► Incremental encoder interface



750-637/000-001



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

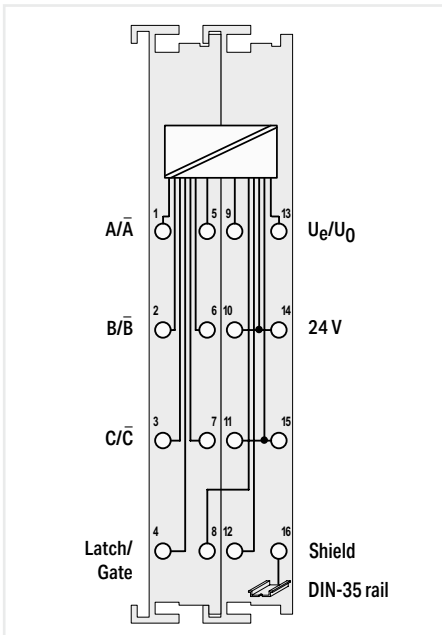
|   |
|---|
| <b>Incremental Encoder Interface; 24 VDC; Differential input; 32 bits</b> |
| <b>Standard</b>   |
| 750-637/000-001   |
| Inc. Encoder; 24 VDC; Diff; 32bits  |

|   |
|---|
| <b>Incremental Encoder Interface; 24 VDC; Single-ended; 32 bits</b> |
| <b>Standard</b>   |
| 750-637/000-002   |
| Inc. Encoder; 24 VDC; SE; 32bits                                    |
| <b>Cam output</b>   |
| 750-637/000-004   |
| Inc. Encoder; 24 VDC; SE; 32bits; Cam                               |

|  |
|--|
| Technical data   |
| Encoder connection   |
| Counter depth  |
| Limit frequency  |
| Quadrature decoder   |
| Zero impulse (latch)   |
| Commands   |
| Supply voltage (encoder)   |
| Supply current (encoder) max.                                    |
| Output voltage   |
| Output current per channel                                       |
| Output current   |
| Voltage range for signal (0)                                     |
| Voltage range for signal (1)                                     |
| Input current (typ.)   |
| Current consumption, field supply (module with no external load) |
| Current consumption (5 V system supply)                          |
| Data width   |
| Isolation  |
| Ambient temperature (operation)                                  |
| Dimensions W x H x D   |
| Approvals  |
| For data sheet and additional information, see:                  |

|  |
|--|
| A; /A; B; /B; C; /C (differential inputs)                                  |
| 32 bits  |
| 250 kHz  |
| 4x evaluation  |
| 32 bits  |
| Reading, setting, activating   |
| 24 VDC   |
| 300 mA   |
| 24 VDC   |
| 0.5 A  |
| short-circuit-protected  |
| ( $U_{ABC} - U_{ABC}$ ): -30 ... +15 VDC; Latch, gate, ref.: -3 ... +5 VDC |
| ( $U_{ABC} - U_{ABC}$ ): 15 ... 30 VDC; Latch, gate, ref.: 15 ... 30 VDC   |
| Latch 5 mA, Gate 7 mA, Ref. 7 mA   |
| 35 mA  |
| 110 mA   |
| 1 x 32-bit data 2 x 8-bit control/status                                   |
| 500 V system/field   |
| 0 ... +55 °C   |
| (24 x 100 x 69.8) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                                      |
| wago.com/750-637/000-001   |

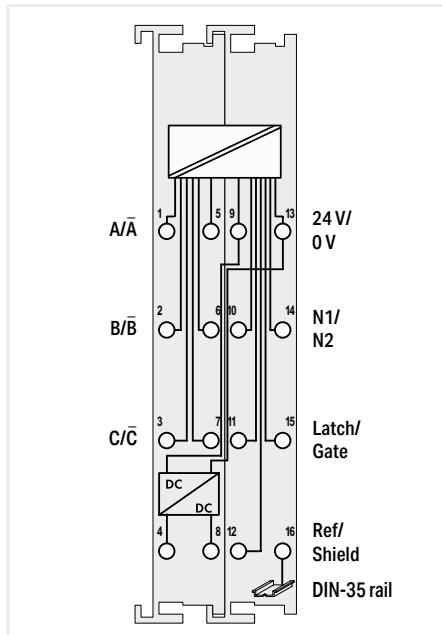
|  |
|--|
| A; B; C (single-ended inputs)            |
| 32 bits                                  |
| 250 kHz                                  |
| 4x evaluation                            |
| 32 bits                                  |
| Reading, setting, activating             |
| 24 VDC                                   |
| 300 mA                                   |
| 24 VDC                                   |
| 0.5 A                                    |
| short-circuit-protected                  |
| -3 ... +5 VDC                            |
| 15 ... 30 VDC                            |
| Latch 5 mA, Gate 7 mA, Ref. 7 mA         |
| 35 mA                                    |
| 110 mA                                   |
| 1 x 32-bit data 2 x 8-bit control/status |
| 500 V system/field                       |
| 0 ... +55 °C                             |
| (24 x 100 x 69.8) mm                     |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx    |
| wago.com/750-637/000-001                 |



**Incremental Encoder Interface; RS-422; 16 bits**

|                     |
|---------------------|
| <b>Standard</b>     |
| 750-631/000-004     |
| Inc. Encoder; RS422 |

|   |
|---|
| A; /A; B; /B; C; /C (RS-422 inputs)   |
| 16 bits   |
| 1000 kHz  |
| 4x evaluation   |
| 16 bits   |
| Reading, setting, activating  |
| 5 VDC   |
| 200 mA  |
| -   |
| -   |
| -   |
| $U_{ABC} = 0\text{ V}, U_{ABC/} = 5\text{ V}; \text{Latch, gate} \leq 5.0\text{ V}; \text{External error } U \geq 5.0\text{ V or open input}$ |
| [ERROR READING XHTML FRAGMENT]  |
| -   |
| 10 mA   |
| 50 mA   |
| 2-byte output; 5-byte input; 2x 8-bit control/status (optional); 3 additional output bytes (reserved)   |
| 500 V system/field  |
| 0 ... +55 °C  |
| (24 x 100 x 69.8) mm  |
| CE; Marine; OrdLoc/HazLoc   |
| wago.com/750-631/000-004  |



**Incremental Encoder Interface; RS-422; 32 bits**

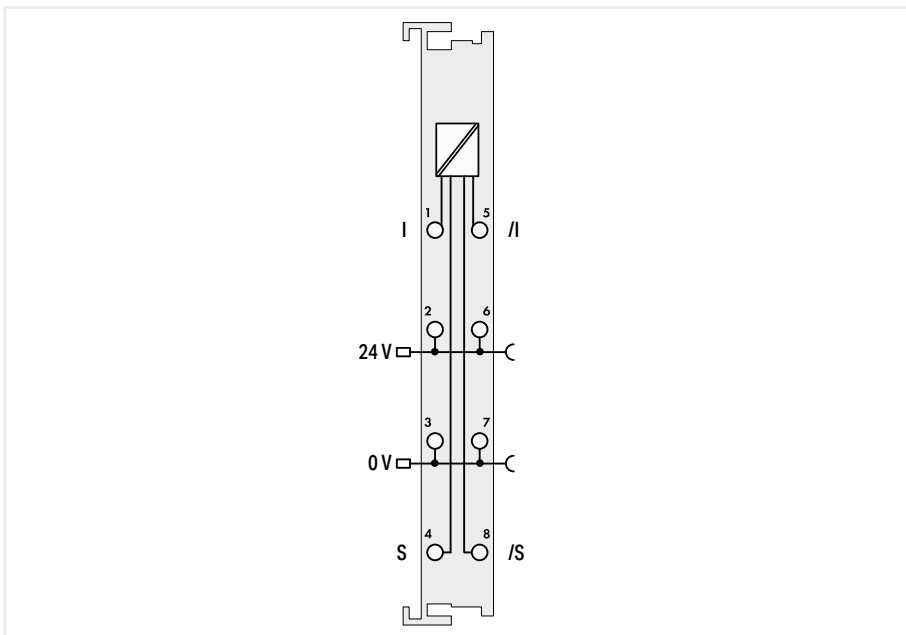
|                             |   |
|-----------------------------|---|
| <b>Standard</b>             | <b>Single evaluation</b>                    |
| 750-637                     | 750-637/000-003                             |
| Inc. Encoder; RS422; 32bits | Inc. Encoder; RS422; 32bits; Single Interp. |

|  |           |
|--|-----------|
| A; /A; B; /B; C; /C (RS-422 inputs)  |           |
| 32 bits  |           |
| 250 kHz  |           |
| 4x evaluation  | 1x report |
| 32 bits  |           |
| Reading, setting, activating   |           |
| 5 VDC  |           |
| 300 mA   |           |
| 24 VDC   |           |
| 0.5 A  |           |
| short-circuit-protected  |           |
| $U_{ABC} = \text{RS-422}; \text{Latch, gate, ref.: } -3 \dots +5\text{ VDC}$ |           |
| $U_{ABC} = \text{RS-422}; \text{Latch, gate, ref.: } 15 \dots 30\text{ VDC}$ |           |
| Latch 5 mA, Gate 7 mA, Ref. 7 mA   |           |
| 35 mA  |           |
| 110 mA   |           |
| 1 x 32-bit data 2 x 8-bit control/status                                     |           |
| 500 V system/field   |           |
| 0 ... +55 °C   |           |
| (24 x 100 x 69.8) mm   |           |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |           |
| wago.com/750-637   |           |

## Distance and angle measurement ► Digital impulse interface



750-635



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                  |  |
|----------------------------------|--|
| <b>Digital Impulse Interface</b> |  |
| Standard                         | pluggable (delivery without connector) |
| 750-635                          | 753-635                                |
| Digital Impulse Interface        | Digital Impulse Interface              |

|   |   |
|---|---|
| Technical data                                    |   |
| Pluggable connector                               | -   |
| Encoder connection                                | Start/stop; initialization; Uv; ground; shield connection via encoder housing                                       |
| Number of inputs                                  | 1   |
| Resolution  | 1 µm  |
| Update time (update rate)                         | 2 ms  |
| Position sensor length                            | 4 m   |
| Connection requirement (permissible cable type)   | RS-422  |
| Connection requirement (permissible cable length) | 500 m   |
| Supply voltage (field)                            | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)           | 45 mA   |
| Data width  | 1 x 24-bit data 1 x 8-bit control/status  |
| Isolation   | 500 V system/field  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE; Ⓢ- OrdLoc/HazLoc; Ⓢ ATEX/IECEx  |
| For data sheet and additional information, see:   | wago.com/750-635  |

|   |                  |
|---|------------------|
| pluggable   |                  |
| Start/stop; initialization; Uv; ground; shield connection via encoder housing                                       |                  |
| 1   |                  |
| 1 µm  |                  |
| 2 ms  |                  |
| 4 m   |                  |
| RS-422  |                  |
| 500 m   |                  |
| 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                  |
| 45 mA   |                  |
| 1 x 24-bit data 1 x 8-bit control/status  |                  |
| 500 V system/field  |                  |
| 0 ... +55 °C  |                  |
| (12 x 100 x 69.8) mm  |                  |
| CE; Ⓢ- OrdLoc/HazLoc; Ⓢ ATEX/IECEx  |                  |
| wago.com/750-635  | wago.com/753-635 |

|                    |
|--------------------|
| <b>Accessories</b> |
| Plug               |

|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-110  |

This digital impulse interface connects position sensors equipped with a start/stop interface. After receiving a read pulse, these sensors deliver a time-delayed reply impulse. The time delay is proportional to the sensor distance. Each sensor may have up to four position transmitters (permanent magnets). Their position data can be accessed serially by the controller and are stored in the process image of the fieldbus coupler as a 24-bit value. Position sensors with the following features can be used:

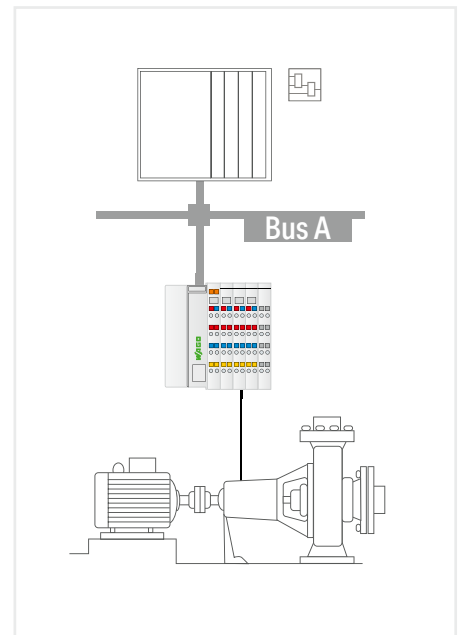
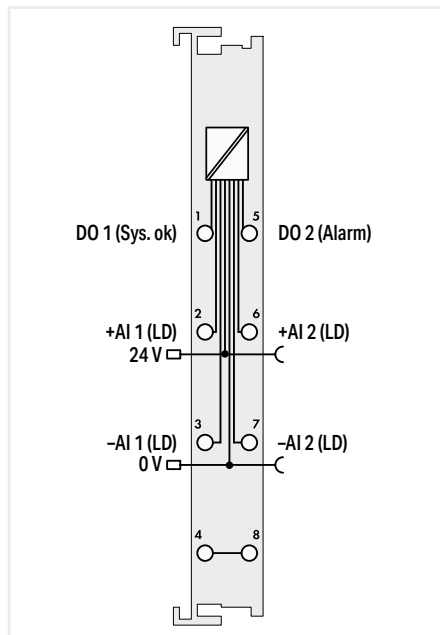
- Start/stop interface with RS-422 differential signals
- 24 V sensor supply

Manufacturer, e.g., Balluff

## Vibration monitoring



750-645



|   |   |
|---|---|
| Item description                                | <b>2-Channel Vibration Velocity/Bearing Condition Monitoring VIB I/O Module</b>                                     |
| Version   | <b>Standard</b>   |
| Item no.  | <b>750-645</b>  |
| Order Text                                      | <b>2VIB VRMS/SPM Multi</b>  |
| <b>Technical data</b>                           |   |
| Encoder connection                              | +AI1, -AI1, +AI2, -AI2  |
| Number of inputs                                | 2   |
| Number of digital outputs                       | 2   |
| Output voltage                                  | 24 VDC  |
| Output current per channel                      | 0.5 A   |
| Output current                                  | short-circuit-protected   |
| Device-specific                                 | Both alarm and warning threshold can be set via process image and engineering software.                             |
| Oscillating velocity (RMS)                      | 0 ... 100 mm/s  |
| Shock impulse (SPM)                             | -10 ... +80 db <sub>SV</sub>  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 30 mA   |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE,  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-645  |

This module is used for online monitoring of machine vibration levels. It records the two most important parameters required for status monitoring: vibration severity and roller bearing condition.

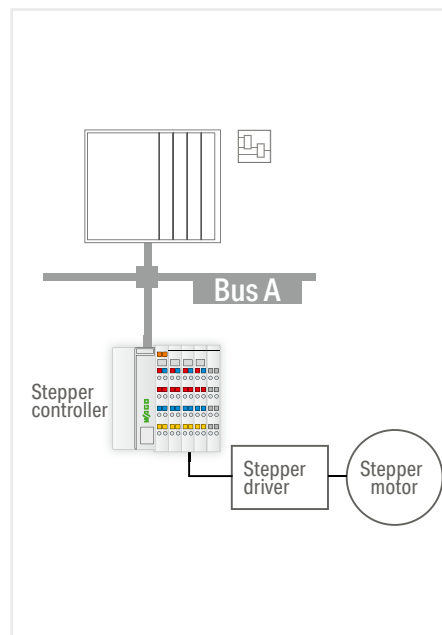
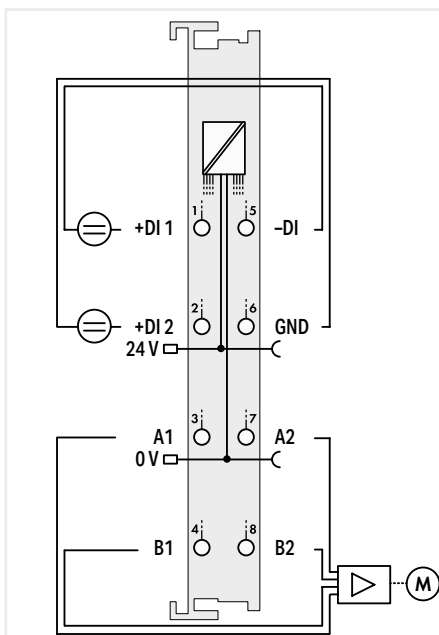
Vibration velocity is a measurement for machines' energy and therefore, a suitable indicator for the vibration forces acting on the machine.

Roller bearing condition is evaluated on the basis of high-frequency shock impulse signals. Shock impulses are momentary impulses arising from mechanical damage to roller bearings or the bearing surfaces. By recording the measurement results and evaluation in a trend curve, bearing damage can be detected at an early stage. A special Tandem-Piezo® acceleration sensor serves as encoder to facilitate simultaneous measurement of machine vibrations and high-frequency shock impulse signals.

## Stepper module ▶ Stepper controller



750-670



|   |   |
|---|---|
| Item description                                | <b>Stepper Controller; RS-422/24 VDC; 20 mA</b>   |
| Version   | <b>Standard</b>   |
| Item no.  | <b>750-670</b>  |
| Order Text                                      | <b>Stepper Controller; RS422/24 VDC; 20mA</b>   |
| Technical data                                  |   |
| Number of outputs                               | 1 channel (2 differential outputs A1, A2, B1, B2)   |
| Signal voltage                                  | 5 VDC (internal), 5 ... 24 VDC (external)   |
| Resolution                                      | 15 bits + 16 bit prescaler  |
| Stepper resolution                              | 23 bits + sign bit  |
| Load type                                       | RS-422, TTL, optocoupler  |
| Output current per channel                      | 0.03 A  |
| Output current                                  | short-circuit-protected   |
| Number of digital inputs                        | 2   |
| Voltage range for signal (0)                    | -3 ... +5 VDC   |
| Voltage range for signal (1)                    | 15 ... 30 VDC   |
| Input filter                                    | 100 µs, software filter can be connected  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 98 mA   |
| Data width                                      | 12-byte input/output  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE, OrdLoc/HazLoc, ATEX/IECEx   |
| For data sheet and additional information, see: | wago.com/750-670  |

This stepper controller is used to control different drive power sections with pulse/direction interface or incremental encoder input.

The 64 times microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for start/stop, limit switches, reference cams, jog/tip, etc., are directly processed by the internal software without delay.

Versatile functions, such as positioning with different acceleration ramps, command tables, cam switch, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

Operating modes:

- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

Additional operating modes:

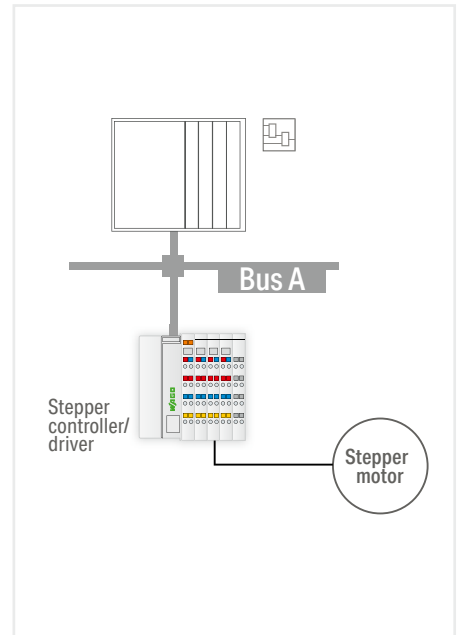
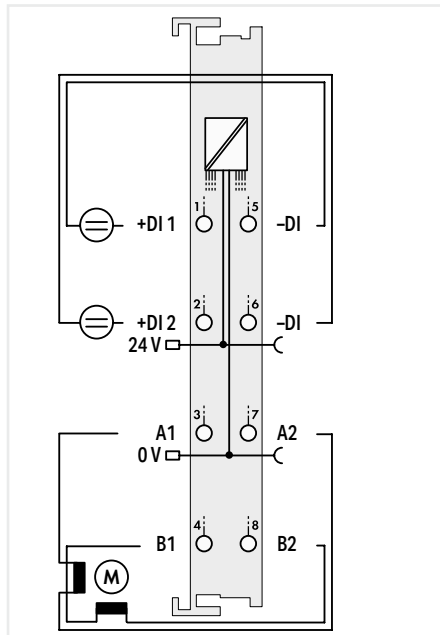
- Pulse width modulation
- Frequency generator
- Single-shot mode



# Stepper module ▶ Stepper controller



750-671



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| <b>Stepper Controller; 24 VDC; 1.5 A</b> |
| <b>Standard</b>                          |
| <b>750-671</b>                           |
| <b>Stepper Controller; 24 VDC; 1.5A</b>  |

|   |   |
|---|---|
| Technical data                          |   |
| Number of outputs                       | 1 stepper motor (2 phases/bipolar)  |
| Output current (max.) (motor)           | Up to 2 x 1.5 A peak value; 1 A rms   |
| Stepper frequency (full-step) max.      | 7812 Hz   |
| Resolution                              | 15 bits + 16 bit prescaler  |
| Stepper resolution                      | 23 bits + sign bit  |
| Number of digital inputs                | 2   |
| Voltage range for signal (0)            | -3 ... +5 VDC   |
| Voltage range for signal (1)            | 15 ... 30 VDC   |
| Input filter                            | 100 µs, software filter can be connected  |
| Supply voltage (field)                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply) | 85 mA   |
| Data width                              | 12-byte input/output  |
| Isolation                               | 500 V system/field  |
| Ambient temperature (operation)         | 0 ... +55 °C  |
| Dimensions W x H x D                    | (12 x 100 x 67.8) mm  |
| Approvals                               | CE; ATEX/IECEX  |

|   |  |
|---|--|
| Operating modes:  |  |
| <ul style="list-style-type: none"> <li>• Step positioning</li> <li>• Reference motion</li> <li>• Jog</li> <li>• Tip</li> <li>• Command table</li> <li>• Cam switch</li> </ul> |  |
| Functions include:  |  |
| <ul style="list-style-type: none"> <li>• Absolute/relative positioning</li> <li>• Setpoint change on the fly</li> <li>• Rotary axis</li> </ul>                                |  |

This stepper controller has an on-board power driver designed to control 2-phase stepper motors up to 24 V/1.5 A.

The 64 times microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for start/stop, limit switches, reference cams, jog/tip, etc., are directly processed by the internal software without delay.

Versatile functions, such as positioning with different acceleration ramps, command tables, cam switch, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

Operating modes:

- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

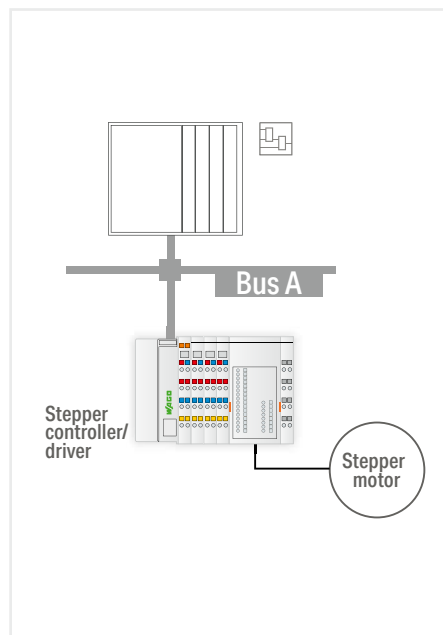
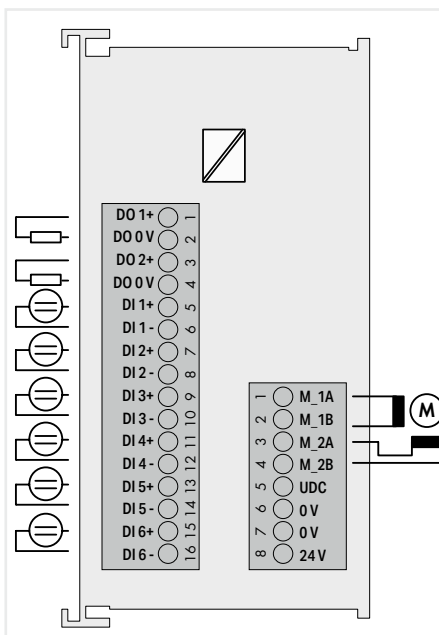
For data sheet and additional information, see:

wago.com/750-671

## Stepper module ▶ Stepper controller



750-672



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| <b>Stepper Controller; 70 VDC; 7.5 A</b> |
| <b>Standard</b>                          |
| <b>750-672</b>                           |
| <b>Stepper Controller; 70 VDC; 7.5A</b>  |

|                                    |
|------------------------------------|
| Technical data                     |
| Number of motor outputs            |
| Supply voltage (motor)             |
| Output current (max.) (motor)      |
| Stepper frequency (full-step) max. |
| Resolution                         |
| Stepper resolution                 |
| Load type                          |
| Number of digital outputs          |
| Output voltage                     |

|  |
|--|
| 1 stepper motor (2 phases)   |
| 55 VDC; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V   |
| 2 x 5.0 A (2 x 7.5 A transient)  |
| 7812 Hz  |
| 15 bits + 16 bit prescaler; 64 microsteps per full step  |
| 23 bits + sign bit   |
| Resistive load, inductive load (max. 2 H), lamps   |
| 2  |
| <b>Control voltage:</b> 24 VDC (-25 % ... +30 %); Closed current: 120 mA + 2 x 0.5 A (DO1, DO2, load-dependent);   |
| <b>Motor voltage:</b> 55 VDC nominal value; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V; Closed current (typ.) = 5 mA; Protection via external fuse 5 A |

|   |
|---|
| Output current per channel              |
| Output current                          |
| Switching frequency (max.)              |
| Voltage range for signal (0)            |
| Voltage range for signal (1)            |
| Input filter                            |
| Current consumption (5 V system supply) |
| Data width                              |
| Isolation                               |
| Ambient temperature (operation)         |
| Dimensions W x H x D                    |
| Approvals                               |

|   |
|---|
| 0.5 A                                       |
| short-circuit-protected                     |
| 5 Hz; Inductive load per IEC 947-5-1, DC 13 |
| -3 ... +5 VDC                               |
| 15 ... 30 VDC                               |
| 100 µs, software filter can be connected    |
| 70 mA                                       |
| 12-byte input/output                        |
| 500 V system/field                          |
| 0 ... +55 °C                                |
| (48 x 100 x 69.8) mm                        |
| CE; UL 61800-5-1                            |

For data sheet and additional information, see:

wago.com/750-672

This stepper controller has an on-board power driver designed to control 2-phase stepper motors. The 64 times microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

Inputs:

- Start/stop
- Limit switch (positive and negative direction)
- Reference cam
- Jog/tip (positive and negative direction)

Outputs (default setting):

- Target reached
- Error

Operating modes:

- Single positioning with different acceleration ramps
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

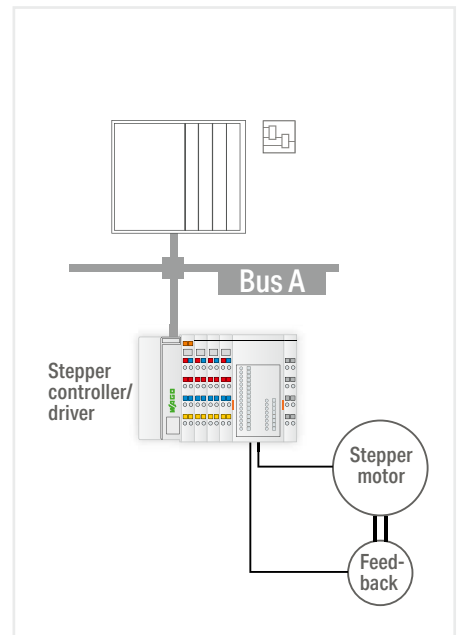
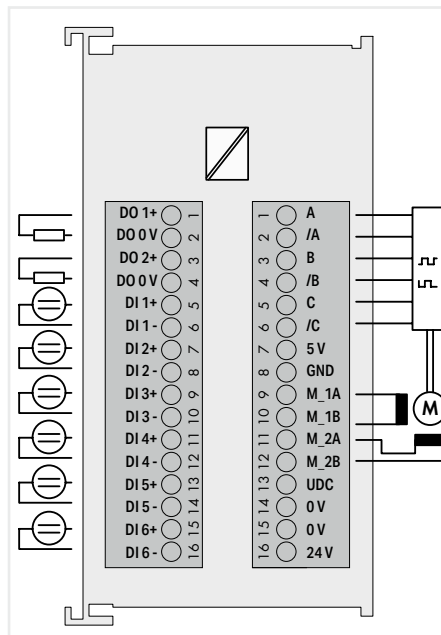
Protection

- Short circuit monitoring of motor connections: Winding short circuit and short circuit to 0 V and 24 V
- 24 V supply: reverse voltage protection
- Motor supply: reverse voltage protection via external fuse

## Stepper module ▶ Servo stepper controller



750-673



|   |  |
|---|--|
| Item description                                |  |
| Version   |  |
| Item no.  |  |
| Order Text                                      |  |
|   |  |
| Technical data                                  |  |
| Number of motor outputs                         |  |
| Supply voltage (motor)                          |  |
| Output current (max.) (motor)                   |  |
| Stepper frequency (full-step) max.              |  |
| Signal voltage                                  |  |
| Resolution                                      |  |
| Stepper resolution                              |  |
| Load type                                       |  |
| Number of digital outputs                       |  |
| Output voltage                                  |  |
| Output current per channel                      |  |
| Output current                                  |  |
| Switching frequency (max.)                      |  |
| Voltage range for signal (0)                    |  |
| Voltage range for signal (1)                    |  |
| Input filter                                    |  |
| Encoder connection                              |  |
| Encoder frequency                               |  |
| Sensor supply                                   |  |
| Quadrature decoder                              |  |
| Counter depth                                   |  |
| Current consumption (5 V system supply)         |  |
| Data width                                      |  |
| Isolation                                       |  |
| Ambient temperature (operation)                 |  |
| Dimensions W x H x D                            |  |
| Approvals                                       |  |
| For data sheet and additional information, see: |  |

|  |  |
|--|--|
| <b>Servo Stepper Controller; 55 VDC; 7.5 A</b>   |  |
| <b>Standard</b>  |  |
| <b>750-673</b>   |  |
| <b>Servo Stepper Controller; 55 VDC; 7.5A</b>  |  |
|  |  |
| 1 stepper motor (2 phases)   |  |
| 55 VDC; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V   |  |
| 2 x 5.0 A (2 x 7.5 A transient)  |  |
| 7812 Hz  |  |
| Compatible with RS-485/-422, common GND with motor voltage and control voltage   |  |
| 15 bits + 16 bit prescaler; 64 microsteps per full step  |  |
| 23 bits + sign bit   |  |
| Resistive load, inductive load (max. 2 H), lamps   |  |
| 2  |  |
| <b>Control voltage:</b> 24 VDC (-25 % ... +30 %); Closed current: 120 mA + 2 x 0.5 A (DO1, DO2, load-dependent) + approx. 100 mA (encoder); <b>Motor voltage:</b> 55 VDC nominal value; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V; Closed current (typ.) = 5 mA; Protection via external fuse 5 A |  |
| 0.5 A  |  |
| short-circuit-protected  |  |
| 5 Hz; Inductive load per IEC 947-5-1, DC 13  |  |
| -3 ... +5 VDC  |  |
| 15 ... 30 VDC  |  |
| 100 µs, software filter can be connected   |  |
| A, /A, B, /B, C, /C  |  |
| 1 MHz  |  |
| 5 VDC, 300 mA, short-circuit-protected   |  |
| 4x evaluation  |  |
| 32 bits  |  |
| 70 mA  |  |
| 12-byte input/output   |  |
| 500 V system/field   |  |
| 0 ... +55 °C   |  |
| (48 x 100 x 69.8) mm   |  |
| CE; UL 61800-5-1   |  |
| wago.com/750-673   |  |

This servo stepper controller has an on-board power driver and an incremental encoder evaluation for controlling 2-phase stepper motors. The 64 times microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Together with the incremental encoder, the integrated vector control contributes to efficient, dynamic rotation speed characteristics. Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

## Inputs:

- Start/stop
- Limit switch (positive and negative direction)
- Reference cam
- Jog/tip (positive and negative direction)

## Outputs (default setting):

- Target reached
- Error

## Operating modes:

- Single positioning with different acceleration ramps
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

## Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

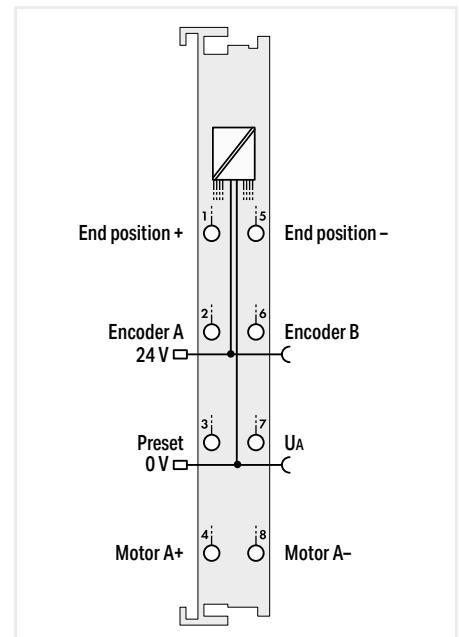
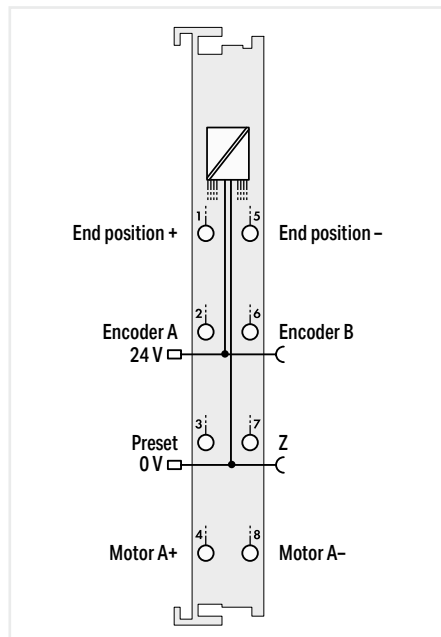
## Protection

- Short circuit monitoring of motor connections: Winding short circuit and short circuit to 0 V and 24 V
- 24 V supply: reverse voltage protection
- Motor supply: reverse voltage protection via external fuse

## DC drive controller



750-636



| Item description                                | DC Drive Controller; 24 VDC; 5 A  |                                    | DC Drive Controller; 24 VDC; 5 A; External motor voltage  |  |
|---|---|------------------------------------|---|--|
| Version   | Standard  | ext. temperature                   | Separate motor power supply   | Separate motor power supply; interference-free |
| Item no.  | 750-636   | 750-636/025-000                    | 750-636/000-700   | 750-636/000-800                                |
| Order Text                                      | DC-Drive Controller; 24 VDC; 5A   | DC-Drive Controller; 24 VDC; 5A; T | DC-Drive Controller; 24 VDC; 5A; UA   | DC-Drive Controller; 24 VDC; 5A; IF            |
| Technical data                                  |   |                                    |   |  |
| Number of outputs                               | 1 (A+; A-; H-bridge output)   |                                    | 1 (A+; A-; H-bridge output)   |  |
| Supply voltage (motor)                          | 24 VDC (-20 ... +15 %)  |                                    | 24 VDC (-20 ... +15 %); Separate motor voltage: 24 VDC (-20 ... +30 %)  |  |
| Output current (max.) (motor)                   | 5 A (15 A / 500 ms), short-circuit-protected  |                                    | 5 A (15 A / 500 ms), short-circuit-protected  |  |
| PWM frequency (typ.)                            | 20 kHz  |                                    | 20 kHz  |  |
| Number of digital inputs                        | 3   |                                    | 3   |  |
| Input characteristic                            | Type 1  |                                    | Type 1  |  |
| Input characteristic                            | high-side switching   |                                    | high-side switching   |  |
| Voltage range for signal (0)                    | -3 ... +1.5 VDC   |                                    | -3 ... +1.5 VDC   |  |
| Voltage range for signal (1)                    | 2.4 ... 30 VDC  |                                    | 2.4 ... 30 VDC  |  |
| Encoder connection                              | A, B, zero low-side switching; 5 ... 24 VDC / open collector  |                                    | A, B, zero low-side switching; 5 ... 24 VDC / open collector  |  |
| Quadrature decoder                              | 1x, 2x, 4x evaluation   |                                    | 1x, 2x, 4x evaluation   |  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                                    | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)         | 55 mA   |                                    | 55 mA   |  |
| Data width                                      | 32-bit set/actual value; 16-bit control or status   |                                    | 32-bit set/actual value; 16-bit control or status   |  |
| Isolation                                       | 500 V system/field  |                                    | 500 V system/field  |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  | -20 ... +60 °C                     | 0 ... +55 °C  | 0 ... +55 °C                                   |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |                                    | (12 x 100 x 67.8) mm  |  |
| Approvals                                       | CE  |                                    | CE  |  |
| For data sheet and additional information, see: | wago.com/750-636  |                                    | wago.com/750-636  |  |

This DC drive controller is a single-channel, intelligent positioning controller for 24 VDC motors up to 5 A with incremental position feedback. Three 24 V inputs record the limit switches and a preset signal. An incremental encoder interface evaluates signals from the position sensor and determines the actual value. Current reduction is possible via pulse width modulation (PWM).

As an option, the motor voltage can be supplied separately.

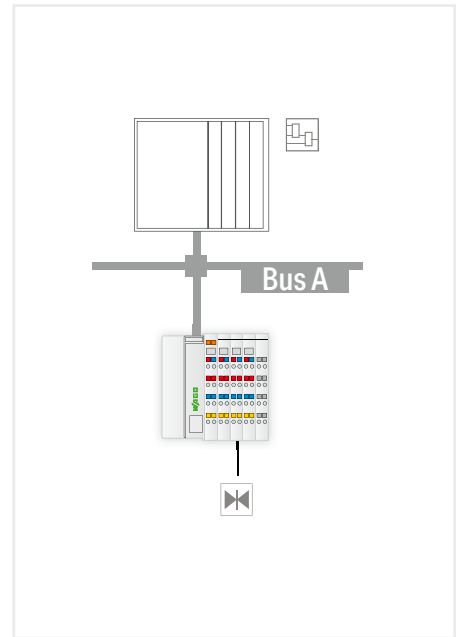
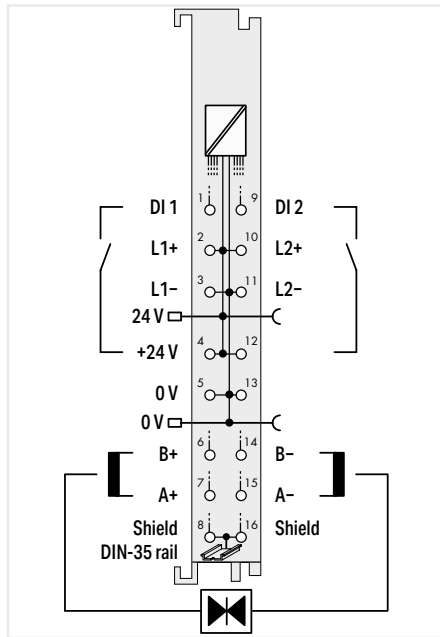
This DC drive controller is a single-channel, intelligent positioning controller for 24 VDC motors up to 5 A with incremental position feedback. Three 24 V inputs record the limit switches and a preset signal. An incremental encoder interface evaluates signals from the position sensor and determines the actual value. Current reduction is possible via pulse width modulation (PWM).

As an option, the motor voltage can be supplied separately.

# Proportional valve controller



750-632



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                    |
|------------------------------------|
| <b>Proportional Valve Module</b>   |
| <b>Standard with 16 connectors</b> |
| <b>750-632</b>                     |
| <b>Proportional Valve Module</b>   |

|   |  |
|---|--|
| Technical data                          |  |
| Number of outputs                       |  |
| Type of output                          |  |
| Load type                               |  |
| Output current                          |  |
| Input current (typ.)                    |  |
| Dither frequency                        |  |
| PWM frequency (typ.)                    |  |
| Nominal output voltage                  |  |
| Number of digital inputs                |  |
| Input characteristic                    |  |
| Input characteristic                    |  |
| Supply voltage (field)                  |  |
| Current consumption (5 V system supply) |  |
| Data width                              |  |
| Isolation                               |  |
| Ambient temperature (operation)         |  |
| Dimensions W x H x D                    |  |
| Approvals                               |  |

|   |
|---|
| 2 bipolar outputs (A+, A- and B+, B-)   |
| H-bridge output with current-regulated PWM output (short-circuit-proof and thermal overload-proof for each channel) |
| Operating range: inductive (1 mH ... 600 mH); Internal load resistance (> 8 Ohm)                                    |
| 1-channel operation: 2 A; 2-channel operation: 1.6 A per channel  |
| 2.7 mA at 24 V  |
| 250 Hz; 125 Hz; 62.5 ... 1 Hz (parameterizable)   |
| 50 kHz  |
| 24 VDC (-25 ... +30 %)  |
| 2   |
| Type 1  |
| high-side switching   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 125 mA  |
| 6 bytes: single-channel operating mode; 12 bytes: dual-channel operating mode                                       |
| 500 V system/field  |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

This proportional valve module controls two single-coil valves or one valve. The module features two current-controlled PWM outputs with adjustable dither. Both unipolar and bipolar valve control are possible. Additionally, operation of a valve with two unipolar coils is also provided. The module is single-channel in this operating mode! Characteristic curve adaptations, such as zero offset, dual gain compensation or range limitations, can be adjusted via parameters. The module functions can be internally triggered via digital outputs without any detours.

For data sheet and additional information, see:

wago.com/750-632

# Communication Modules

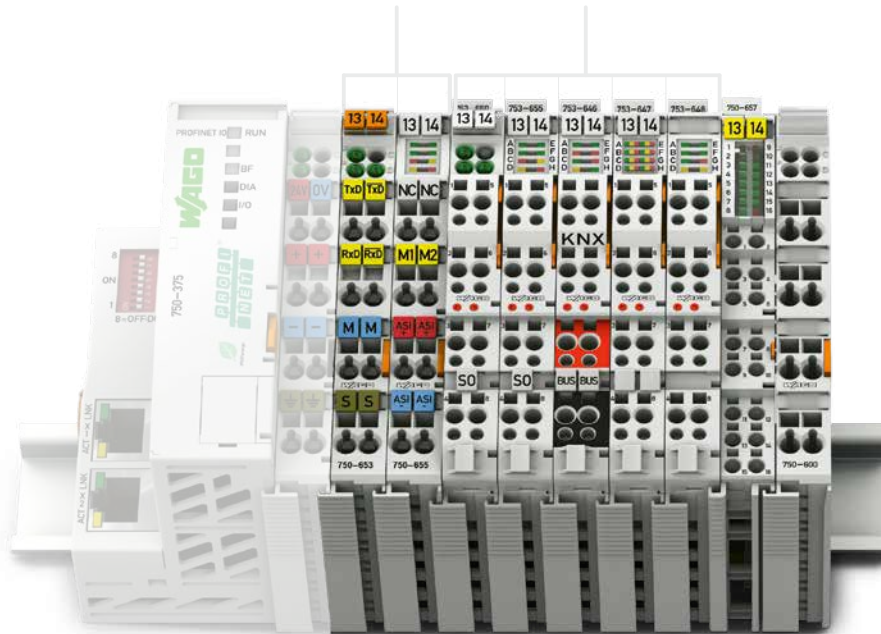


## Housing Design (750 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 67.8 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 60.6 mm                       |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                       |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## Housing Design (753 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | Housing with 4 LEDs: 12 x 100 x 69.8 mm<br>Housing with 8 LEDs: 12 x 100 x 69 mm |
| Depth from upper edge of DIN-rail | Housing with 4 LEDs: 62.6 mm<br>Housing with 8 LEDs: 61.8 mm                     |
| Connection technology             | CAGE CLAMP®  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                                     |
| Strip length                      | 9 ... 10 mm / 0.37 inch  |



RS-485

## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |

## EnOcean-RS-485-Gateway; 868 MHz

|                              |   |
|------------------------------|---|
| Dimensions Diameter x Height | 95 x 36 mm  |
| Protection type              | IP30 (front side)                                     |
| Connection technology        | PUSH WIRE®  |
| Conductor cross-section      | Solid:<br>0.4 ... 0.8 mm <sup>2</sup> / 26 ... 20 AWG |
| Strip length                 | 6 ... 7 mm  |



I/O System – 750 XTR Series

# I/O System – 750 and 753 Series, Communication Modules

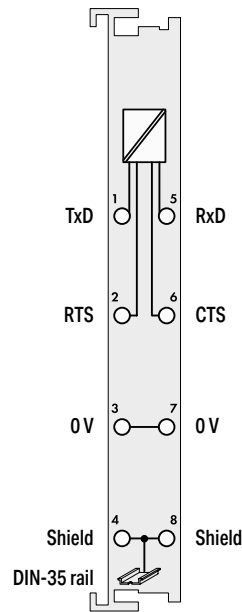
## Contents

| Function            | Description   | Item Number     |                      |                 | Page |
|---------------------|---|-----------------|----------------------|-----------------|------|
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|                     | Serial Interface RS-232 C; 9600 Baud; Even; 8/1 Bits          | 750-650/000-006 |                      |                 | 399  |
|                     | Serial Interface RS-232 C; 19200 Baud; None; 8/1 Bits         | 750-650/000-010 |                      |                 | 399  |
|                     | Serial Interface RS-232 C; 19200 Baud; Even; 8/1 Bits         | 750-650/000-011 |                      |                 | 399  |
|                     | Serial Interface RS-232 C; 2400 Baud; None; 8/1 Bits          | 750-650/000-012 |                      |                 | 399  |
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|                     | Serial Interface RS-485; 2400 Baud; None; 8/1 Bits            | 750-653/000-007 |                      |                 | 401  |
|                     | Serial Interface RS-485; Adjustable                           | 750-653/003-000 | 750-653/025-000      | 753-653/003-000 | 400  |
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| CAN Gateway         | CAN Gateway   | 750-658*        |                      |                 | 414  |

## Serial interface RS-232 C

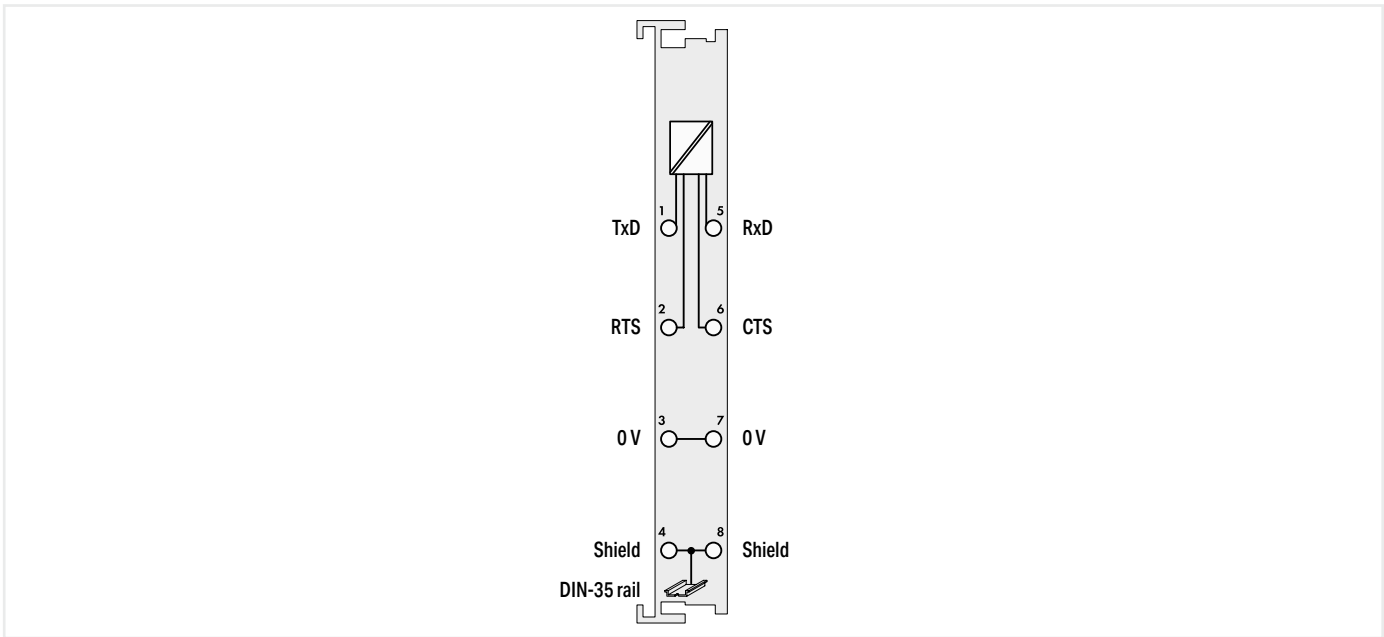


750-650/003-000



| Item description                                | Serial Interface RS-232 C  |  |  |   |  |
|---|--|--|--|---|--|
| Version   | adjustable   | pluggable (delivery without connector); adjustable | 9600 baud  | 9600 baud; pluggable (delivery without connector) | 9600 baud; 5 bytes   |
| Item no.  | 750-650/003-000  | 753-650/003-000                                    | 750-650  | 753-650   | 750-650/000-001  |
| Order Text                                      | RS232 C Interface; Adjust  | RS232 C Interface; Adjust                          | RS232 C Interface; 9600Bd  | RS232 C Interface                                 | RS232 C Interface; 9600Bd; 5byte                                     |
| Technical data                                  |  |  |  |   |  |
| Pluggable connector                             | -  | pluggable  | -  | pluggable   | -  |
| Signal type                                     | RS-232   |  |  |   |  |
| Transmission channels                           | 1 TxD / 1 RxD, full-duplex   |  |  |   |  |
| Baud rate                                       | 1.2 kBd ... 57.6 kBd (9600 baud (default setting))   |  | 9.6 kBd  |   |  |
| Parity  | None/Even, adjustable  |  | None   |   |  |
| Number of data bits                             | 7/8, adjustable  |  | 8  |   | -  |
| Number of stop bits                             | 1/2, adjustable  |  | 1  |   | -  |
| Buffer  | 120-byte input / 16-byte output  |  |  |   |  |
| Current consumption (5 V system supply)         | 55 mA  |  |  |   |  |
| Data width                                      | 1 x 24-bit input/output (3-byte user data); 1 x 40-bit input/output (5-byte user data); 1 x 8-bit control/status |  | 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |   | 1 x 40-bit input/output (5-byte user data); 1 x 8-bit control/status |
| Isolation                                       | 500 V system/field   |  |  |   |  |
| Ambient temperature (operation)                 | 0 ... +55 °C   |  |  |   |  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |  |  |   |  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |  |  |   |  |
| For data sheet and additional information, see: | wago.com/750-650/003-000   | wago.com/753-650/003-000                           | wago.com/750-650   | wago.com/753-650                                  | wago.com/750-650/000-001   |
| Accessories                                     | Item no.   | Item no.   | Item no.   | Item no.  | Item no.   |
| Plug  | -  | 753-110  | -  | 753-110   | -  |





| Serial Interface RS-232 C         |                                   |  |                                   |                                    |                                    |
|-----------------------------------|-----------------------------------|--|-----------------------------------|------------------------------------|------------------------------------|
| 9600 baud; even; 7/2 bits         | 9600 baud; even; 8/1 bits         | 4800 baud; even; 8/1 bits; 5 bytes       | 2400 baud; none; 8/1 bits         | 19200 baud; none; 8/1 bits         | 19200 baud; even; 8/1 bits         |
| 750-650/000-002                   | 750-650/000-006                   | 750-650/000-015                          | 750-650/000-012                   | 750-650/000-010                    | 750-650/000-011                    |
| RS232 C Interface; 9600Bd; E; 7/2 | RS232 C Interface; 9600Bd; E; 8/1 | RS232 C Interface; 4800Bd; E; 8/1; 5byte | RS232 C Interface; 2400Bd; N; 8/1 | RS232 C Interface; 19200Bd; N; 8/1 | RS232 C Interface; 19200Bd; E; 8/1 |

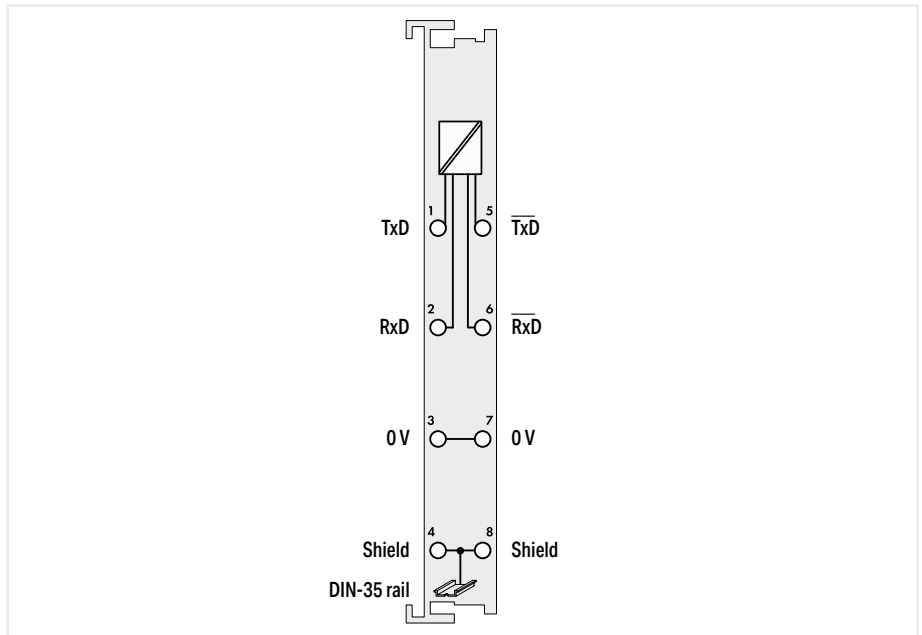
| RS-232   |         |  |          |  |      |
|--|---------|--|----------|--|------|
| 1 TxD / 1 RxD, full-duplex   |         |  |          |  |      |
| 9.6 kBd  | 4.8 kBd | 2.4 kBd  | 19.2 kBd |  |      |
| Even   |         |  | None     |  | Even |
| 7  |         |  |          |  | 8    |
| 2  |         |  |          |  | 1    |
| 120-byte input / 16-byte output                                      |         |  |          |  |      |
| 55 mA  |         |  |          |  |      |
| 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |         | 1 x 40-bit input/output (5-byte user data); 1 x 8-bit control/status |          | 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |      |
| 500 V system/field   |         |  |          |  |      |
| 0 ... +55 °C   |         |  |          |  |      |
| (12 x 100 x 69.8) mm   |         |  |          |  |      |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX<br>wago.com/750-650/000-001 |         |  |          |  |      |

| Item no. | Item no. | Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|----------|----------|
| -        | -        | -        | -        | -        | -        |

# Serial interface RS-485



750-653



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

| Serial Interface RS-485 |  |                         |  |                              |
|-------------------------|--|-------------------------|--|------------------------------|
| Standard                | pluggable (delivery without connector) | adjustable              | pluggable (delivery without connector); adjustable | adjustable; ext. temperature |
| 750-653                 | 753-653                                | 750-653/003-000         | 753-653/003-000                                    | 750-653/025-000              |
| RS485 Interface         | RS485 Interface; 9600Bd; N; 8/1        | RS485 Interface; Adjust | RS485 Interface; Adjust                            | RS485 Interface; Adjust; T   |

|   |
|---|
| Technical data                          |
| Pluggable connector                     |
| Signal type                             |
| Transmission channels                   |
| Baud rate                               |
| Parity                                  |
| Number of data bits                     |
| Number of stop bits                     |
| Buffer                                  |
| Current consumption (5 V system supply) |
| Data width                              |
| Isolation                               |
| Ambient temperature (operation)         |
| Dimensions W x H x D                    |
| Approvals                               |

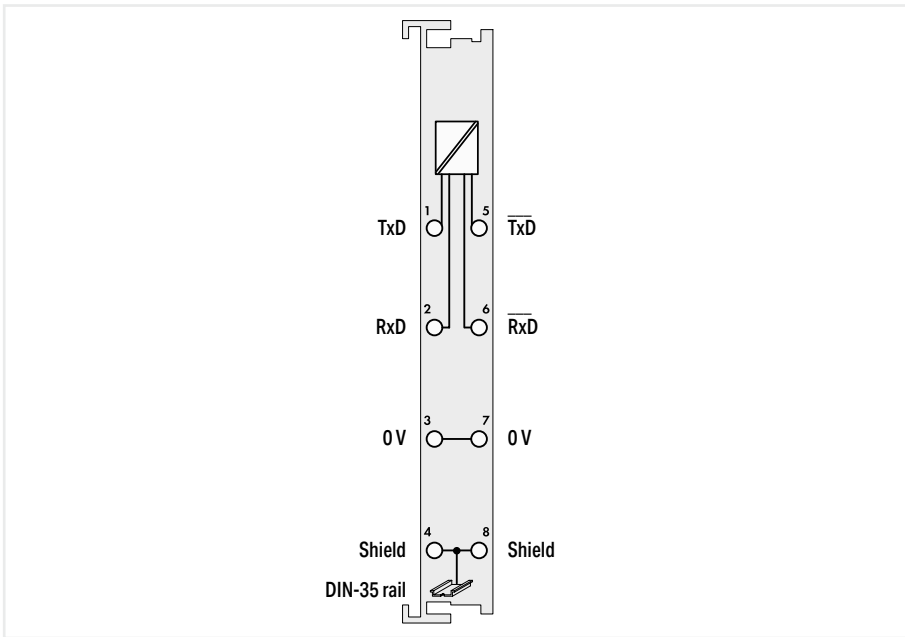
|  |           |  |           |                |
|--|-----------|--|-----------|----------------|
| -  | pluggable | -  | pluggable | -              |
| RS-422 / RS-485  |           |  |           |                |
| 1 TxD / 1 RxD, full-duplex   |           |  |           |                |
| 9.6 kBd  |           | 1.2 kBd ... 19.2 kBd (9600 baud (default setting)) |           |                |
| None   |           | None/Even, adjustable                              |           |                |
| 8  |           | 7/8, adjustable                                    |           |                |
| 1  |           | 1/2, adjustable                                    |           |                |
| 120-byte input / 16-byte output                                      |           |  |           |                |
| 65 mA  |           |  |           |                |
| 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |           |  |           |                |
| 500 V system/field   |           |  |           |                |
| 0 ... +55 °C   |           |  |           | -20 ... +60 °C |
| (12 x 100 x 69.8) mm   |           |  |           |                |

For data sheet and additional information, see:

|  |  |  |  |  |
|--|--|--|--|--|
| <a href="http://wago.com/750-653">wago.com/750-653</a> | <a href="http://wago.com/753-653">wago.com/753-653</a> | <a href="http://wago.com/750-653/003-000">wago.com/750-653/003-000</a> | <a href="http://wago.com/753-653/003-000">wago.com/753-653/003-000</a> | <a href="http://wago.com/750-653/025-000">wago.com/750-653/025-000</a> |
|--|--|--|--|--|

|             |
|-------------|
| Accessories |
| Plug        |

| Item no. | Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|----------|
| -        | 753-110  | -        | 753-110  | -        |



| Serial Interface RS-485                         |                                 |                                 |                                 |
|---|---------------------------------|---------------------------------|---------------------------------|
| 9600 baud; none; 8/1 bits; extended temperature | 9600 baud; even; 7/2 bits       | 9600 baud; even; 8/1 bits       | 2400 baud; none; 8/1 bits       |
| 750-653/025-018                                 | 750-653/000-001                 | 750-653/000-002                 | 750-653/000-007                 |
| RS485 Interface; 9600Bd; N; 8/1; 5byte; T       | RS485 Interface; 9600Bd; E; 7/2 | RS485 Interface; 9600Bd; E; 8/1 | RS485 Interface; 2400Bd; N; 8/1 |

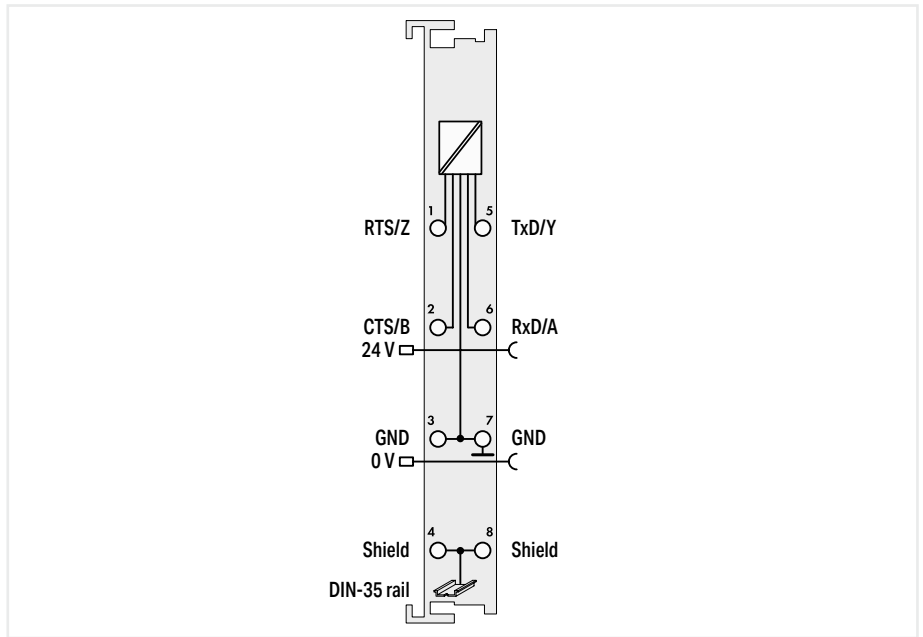
| RS-422 / RS-485  |  |              |  |
|--|--|--------------|--|
| 1 TxD / 1 RxD, full-duplex   |  |              |  |
| 9.6 kBd  |  | 2.4 kBd      |  |
| None   | Even   | None         |  |
| 8  | 7  | 8            |  |
| 1  | 2  | 1            |  |
| 120-byte input / 16-byte output  |  |              |  |
| 65 mA  |  |              |  |
| 1 x 40-bit input/output (5-byte user data); 1 x 8-bit control/status   | 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |              |  |
| 500 V system/field   |  | 0 ... +55 °C |  |
| -20 ... +60 °C   | (12 x 100 x 69.8) mm   |              |  |
| CE,  Marine,  OrdLoc/HazLoc,  ATEX/IECEx<br><a href="http://wago.com/750-653/025-000">wago.com/750-653/025-000</a> |  |              |  |

| Item no. | Item no. | Item no. | Item no. |
|----------|----------|----------|----------|
| -        | -        | -        | -        |

## Serial interface RS-232/485



750-652

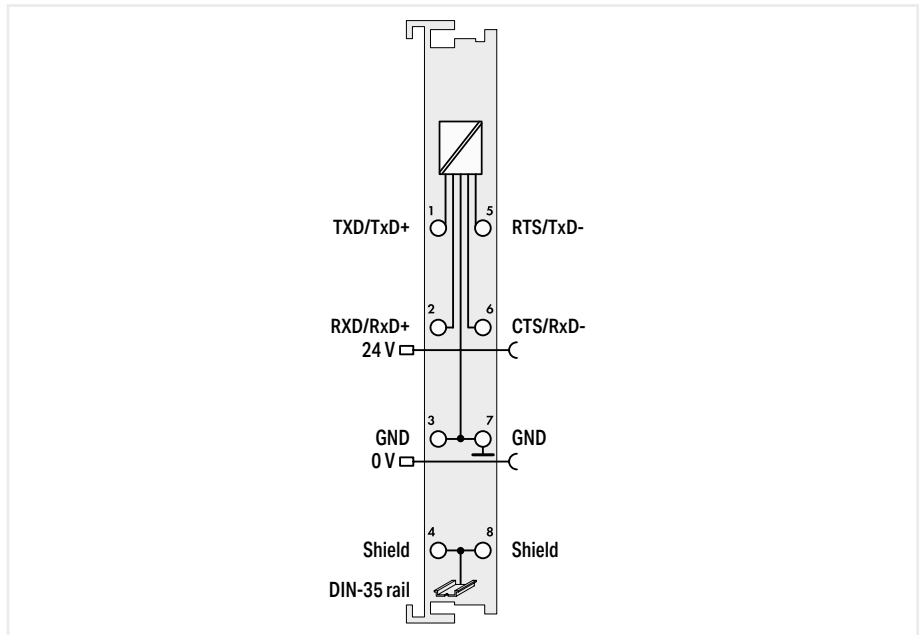


| Serial Interface RS-232/485                     |   |                        |  |
|---|---|------------------------|--|
| Item description                                | Serial Interface RS-232/485   |                        |  |
| Version   | Standard  | ext. temperature       | pluggable (delivery without connector) |
| Item no.  | 750-652   | 750-652/025-000        | 753-652                                |
| Order Text                                      | RS232/485 Interface   | RS232/485 Interface; T | RS232/485 Interface                    |
| <b>Technical data</b>                           |   |                        |  |
| Pluggable connector                             | -   |                        | pluggable                              |
| Signal type                                     | RS-232; RS-422 / RS-485   |                        |  |
| Transmission channels                           | 1 TxD / 1 RxD, full-duplex, half-duplex   |                        |  |
| Baud rate                                       | 300 Bd ... 115.2 kBd  |                        |  |
| Parity  | None/Odd/Even   |                        |  |
| Number of data bits                             | 7/8, adjustable   |                        |  |
| Number of stop bits                             | 1/2, adjustable   |                        |  |
| Buffer  | 2560-byte input / 512-byte output   |                        |  |
| Supply voltage (field)                          | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |                        |  |
| Current consumption (5 V system supply)         | 85 mA   |                        |  |
| Data width                                      | 1 x 46/1 x 22/1 x 6-byte input/output (parameterizable), 2-byte control/status                      |                        |  |
| Isolation                                       | 500 V system/field  |                        |  |
| Ambient temperature (operation)                 | 0 ... +55 °C  | -20 ... +60 °C         | 0 ... +55 °C                           |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |                        | (12 x 100 x 69) mm                     |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX<br>wago.com/750-652  |                        |  |
| For data sheet and additional information, see: | wago.com/753-652  |                        |  |
| <b>Accessories</b>                              | <b>Item no.</b>   | <b>Item no.</b>        | <b>Item no.</b>                        |
| Plug  | -   | -                      | 753-110                                |

# Serial Interface RS-232/485/422



750-652



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |  |
|--|--|
| <b>Serial Interface RS-232/485/422</b> |  |
| Standard                               | pluggable (delivery without connector) |
| 750-1652                               | 753-1652                               |
| RS-232/485 Serial Interface            | RS-232/485 Serial Interface            |

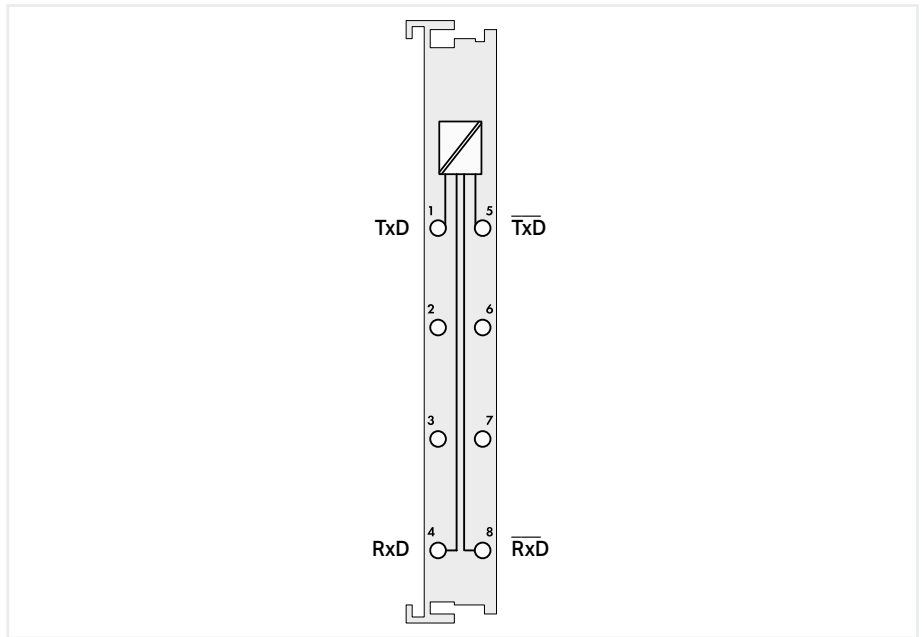
|   |   |
|---|---|
| Technical data                                  |   |
| Signal type                                     | RS-232; RS-422 / RS-485   |
| Transmission channels                           | 1 TxD / 1 RxD, full-duplex, half-duplex   |
| Baud rate                                       | 150 Bd ... 250 kBd  |
| Parity  | None/Odd/Even/Mark/Space  |
| Number of data bits                             | 7 ... 8, adjustable   |
| Number of stop bits                             | 1/2, adjustable   |
| Buffer  | 8192-byte input / 2048-byte output  |
| Supply voltage (field)                          | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 120 mA  |
| Data width                                      | Serial modes: 1 x 46/1 x 22/1 x 6-byte input/output (parameterizable), 2-byte control/status        |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm (12 x 100 x 69) mm   |
| Approvals                                       | CE  |
| Approvals (pending)                             | Marine; OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/750-1652 wago.com/753-1652   |

|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-110  |

## Serial TTY interface



750-651

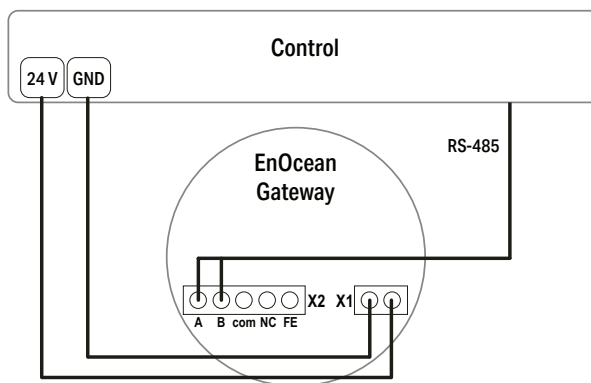


| Item description                                | Serial TTY Interface   |                               |
|---|--|-------------------------------|
| Version   | 9600 baud; none; 8/1 bits  | 9600 baud; even; 8/1 bits     |
| Item no.  | 750-651  | 750-651/000-002               |
| Order Text                                      | TTY Interface; 9600Bd; N; 8/1  | TTY Interface; 9600Bd; E; 8/1 |
| Technical data                                  |  |                               |
| Signal type                                     | TTY, 20 mA   |                               |
| Transmission channels                           | 1 TxD / 1 RxD, full-duplex   |                               |
| Baud rate                                       | 1.2 kBd ... 19.2 kBd (9600 baud (default setting))                   |                               |
| Load impedance (current output) max.            | 500 Ω  |                               |
| Parity  | None   | Even                          |
| Number of data bits                             | 8  |                               |
| Number of stop bits                             | 1  |                               |
| Buffer  | 128-byte input / 16-byte output                                      |                               |
| Current consumption (5 V system supply)         | 55 mA  |                               |
| Data width                                      | 1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status |                               |
| Isolation                                       | 500 V system/field   |                               |
| Ambient temperature (operation)                 | 0 ... +55 °C   |                               |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm   |                               |
| Approvals                                       |  |                               |
| For data sheet and additional information, see: | wago.com/750-651   |                               |

## EnOcean® RS-485 Gateway



750-940



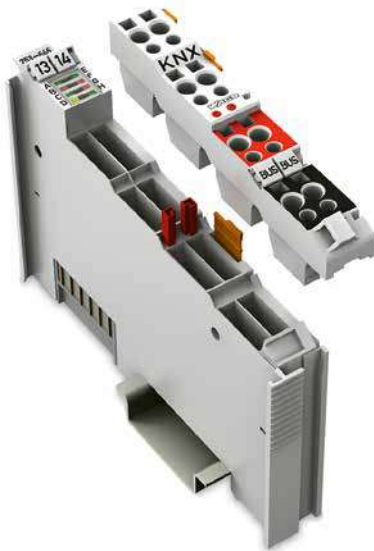
|                  |  |
|------------------|--|
| Item description | EnOcean® RS-485 Gateway; 868 MHz   |
| Version          | direct ceiling/wall mounting or mounting rail (through integrated adapter) |
| Item no.         | 750-940  |

| Technical Data                                   |  |
|--|--|
| Wireless technology                              | EnOcean®   |
| Frequency band                                   | 868 MHz  |
| Transmission range                               | Approx. 30 m within buildings; >100 m in open space  |
| Antenna  | Internal (external antenna optional via SMA socket)  |
| Interface  | RS-485   |
| Protocol   | ESP3, Modbus®  |
| Transmission rate                                | 9600 ... 115200 Baud   |
| Data width                                       | 50 bytes   |
| Cable length                                     | 100 m (max.)   |
| Power supply                                     | 24 VDC (-25 ... +30 %)   |
| Input current                                    | 2 A (max.)   |
| Connection technology                            | RS-485 connection: 5-pole 2-conductor compact PCB connectors with PUSH WIRE® (252-155 is included);<br>Supply connection: 2-pole 2-conductor compact PCB connectors with PUSH WIRE® (252-152 is included);<br>Antenna: SMA socket for external antenna |
| Conductor cross-section                          | Solid: 0.4 ... 0.8 mm² / 26 ... 20 AWG   |
| Strip length                                     | 6 ... 7 mm   |
| Dimensions (mm) Diameter x Height                | 95 x 36  |
| Weight   | 103 g  |
| Protection type                                  | IP30 (front side)  |
| Surrounding air temperature (operation)          | 0 ... +55 °C   |
| Surrounding air temperature (storage)            | -20 ... +85 °C   |
| EMC immunity to interference                     | EN 61000-6-2   |
| EMC emission of interference                     | EN 61000-6-3 + A1  |
| Approvals  | CE   |
| For data sheet and additional information, see:: | wago.com/750-940   |

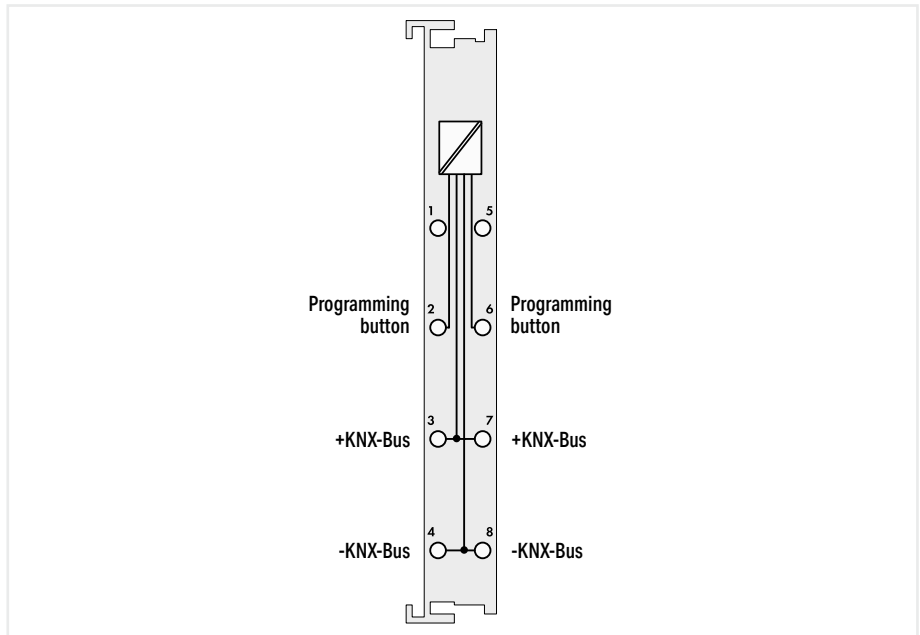
The EnOcean® RS-485 Gateway integrates maintenance-free, battery-free and wireless sensors/actuators based on EnOcean® wireless technology (ISO/IEC 14543-3-1x) into intelligent control systems such as the WAGO I/O System. This gateway communicates with the remote station via RS-485 interface and ESP3 telegrams (EnOcean®) or via Modbus® protocol.

It may be mounted directly to the ceiling or wall. The device can also be mounted on a DIN-rail via an integrated adapter. The gateway has an internal antenna and also has a connector for an optional external antenna.

## KNX/EIB/TP1 Interface



753-646



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                       |
|-----------------------|
| KNX/EIB/TP1 Interface |
| pluggable             |
| 753-646               |
| KNX/EIB/TP1 Interface |

|   |
|---|
| Technical data                          |
| Pluggable connector                     |
| Device specification                    |
| Device-specific                         |
| Baud rate                               |
| Power supply                            |
| Connection point (other) designation    |
| Application                             |
| Commissioning                           |
| Current consumption (5 V system supply) |
| Data width                              |
| Isolation                               |
| Ambient temperature (operation)         |
| Dimensions W x H x D                    |
| Approvals                               |

|   |
|---|
| pluggable   |
| KNX/TP1 Bus Specification: 1.0  |
| Number of group addresses: 254; Number of communication objects: 253; Number of associations: 254 |
| 9.6 kBd (KNX)   |
| KNX: via KNX power supply unit  |
| Programming button; bridge 2/6  |
| on controllers  |
| WAGO-I/O-PRO V2.3   |
| 25 mA   |
| 24 bytes  |
| 2.5 kV (rms)  |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE, Marine, OrdLoc  |
| wago.com/753-646  |

For data sheet and additional information, see:

The KNX/EIB/TP1 Module connects to a KNX/EIB/TP1 network. This module supports two different functions:

## 1. Device mode:

With this module, all programmable fieldbus controllers relevant for building automation can be connected to a KNX/TP1 network. The module is a standard KNX device and is linked via ETS Professional Commissioning Tool. An ETS plug-in is required so that data from the application program can be allocated to group addresses for the programming software.

## 2. Router mode:

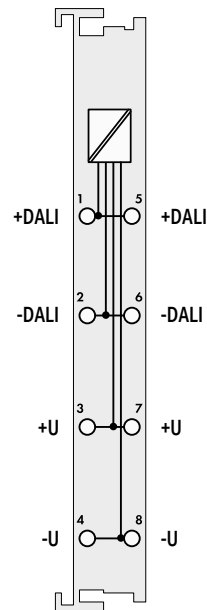
When connected to a KNX/IP Controller (e.g., 750-889), the combination becomes a KNXnet/IP router. The module is switched to the router mode automatically. An application program is not required for operation in router mode. Additional modules that are connected to a KNX IP Controller are addressed in device mode by the application. The bus connections are internally bridged inside the plug, so the bus is not interrupted when the plug is pulled from the module. The plug is included with delivery.



## DALI Multi-Master



753-647



|                   |
|-------------------|
| Item description  |
| Version           |
| <b>Item no.</b>   |
| <b>Order Text</b> |

|                          |
|--------------------------|
| <b>DALI Multi-Master</b> |
| <b>pluggable</b>         |
| <b>753-647</b>           |
| <b>DALI Multi-Master</b> |

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Device specification                            |
| Device-specific                                 |
| Topology  |
| Power supply                                    |
| Application                                     |
| Commissioning                                   |
| Current consumption (5 V system supply)         |
| Data width                                      |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| pluggable   |
| DALI-2 Specification: DIN IEC 62386 only in conjunction with 753-620 or 787-2857 Power Supplies     |
| Current consumption from DALI bus with alternative supply via DALI bus: 10 mA                       |
| Number of control gears/control devices (DALI): 64 control gears + 64 control devices (addressable) |
| DALI: 18 V (external)   |
| for programmable fieldbus controllers   |
| via WAGO-I/O-CHECK  |
| 85 mA   |
| 24-byte data  |
| 2100 VDC DALI bus/local bus   |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE; Marine; OrdLoc  |
| wago.com/753-647  |

|  |
|--|
| <b>Accessories</b>   |
| DALI Multi-Master DC/DC Converter  |
| Power supply; Compact; 1-phase; 18 VDC output voltage; 1.25 A output current |

|                 |
|-----------------|
| <b>Item no.</b> |
| 753-620         |
| 787-2857        |

This manufacturer-independent DALI standard ensures interoperability of DALI devices in lighting applications. This standard is substitute for the 1–10 V dimmer interface.

In addition to 64 DALI actuators (ECGs), a DALI Multi-Master Module supports up to 16 multi-sensors (max. 64 sensor addresses). Each DALI ECG can be assigned to 16 groups and 16 scenes. The DALI Multi-Master Module also offers 16 additional virtual groups on the DALI bus.

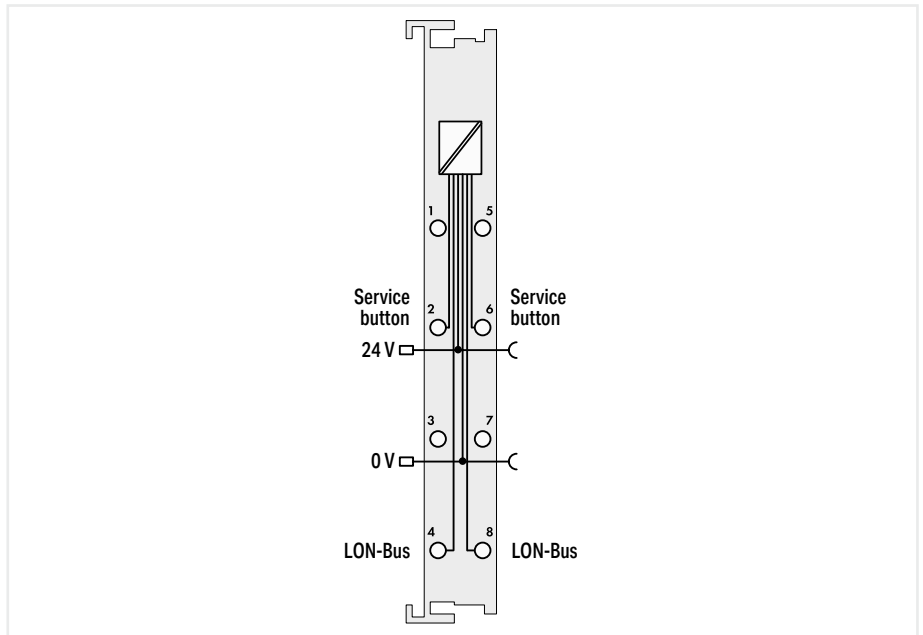
DALI control devices can be seamlessly integrated with all other building systems. Several DALI masters can be connected to a single fieldbus node. The maximum number of modules that can be connected to a controller depends on the memory required by the application. Function blocks prepared for DALI are available for programming fieldbus nodes.

Alternatively, an "EASY Mode" allows lighting functions to be readily controlled without any PLC programming. The DALI Configurator (Section "Software") simplifies commissioning of the DALI network. It provides the following functions: easy commissioning, configuration, service, support and maintenance of the DALI network.

## LON® FTT Interface



753-648



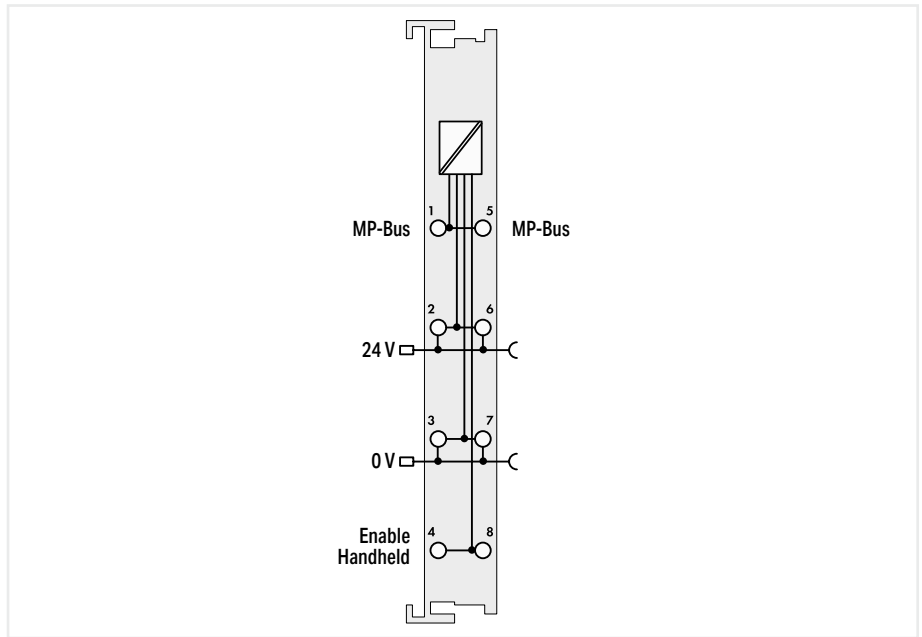
|   |   |
|---|---|
| Item description                                | LON® FTT Interface  |
| Version   | pluggable   |
| Item no.  | 753-648   |
| Order Text                                      | LON FTT Interface   |
| Technical data                                  |   |
| Pluggable connector                             | pluggable   |
| Device-specific                                 | Number of network variables: max. 254 (249 for application)   |
| Number of aliases (max.)                        | 127   |
| Baud rate                                       | 0.078 Mbit/s  |
| Bus segment length (max.)                       | 500 m (free topology); 2700 m (bus topology)  |
| Transmission medium                             | Twisted pair – FTT  |
| Topology  | per LON specification   |
| Application                                     | for controllers; max. 2 per controller  |
| Commissioning                                   | via WAGO-I/O-CHECK or WAGO-I/O-PRO V2.3   |
| Supply voltage (field)                          | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 30 mA   |
| Data width                                      | 24-byte data  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE,   OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/753-648  |

The LON® FTT Interface is a full-fledged and flexible LON® device within LonWorks® FT or LP network. The module's network variable interface defines 249 network variables of any type and supports both LonMark® objects and configuration properties.

# MP-Bus Master



750-643



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|               |
|---------------|
| MP-Bus Master |
| Standard      |
| 750-643       |
| MP-Bus Master |

|   |
|---|
| Technical data                                  |
| Device specification                            |
| Topology  |
| Power supply                                    |
| Application                                     |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Data width                                      |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| MP-Bus Specification: PP/MP Specification V1.21 from Belimo (Valid since 1.10.2002)                 |
| Number of participants: 8 slaves (max.)   |
| MP-Bus: 24 VDC, via power jumper contacts on controllers  |
| 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 15 mA   |
| 1-byte C/S, 7-byte data   |
| 500 V (rms) MP-Bus/system   |
| 0 ... +55 °C  |
| (12 x 100 x 69.8) mm  |
| CE, OrdLoc/HazLoc, ATEX/IECEX   |
| wago.com/750-643  |

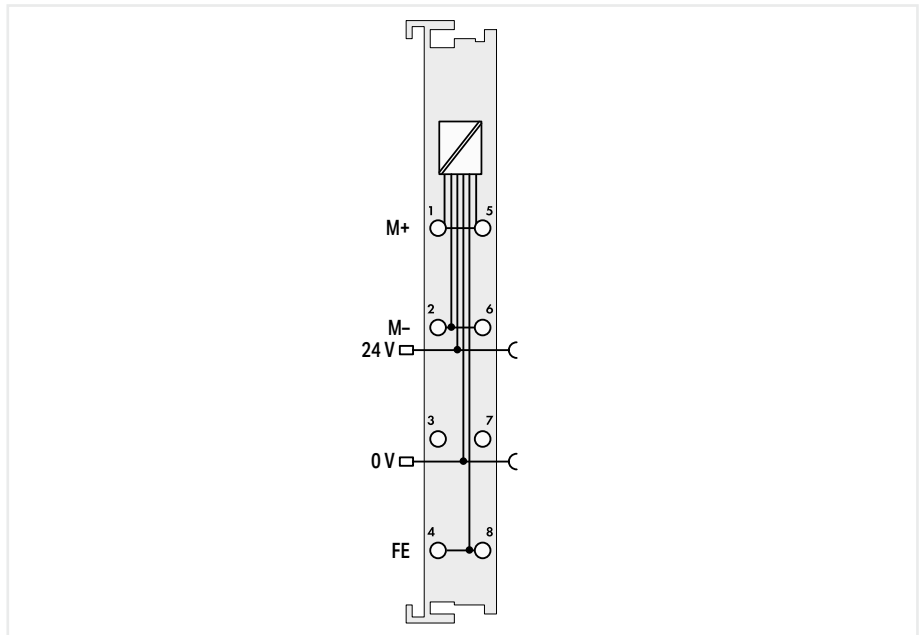
This module acts as a master for the MP bus (Multi-Point bus from Belimo/Switzerland) and allows the bus to be integrated into a higher level bus network. The MP-Bus controls HVAC actuators for dampers, regulator valves or VAV air volume controls.

The actuators have connections for sensors (temperature, humidity, on/off switch) that are also accessible via MP-Bus. An MP-Bus master can manage up to 8 slaves (actuators) + 8 sensors (1 sensor per slave) via a common bus line, which considerably reduces actuator and sensor wiring.

## M-Bus Master



753-649

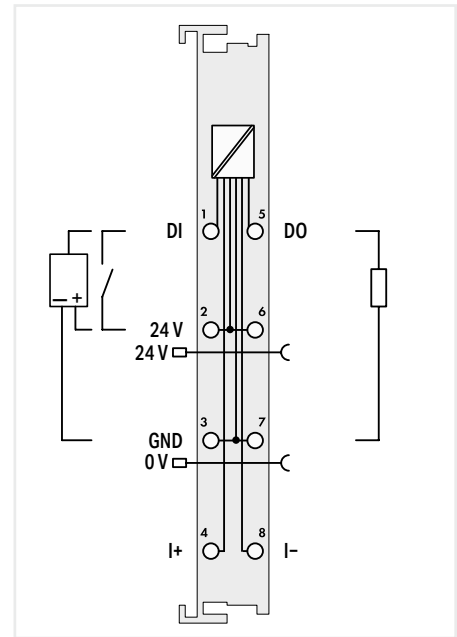
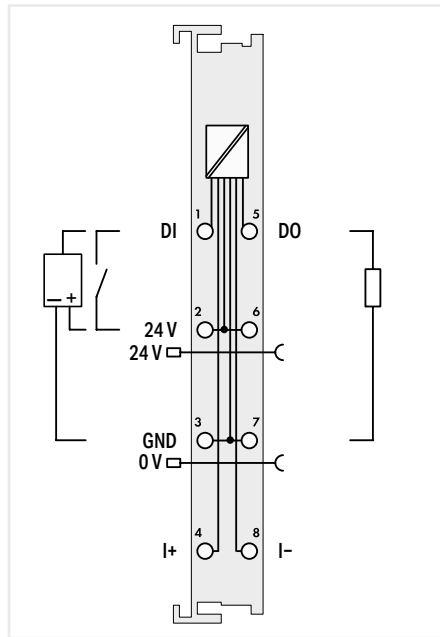


|   |   |
|---|---|
| Item description                                | M-Bus Master  |
| Version   | pluggable   |
| Item no.  | 753-649   |
| Order Text                                      | M-Bus Master  |
| Technical data                                  |   |
| Pluggable connector                             | pluggable   |
| Device-specific                                 | Line length (overall network): up to 1000 m at 9600 baud; up to 2000 m at 2400 baud; up to 6000 m at 300 baud; Master/slave distance: up to 500 m at 9600 baud; up to 1000 m at 2400 or 300 baud; M-Bus loads (max.): 40 (1.5 mA each); Overcurrent shutdown: Active current monitoring; Threshold value: approx. 120 mA; Minimum shutdown time: 500 ms |
| Transmission channels                           | 1, bidirectional  |
| Baud rate                                       | 300 Bd ... 9.6 kBd (2400 baud (default))  |
| Topology  | Star, tree and line topology  |
| Connection requirement (permissible cable type) | 2-line, shielded or unshielded  |
| Commissioning                                   | WAGO-I/O-PRO V2.3, e!COCKPIT  |
| Supply voltage (field)                          | 24 VDC (-2.5 ... +5 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)   |
| Current consumption (5 V system supply)         | 40 mA   |
| Data width                                      | 24 bytes (mailbox 2.0 with 22-byte length)  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       | CE,   OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/753-649  |

# SMI Master Module



753-1631



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                       |
|---------------------------------------|
| <b>SMI Master Module; Low voltage</b> |
| LoVo; pluggable                       |
| 753-1631                              |
| SMI Master LoVo; 24 VDC               |

|   |
|---|
| <b>SMI Master Module; for drives with 230 VAC</b> |
| pluggable   |
| 753-1630  |
| SMI Master; 230 VAC                               |

|   |  |
|---|--|
| Technical data                                    |  |
| Pluggable connector                               |  |
| Device specification                              |  |
| Number of SMI channels                            |  |
| Number of digital inputs                          |  |
| Input characteristic                              |  |
| Input voltage (max.)                              |  |
| Number of digital outputs                         |  |
| Output current per channel                        |  |
| Connection requirement (permissible cable type)   |  |
| Connection requirement (permissible cable length) |  |
| Commissioning                                     |  |
| Supply voltage (field)                            |  |
| Current consumption (5 V system supply)           |  |
| Data width  |  |
| Isolation   |  |
| Ambient temperature (operation)                   |  |
| Dimensions W x H x D                              |  |
| Approvals   |  |
| For data sheet and additional information, see:   |  |

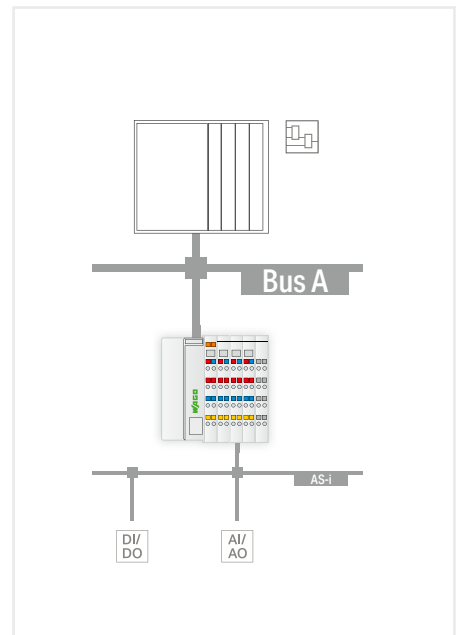
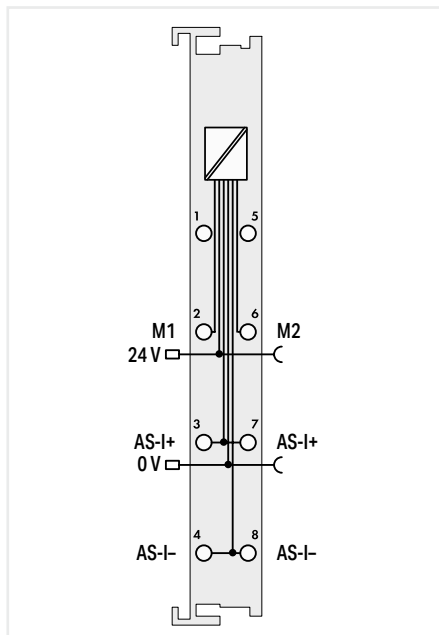
|   |   |
|---|---|
| pluggable   |   |
| SMI Master Interface per "SMI Data Format and Framework Protocol" Specifications Rev. 2.3.2 and "HMI Hardware Specification" Rev. 2.0 |   |
| Number of SMI channels  | 1 (1 ... 16 SMI slaves per channel)   |
| Number of digital inputs  | 1   |
| Input characteristic  | Type 1  |
| Input voltage (max.)  | 31.2 VDC  |
| Number of digital outputs   | 1   |
| Output current per channel  | 0.5 A   |
| Connection requirement (permissible cable type)   | 2-line, unshielded  |
| Connection requirement (permissible cable length)   | 350 m   |
| Commissioning   | via WAGO SMI Configurator or IEC libraries  |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)   | 42 mA   |
| Data width  | 12-byte data  |
| Isolation   | 3 kVAC RMS, 4 kV surge (system/SMI); 1.5 kVAC RMS, 2.5 kV surge (system/field)                                      |
| Ambient temperature (operation)   | 0 ... +55 °C  |
| Dimensions W x H x D  | (12 x 100 x 69.8) mm  |
| Approvals   | CE  |
| For data sheet and additional information, see:   | wago.com/753-1631   |

|   |   |
|---|---|
| pluggable   |   |
| SMI Master Interface per "SMI Data Format and Framework Protocol" Specifications Rev. 2.3.2 and "HMI Hardware Specification" Rev. 2.0 |   |
| Number of SMI channels  | 1 (1 ... 16 SMI slaves per channel)   |
| Number of digital inputs  | 1   |
| Input characteristic  | Type 1  |
| Input voltage (max.)  | 31.2 VDC  |
| Number of digital outputs   | 1   |
| Output current per channel  | 0.5 A   |
| Connection requirement (permissible cable type)   | 2-line, unshielded  |
| Connection requirement (permissible cable length)   | 350 m   |
| Commissioning   | via WAGO SMI Configurator or IEC libraries  |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)   | 42 mA   |
| Data width  | 12-byte data  |
| Isolation   | 3 kVAC RMS, 4 kV surge (system/SMI); 1.5 kVAC RMS, 2.5 kV surge (system/field)                                      |
| Ambient temperature (operation)   | 0 ... +55 °C  |
| Dimensions W x H x D  | (12 x 100 x 69.8) mm  |
| Approvals   | CE  |
| For data sheet and additional information, see:   | wago.com/753-1630   |

## AS-Interface Master



750-655



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

| AS-Interface Master |  |
|---------------------|--|
| Standard            | pluggable (delivery without connector) |
| 750-655             | 753-655                                |
| AS-Interface Master | AS-InterfaceMaster                     |

The AS-Interface Master Module connects AS-Interface devices to a higher-level fieldbus.

It acts as a master for the AS-Interface and via the fieldbus coupler, as a slave for the fieldbus. The AS-i functions are provided both cyclically and acyclically via the fieldbus.

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Device specification                            |
| Device-specific                                 |
| Topology  |
| Cycle time (AS-I)                               |
| Power supply                                    |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Data width                                      |
| Isolation                                       |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |
| Accessories                                     |
| Plug  |

|   |                    |
|---|--------------------|
| -   | pluggable          |
| AS-i master class: M4; AS-I Specification: 3.0  |                    |
| AS-I cable length (max.): 100 m, with repeater 300 m  |                    |
| Number of slaves: up to 62; Slave profiles: V3.0 with transaction types 1 ... 5                                     |                    |
| 0.3 ... 10 ms, depending on the number of slaves  |                    |
| AS-I: 26.5 ... 31.6 V   |                    |
| 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                    |
| 55 mA   |                    |
| 12 ... 48 bytes (max.), configurable, including 1 byte control/status   |                    |
| 500 V system/supply/AS-I  |                    |
| 0 ... +55 °C  |                    |
| (12 x 100 x 67.8) mm  | (12 x 100 x 69) mm |
| CE, Marine, OrdLoc/HazLoc, ATEX/IECEX   |                    |
| wago.com/750-655  | wago.com/753-655   |
| Item no.  | Item no.           |
| -   | 753-110            |

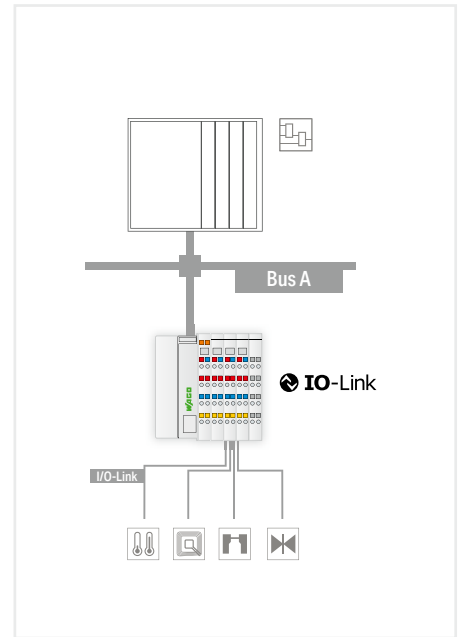
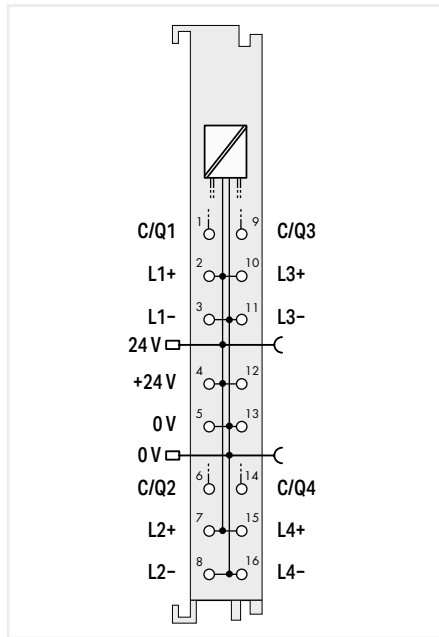
Diagnostics, which go far beyond the AS-i specifications, simplify detection of both sporadic configuration errors and AS-i communication interference sources. An auto-installation mode allows an AS-Interface network to be created via sequential slave installation, with no addressing tool required.

Both signal transmission and operating status, as well as trouble-free local bus communication, are indicated via LEDs.

# IO-Link Master



750-657



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                    |
|------------------------------------|
| <b>IO-Link Master</b>              |
| <b>Standard with 16 connectors</b> |
| <b>750-657</b>                     |
| <b>IO-Link Master</b>              |

Four different IO-Link devices or standard digital sensors/actuators can simultaneously connect to the IO-Link Master. Process data, as well as acyclic data for identification, configuration, parameterization and diagnostics can be communicated to the respective device via a 3-wire connection.

|   |
|---|
| Technical data                                    |
| Transmission modes                                |
| Topology  |
| Connection requirement (permissible cable length) |
| Supply voltage (field)                            |
| Current consumption (5 V system supply)           |
| Data width  |
| Isolation   |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Approvals   |

|   |
|---|
| 4.8 kBaud (COM 1), 38.4 kBaud (COM 2), 230.4 kBaud (COM 3)  |
| Number of IO-Link ports: 4  |
| 20 m  |
| 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 40 mA   |
| 4–24 bytes, configurable  |
| 500 V system/field  |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE, RoHS, OrdLoc/HazLoc, ATEX/IECEx   |

The functions and performance data are defined in device description files for master and devices; these are easy to customize via engineering tool. If a device must be replaced, the IO-Link devices' configuration and parameterization can be automatically restored without maintenance personnel. This makes project design, installation and operation considerably simpler!

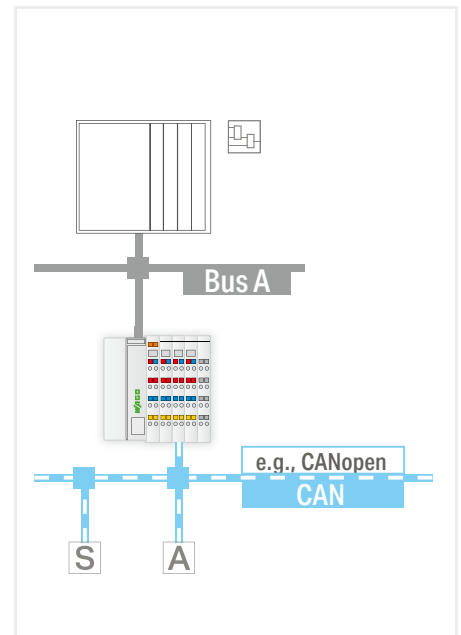
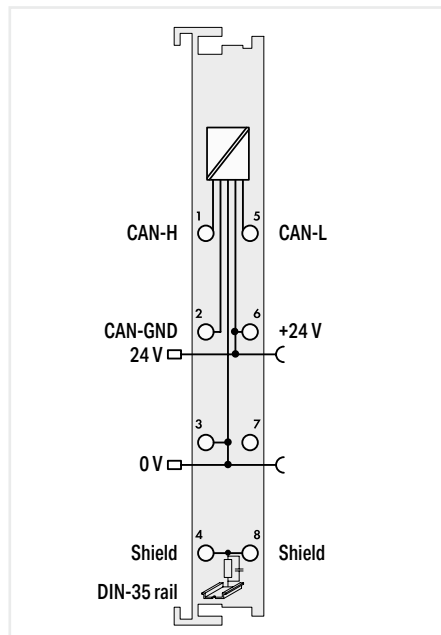
For data sheet and additional information, see:

wago.com/750-657

## CAN Gateway



750-658



|   |   |
|---|---|
| Item description                                | <b>CAN Gateway</b>  |
| Version   | <b>Standard</b>   |
| Item no.  | <b>750-658</b>  |
| Order Text                                      | <b>CAN Gateway</b>  |
| Technical data                                  |   |
| Device-specific                                 | Operating modes: Sniffer mode, transparent mode, mapped mode  |
| Number of inputs                                | 1 (CAN interface)   |
| Transmission modes                              | 10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s (auto-baudrate); Data formats: per 2.0 A standard (11-bit ID); per 2.0 B extended (29-bit ID) |
| Supply voltage (field)                          | 24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)   |
| Current consumption (5 V system supply)         | 50 mA   |
| Data width                                      | Configurable to 8, 12, 16, 20, 24, 32, 40, 48 bytes; incl. control/status byte  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-658  |

The CAN Gateway allows a CAN bus to be installed as a sub-bus beneath a fieldbus coupler or controller. It enables special sensors/actuators that are only available with the widely used CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol telegrams, e.g., CANopen.

The module offers three different operating modes:

- Sniffer mode: Detailed analysis of the CAN bus through passive "snooping"
- Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
- Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received CAN telegrams into the input process image (cyclic or event-based).



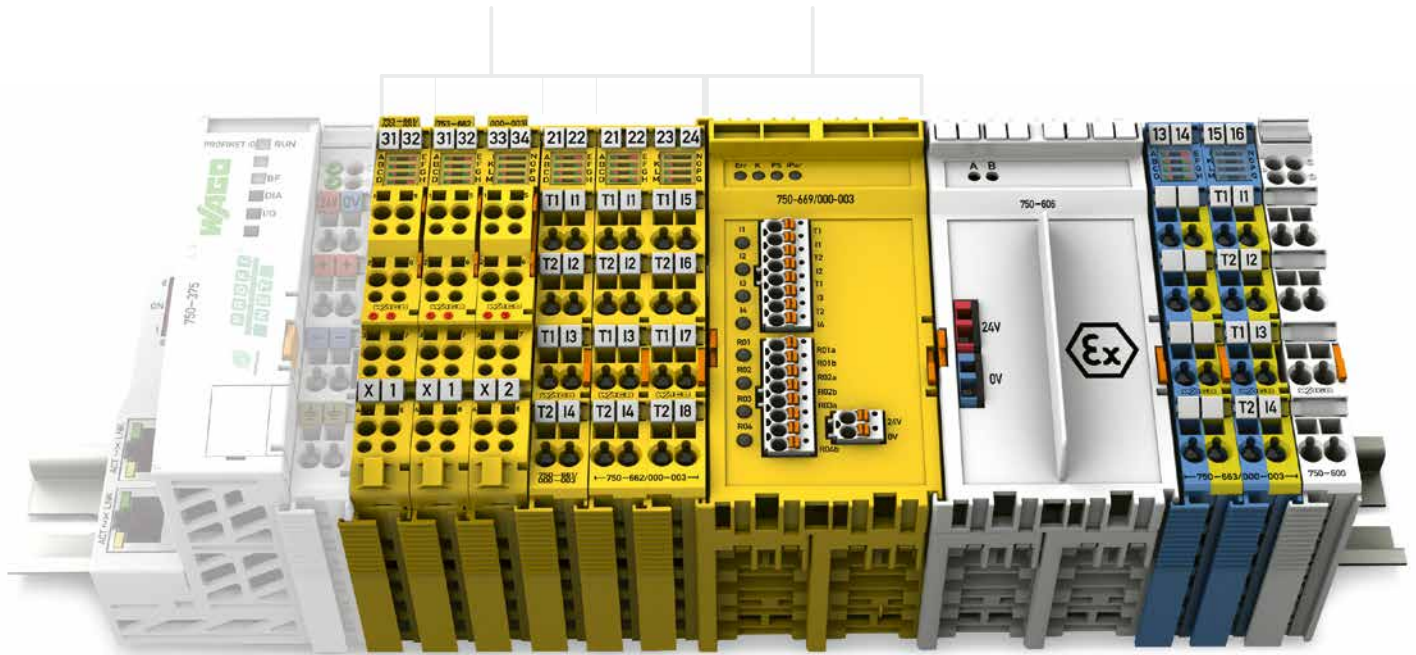


## Housing Design (750/753 Series)

|                                    |  |
|------------------------------------|--|
| Dimensions W x H x D               | 750 Series: 12 or 24 x 67.8 x 100 mm<br>753 Series: 12 or 24 x 69 x 100 mm |
| Height from upper edge of DIN-rail | 750 Series: 60.6 mm;<br>753 Series: 61.8 mm                                |
| Connection technology              | CAGE CLAMP®  |
| Conductor cross-section            | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                               |
| Strip length                       | 750 Series: 8 ... 9 mm / 0.33 inch<br>753 Series: 9 ... 10 mm / 0.37 inch  |

## Specialty Housing

|                                    |  |
|------------------------------------|--|
| Dimensions W x H x D               | 48 x 69.8 x 100                              |
| Height from upper edge of DIN-rail | 62.6 mm                                      |
| Connection technology              | Push-in CAGE CLAMP®                          |
| Conductor cross-section            | 0.05 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG |
| Strip length                       | 8 ... 9 mm / 0.33 inch                       |

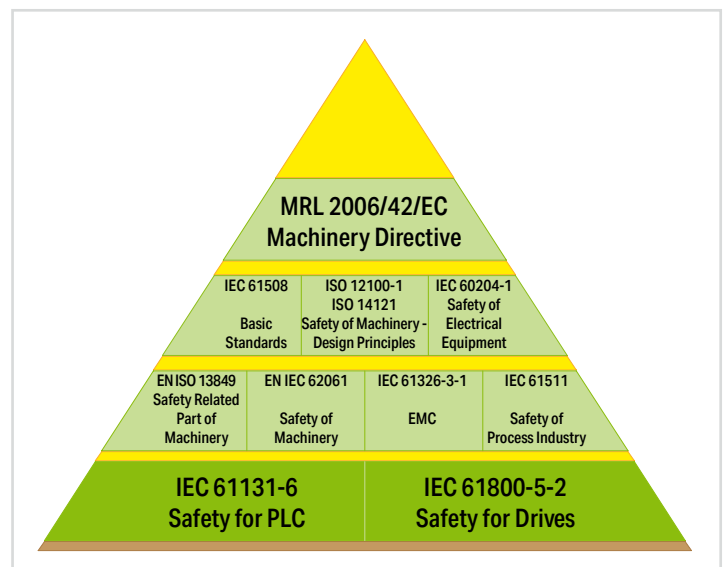


## Functional Safety

In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for protecting the "life and limb" of workers within a machine's operating area.



The required risk assessment is based on harmonized standards (e.g., EN 13849) and identifies existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functions can be implemented, e.g., by presence detection or protection zone violations, using secure switches or light arrays to shut down the "risk" immediately. For this purpose, the safety signals are detected by the "yellow" safety modules and transmitted via "PROFIsafe" to the fail-safe PLC for additional processing. The result is then executed via safe actuator (e.g., output module or controller).

The unique safety characteristics of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PL according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.



# I/O System – 750 and 753 Series, Functional Safety

## Contents

| Function  | Description  | Item Number     |                 | Page |
|---|--|-----------------|-----------------|------|
|   |  | Standard        | Pluggable       |      |
| Fail-Safe Digital Input;<br>PROFIsafe   | Safe 4-channel digital input; 24 VDC; PROFIsafe  | 750-661/000-004 | 753-661/000-004 | 422  |
|   | Safe 8-channel digital input; 24 VDC; PROFIsafe  | 750-662/000-004 | 753-662/000-004 | 423  |
| Fail-Safe Digital Input/Output;<br>PROFIsafe  | Safe 4/2 channel digital input/output; 24 VDC; 10 A; PROFIsafe   | 750-666/000-004 |                 | 424  |
|   | Safe 4/4 channel digital input/output; 24 VDC; 2 A; PROFIsafe  | 750-667/000-004 | 753-667/000-004 | 425  |
|   | Safe 4/4 channel digital input/relay output; 48 VAC/60 VDC; 6 A; PROFIsafe V2.0 iPar   | 750-669/000-003 |                 | 426  |
| Intrinsically Safe Digital Input for Functional Safety  | Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar   | 750-663/000-003 |                 | 428  |
| Fail-Safe Analog Input;<br>PROFIsafe  | Safe 4 channel analog input; 0/4 ... 20 mA; Differential input; PROFIsafe  | 750-668/000-004 | 753-668/000-004 | 427  |
|   | Classification of binary 24 V interfaces with functional safety testing according to Position Paper CB24I of the German Electrical and Electronic Manufacturer's Association (ZVEI)  |                 |                 | 418  |
| <b>Power Supply Ex i</b><br> | The intrinsically safe I/O module with inputs for functional safety (750-663/000-003) must only be operated with a 24 VDC Ex i supply module (e.g., 750-606, 750-625/000-001)! General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!               |                 |                 |      |
|   | Supply Module; 24 VDC; Diagnostics; Intrinsically Safe   | 750-606         |                 | 432  |
|   | Supply Module; 24 VDC; Intrinsically Safe  | 750-625/000-001 |                 | 432  |
| <b>Filter Module</b><br>     | The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules (see Section 7.10). Specific power supply features must be considered, which are described in the corresponding manuals. |                 |                 |      |
|   | Field Supply Filter (Surge); 24 VDC; Higher Isolation  | 750-624/020-000 |                 | 466  |
|   | Supply Filter; 24 VDC; Higher Isolation  | 750-626/020-000 |                 | 468  |

# Position Paper CB24I of the German Electrical and Electronic Manufacturer's Association (ZVEI)

## 7.8

Safe digital interfaces differ from conventional digital interfaces through higher safety testing for both inputs and outputs. They include dynamic digital interfaces of different characteristics and functions. At first glance, the combination of inputs to outputs results in a variety of possible variants due to the different applications. For this reason, ZVEI has issued the Position Paper CB24i in order to increase functional safety and simplify engineering processes.

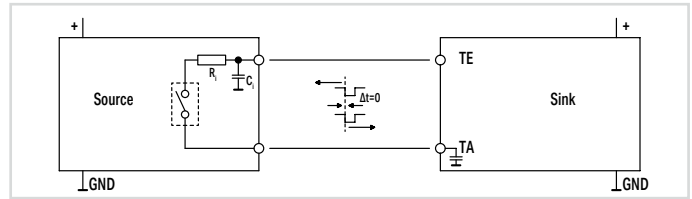
The purpose of this paper is to:

- describe terms
- define characteristics of interface types
- specify product information (technical data) per interface type to be supplied by the manufacturer.

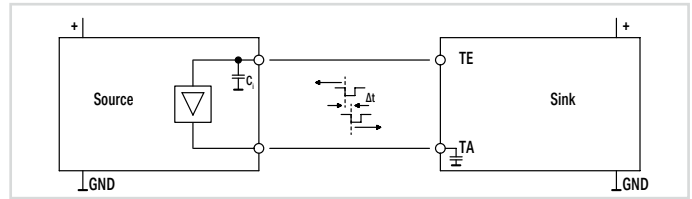
This paper provides a technical description for all interface types. No safety-related assessment is made.

The variety of possible combinations was divided into just four interface types (see right).

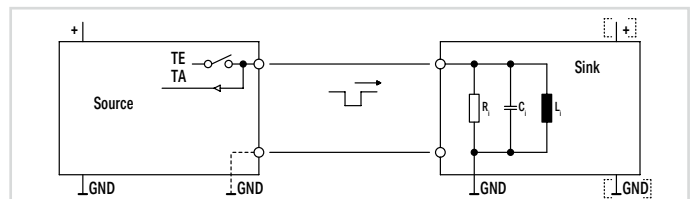
For both interface types C and D, four "performance" classes are also available to match the time requirements of the test pulses.



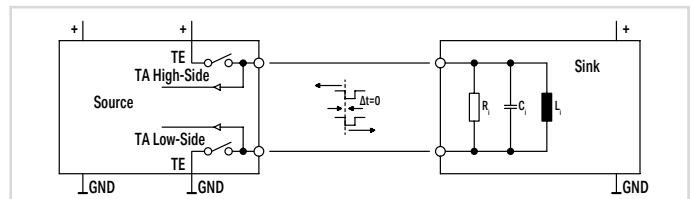
Interface type A



Interface type B



Interface type C



Interface type D

The identifying key has the following structure:

| Source/Sink | Interface type (and class) | Additional measures "M" | Sink/Source | Suitable interface type (and class) | Suitable interface type (and class) | Suitable interface type (and class) |
|-------------|----------------------------|-------------------------|-------------|-------------------------------------|-------------------------------------|-------------------------------------|
|-------------|----------------------------|-------------------------|-------------|-------------------------------------|-------------------------------------|-------------------------------------|

The first position describes the interface type and, if necessary, the class of the product. The second position indicates if additional measures are necessary. Next, the interface type suitable for this product is specified. Up to three interface types can be indicated. A row can only contain interface types of the same kind. Depending on the product, several identifying keys may also be used.

Examples:

a) Manufacturer information for a source of interface type C/class 2 (e.g., sensor):

|        |    |  |      |    |    |  |
|--------|----|--|------|----|----|--|
| Source | C2 |  | Sink | C1 | C2 |  |
|--------|----|--|------|----|----|--|

Explanation: In this case, a source of type C2 is compatible with a sink of type C1 and also with a sink of type C2.

b) Manufacturer information for a sink of interface type C/class 2 (e.g., safety PLC):

|      |    |  |        |  |    |    |
|------|----|--|--------|--|----|----|
| Sink | C2 |  | Source |  | C2 | C3 |
|------|----|--|--------|--|----|----|

Explanation: In this case, a sink of type C2 is compatible with a source of type C2 and also with a sink of type C3.

c) Manufacturer information for a sink of interface type A (e.g., safety evaluation unit):

|      |   |   |        |   |  |  |
|------|---|---|--------|---|--|--|
| Sink | A | M | Source | A |  |  |
|------|---|---|--------|---|--|--|

Explanation: In this case, a sink of type A is compatible with a source of type A subject to "M" additional measures.

Complete information can be found in the ZVEI Position Paper CB24i. This position paper is available for download in German and English via the ZVEI website.

## Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB24I

| WAGO – Functional Safety  |                 | Identifying Key per ZVEI Position Paper CB24I |                |                         |   |   |                  |             |                         |                         |                         |                         |
|---|-----------------|---|----------------|-------------------------|---|---|------------------|-------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Description   | Item No.        | Source/Sink                                   | Interface type | Additional measures "M" | Measures                                    |   |                  | Sink/Source | Suitable interface type | Suitable interface type | Suitable interface type | Suitable interface type |
|   |                 |   |                |                         | Parameterize filter time/short circuit test | Parameterize/switch off test pulse duration | Protected wiring |             |                         |                         |                         |                         |
| <b>Inputs</b>   |                 |   |                |                         |   |   |                  |             |                         |                         |                         |                         |
| Safe 4-channel digital input; 24 VDC; PROFIsafe                                       | 750-661/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
| Safe 4-channel digital input; 24 VDC; PROFIsafe                                       | 753-661/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
| Safe 8-channel digital input; 24 VDC; PROFIsafe                                       | 750-662/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
| Safe 8-channel digital input; 24 VDC; PROFIsafe                                       | 753-662/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
| <b>Inputs/outputs</b>   |                 |   |                |                         |   |   |                  |             |                         |                         |                         |                         |
| Safe 4/2 channel digital input/output; 24 VDC; 10 A; PROFIsafe                        | 750-666/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | C0             | M                       |   | x   |                  | Sink        | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | D0             | M                       |   | x   |                  | Sink        | D0                      | D1                      | D2                      | D3                      |
| Safe 4/4 channel digital input/output; 24 VDC; 2 A; PROFIsafe                         | 750-667/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | C0             | M                       |   | x   |                  | Sink        | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | D0             | M                       |   | x   |                  | Sink        | D0                      | D1                      | D2                      | D3                      |
| Safe 4/4 channel digital input/output; 24 VDC; 2 A; PROFIsafe                         | 753-667/000-004 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | C0             | M                       |   | x   |                  | Sink        | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | D0             | M                       |   | x   |                  | Sink        | D0                      | D1                      | D2                      | D3                      |
| Safe 4/4 channel digital input/relay output; 48 VAC/ 60 VDC; 6 A; PROFIsafe V2.0 iPar | 750-669/000-003 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |
|   |                 | Source  | A              | -                       |   |   |                  | Sink        | A                       | -                       | -                       | -                       |
|   |                 | Source  | C0             | M                       |   |   | x                | Sink        | C0                      | C1                      | C2                      | C3                      |
| <b>Intrinsically Safe Input</b>   |                 |   |                |                         |   |   |                  |             |                         |                         |                         |                         |
| Intrinsically safe 4-channel digital input; 24 VDC; PROFIsafe V2.0 iPar               | 750-663/000-003 | Sink  | A              | -                       |   |   |                  | Source      | A                       | -                       | -                       | -                       |
|   |                 | Sink  | C0             | M                       | x   |   |                  | Source      | C0                      | C1                      | C2                      | C3                      |

## Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB241

## 7.8

| Interface Type A – Sink               |   | Item: 75x-661/000-004; 75x-662/000-004; 750-666/000-004;<br>75x-667/000-004; 750-669/000-003 |       |   | Item: 750-663/000-003 |       |  |
|---------------------------------------|---|--|-------|---|-----------------------|-------|--|
| Parameters                            | Min.  | Typ. (24 V)  | Max.  | Min.  | Typ. (24 V)           | Max.  |  |
| Input current $I_i$ (in the ON state) | >2 mA   | -  | <9 mA | >2 mA   | 3 mA                  | <9 mA |  |
| Output voltage $U_i$                  | Field power supply<br>-0.2 V                          | -  | -     | Field power supply<br>-0.2 V                          | -                     | -     |  |
| Input capacitance $C_i$               | -   | -  | 12 nF | -   | -                     | 12 nF |  |
| Additional measure "M"                | Parameterize filter time; activate short circuit test |  |       | Parameterize filter time; activate short circuit test |                       |       |  |

| Interface Type C – Sink, Class C0 |   | Item: 75x-661/000-004; 75x-662/000-004; 750-666/000-004;<br>75x-667/000-004; 750-669/000-003 |                |   | Item: 750-663/000-003 |                |  |
|-----------------------------------|---|--|----------------|---|-----------------------|----------------|--|
| Parameters                        | Min.  | Typ. (24 V)  | Max.           | Min.  | Typ. (24 V)           | Max.           |  |
| Test pulse duration $t_i$         | 0.5 ms  | -  | 200 ms         | 0.5 ms  | -                     | 200 ms         |  |
| Test pulse interval T             | 18 ms   | 42 ms  | 1230 ms        | 18 ms   | 42 ms                 | 1230 ms        |  |
| Input resistance R                | -   | 3.6 k $\Omega$   | 8.5 k $\Omega$ | -   | 2.4 k $\Omega$        | 8.5 k $\Omega$ |  |
| Input capacitance $C_L$           | -   | -  | 12 nF          | -   | -                     | 12 nF          |  |
| Inductance $L_L$                  | -   | -  | -              | -   | -                     | -              |  |
| Additional measure "M"            | Parameterize filter time<br>Deactivate short circuit test |  |                | Parameterize filter time<br>Deactivate short circuit test |                       |                |  |

| Interface Type C – Sink, Class C1 |  | Item: 75x-661/000-004; 75x-662/000-004; 750-666/000-004;<br>75x-667/000-004; 750-669/000-003 |                |  | Item: 750-663/000-003 |                |  |
|-----------------------------------|--|--|----------------|--|-----------------------|----------------|--|
| Parameters                        | Min.   | Typ. (24 V)  | Max.           | Min.   | Typ. (24 V)           | Max.           |  |
| Test pulse duration $t_i$         | 2 ms   | -  | 200 ms         | 2 ms   | -                     | 200 ms         |  |
| Test pulse interval T             | 18 ms  | 42 ms  | 1230 ms        | 18 ms  | 42 ms                 | 1230 ms        |  |
| Input resistance R                | -  | 3.6 k $\Omega$   | 8.5 k $\Omega$ | -  | 2.4 k $\Omega$        | 8.5 k $\Omega$ |  |
| Input capacitance $C_L$           | -  | -  | 12 nF          | -  | -                     | 12 nF          |  |
| Inductance $L_L$                  | -  | -  | -              | -  | -                     | -              |  |
| Additional measure "M"            | Parameterize filter time to at least 2 ms<br>Deactivate short circuit test |  |                | Parameterize filter time to at least 2 ms<br>Deactivate short circuit test |                       |                |  |

| Interface Type C – Sink, Class C2 |  | Item: 75x-661/000-004; 75x-662/000-004; 750-666/000-004;<br>75x-667/000-004; 750-669/000-003 |                |  | Item: 750-663/000-003 |                |  |
|-----------------------------------|--|--|----------------|--|-----------------------|----------------|--|
| Parameters                        | Min.   | Typ. (24 V)  | Max.           | Min.   | Typ. (24 V)           | Max.           |  |
| Test pulse duration $t_i$         | 1 ms   | -  | 200 ms         | 1 ms   | -                     | 200 ms         |  |
| Test pulse interval T             | 18 ms  | 42 ms  | 1230 ms        | 18 ms  | 42 ms                 | 1230 ms        |  |
| Input resistance R                | -  | 3.6 k $\Omega$   | 8.5 k $\Omega$ | -  | 2.4 k $\Omega$        | 8.5 k $\Omega$ |  |
| Input capacitance $C_L$           | -  | -  | 12 nF          | -  | -                     | 12 nF          |  |
| Inductance $L_L$                  | -  | -  | -              | -  | -                     | -              |  |
| Additional measure "M"            | Parameterize filter time to at least 1 ms<br>Deactivate short circuit test |  |                | Parameterize filter time to at least 1 ms<br>Deactivate short circuit test |                       |                |  |

| Interface Type C – Sink, Class C3 |  | Item: 75x-661/000-004; 75x-662/000-004; 750-666/000-004;<br>75x-667/000-004; 750-669/000-003 |                |  | Item: 750-663/000-003 |                |  |
|-----------------------------------|--|--|----------------|--|-----------------------|----------------|--|
| Parameters                        | Min.   | Typ. (24 V)  | Max.           | Min.   | Typ. (24 V)           | Max.           |  |
| Test pulse duration $t_i$         | 0.5 ms   | -  | 200 ms         | 0.5 ms   | -                     | 200 ms         |  |
| Test pulse interval T             | 18 ms  | 42 ms  | 1230 ms        | 18 ms  | 42 ms                 | 1230 ms        |  |
| Input resistance R                | -  | 3.6 k $\Omega$   | 8.5 k $\Omega$ | -  | 2.4 k $\Omega$        | 8.5 k $\Omega$ |  |
| Input capacitance $C_L$           | -  | -  | 12 nF          | -  | -                     | 12 nF          |  |
| Inductance $L_L$                  | -  | -  | -              | -  | -                     | -              |  |
| Additional measure "M"            | Parameterize filter time to at least 0.5 ms<br>Deactivate short circuit test |  |                | Parameterize filter time to at least 0.5 ms<br>Deactivate short circuit test |                       |                |  |

## Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB24I

| Interface Type A – Source                         |      | Item: 750-669/000-003 |                 |  |
|---|------|-----------------------|-----------------|--|
| Parameters  | Min. | Typ.                  | Max.            |  |
| Switching current $I_i$                           | 3 mA | -                     | 6 A per contact |  |
| Switching voltage $U_i$                           | 10 V | -                     | 60 VDC / 48 VAC |  |
| Internal resistance $R_i$ (in the switched state) | -    | -                     | 100 mΩ          |  |
| Load capacitance $C_L$                            | -    | -                     | -               |  |
| Load inductance $L_L$                             | -    | -                     | 1.2 H           |  |
| Potential-free                                    | Yes  |                       |                 |  |

| Interface Type C – Source, Class C0                        |  | Item: 750-666/000-004 |           |                                  | Item: 75x-667/000-004 |        |  |
|--|--|-----------------------|-----------|----------------------------------|-----------------------|--------|--|
| Parameters   | Min.   | Typ.                  | Max.      | Min.                             | Typ.                  | Max.   |  |
| Test pulse duration $t_i$                                  | 2 ms   | -                     | 500 ms    | 1 ms                             | -                     | 500 ms |  |
| Leakage current $I$ Leakage of the output in the OFF state | -  | -                     | <1 mA     | -                                | -                     | 1.2 mA |  |
| Nominal current $I_N$ of the output in the ON state        | -  | -                     | 10 A      | 20 mA                            | 2 A                   | 2.4 A  |  |
| Capacitive load $C_L$                                      | -  | -                     | 10,000 μF | -                                | -                     | 2.2 μF |  |
| Inductive load $L_L$                                       | -  | -                     | 1.2 H     | -                                | -                     | 1.2 H  |  |
| Additional measure "M"                                     | Parameterize test pulse duration<br>Parameterize output tolerance time |                       |           | Parameterize test pulse duration |                       |        |  |

| Interface Type D – Source, Class D0                        |  | Item: 750-666/000-004 |           |                                  | Item: 75x-667/000-004 |        |  |
|--|--|-----------------------|-----------|----------------------------------|-----------------------|--------|--|
| Parameters   | Min.   | Typ.                  | Max.      | Min.                             | Typ.                  | Max.   |  |
| Test pulse duration $t_i$                                  | 2 ms   | -                     | 500 ms    | 1 ms                             | -                     | 500 ms |  |
| Leakage current $I$ Leakage of the output in the OFF state | -  | -                     | <1 mA     | -                                | -                     | 1.2 mA |  |
| Nominal current $I_N$ of the output in the ON state        | -  | -                     | 10 A      | 20 mA                            | 2 A                   | 2.4 A  |  |
| Capacitive load $C_L$                                      | -  | -                     | 10,000 μF | -                                | -                     | 2.2 μF |  |
| Inductive load $L_L$                                       | -  | -                     | 1.2 H     | -                                | -                     | 1.2 H  |  |
| Additional measure "M"                                     | Parameterize test pulse duration<br>Parameterize output tolerance time |                       |           | Parameterize test pulse duration |                       |        |  |

| Interface Type D – Source, Class D1                        |  | Item: 75x-667/000-004 |        |  |
|--|--|-----------------------|--------|--|
| Parameters   | Min.                                     | Typ.                  | Max.   |  |
| Test pulse duration $t_i$                                  | -  | -                     | 1 ms   |  |
| Leakage current $I$ Leakage of the output in the OFF state | -  | -                     | 1.2 mA |  |
| Nominal current $I_N$ of the output in the ON state        | 20 mA                                    | 2 A                   | 2.4 A  |  |
| Capacitive load $C_L$                                      | -  | -                     | 2.2 μF |  |
| Inductive load $L_L$                                       | -  | -                     | 1.2 H  |  |
| Additional measure "M"                                     | Parameterize test pulse duration to 1 ms |                       |        |  |

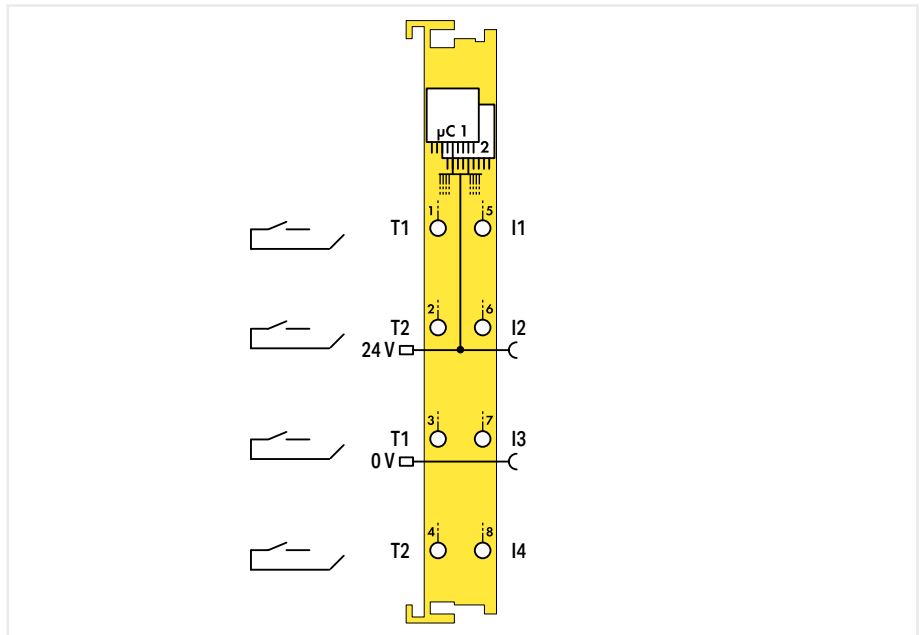
| Interface Type D – Source, Class D1, D2, D3                |  | Item: 750-666/000-004 |           |   | Item: 75x-667/000-004 |        |  |
|--|--|-----------------------|-----------|---|-----------------------|--------|--|
| Parameters   | Min.   | Typ.                  | Max.      | Min.  | Typ.                  | Max.   |  |
| Test pulse duration $t_i$                                  | -  | -                     | -         | -   | -                     | -      |  |
| Leakage current $I$ Leakage of the output in the OFF state | -  | -                     | <1 mA     | -   | -                     | 1.2 mA |  |
| Nominal current $I_N$ of the output in the ON state        | 20 mA  | 2 A                   | 10 A      | 20 mA   | 2 A                   | 2.4 A  |  |
| Capacitive load $C_L$                                      | -  | -                     | 10,000 μF | -   | -                     | 2.2 μF |  |
| Inductive load $L_L$                                       | -  | -                     | 1.2 H     | -   | -                     | 1.2 H  |  |
| Additional measure "M"                                     | Parameterize test pulse duration to 0 ms (off)<br>Parameterize output tolerance time<br>Program safety application for automatic test: Switch off the output once every 8 h<br>Parameterize output configuration |                       |           | Parameterize test pulse duration to 0 ms (off)<br>Program safety application for automatic test: Switch off the output once every 8 h |                       |        |  |

## Functional safety ▶ Digital input

7.8



750-661/000-004



|   |   |                          |
|---|---|--------------------------|
| Item description                                | <b>Safe 4-channel digital input; 24 VDC; PROFIsafe</b>  |                          |
| Version   | Standard  | pluggable                |
| Item no.  | 750-661/000-004   | 753-661/000-004          |
| Order Text                                      | 4FDI 24V PROFIsafe  | 4FDI 24V PROFIsafe       |
| Technical data                                  | fixed   | pluggable                |
| Pluggable connector                             |   |                          |
| Number of digital inputs                        | 4   |                          |
| Achievable safety classes                       | SIL 3; Category 4, PLe (two-channel); SIL 2; Category 2; PLd (one-channel)  |                          |
| Interface types according to ZVEI (inputs)      | Drain; A, C0, C1, C2, C3  |                          |
| Protocols                                       | PROFIsafe V2.6 (PROFINET)   |                          |
| Configuration options                           | PROFIsafe address adjustable via DIP switch or engineering software   |                          |
| Sensor connection                               | 4 x (Fail-safe input with test pulse)   |                          |
| Input characteristic                            | clock sensitive   |                          |
| Input characteristic                            | Type 1 per IEC 61131  |                          |
| Input current per channel for signal (1) typ.   | 3 mA  |                          |
| Signal frequency (max.)                         | 50 Hz   |                          |
| Output current per channel                      | 0.1 A   |                          |
| Supply voltage (field)                          | 24 VSELV/PELV DC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                          |
| Current consumption (5 V system supply)         | 120 mA  |                          |
| Ambient temperature (operation)                 | 0 ... +55 °C  |                          |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |                          |
| Functional safety                               | IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061  |                          |
| Safety standards                                | CE; Marine; OrdLoc/HazLoc   |                          |
| Approvals                                       |   |                          |
| For data sheet and additional information, see: | wago.com/750-661/000-004  | wago.com/753-661/000-004 |
| Accessories                                     | Item no.  | Item no.                 |
| Plug; Safety                                    | -   | 753-120                  |

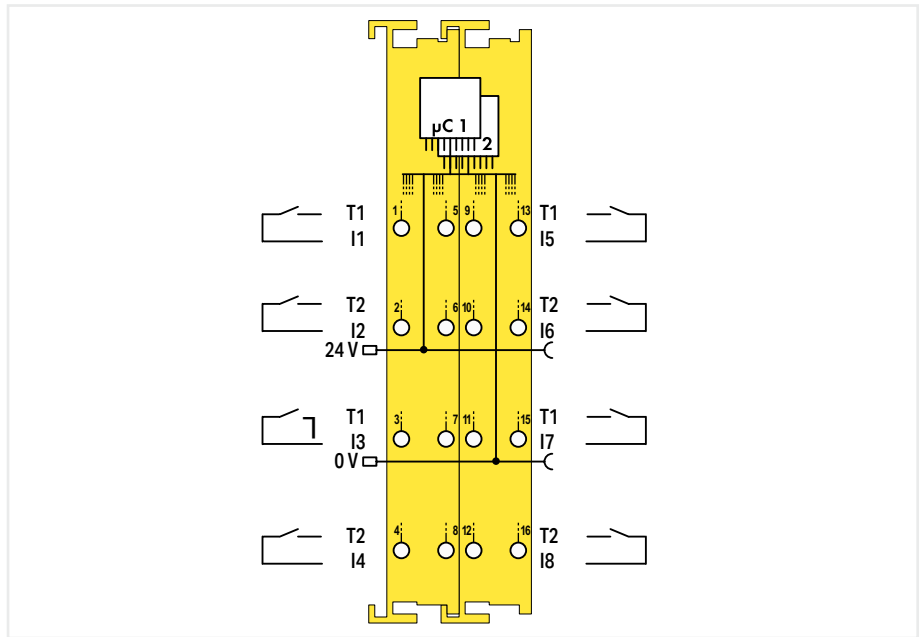
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.



Functional safety ▶ Digital input



750-662/000-004



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |                    |
|---|--------------------|
| Safe 8-channel digital input; 24 VDC; PROFIsafe |                    |
| Standard  | pluggable          |
| 750-662/000-004                                 | 753-662/000-004    |
| 8FDI 24V PROFIsafe                              | 8FDI 24V PROFIsafe |

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Number of digital inputs                        |
| Achievable safety classes                       |
| Interface types according to ZVEI (inputs)      |
| Protocols                                       |
| Configuration options                           |
| Sensor connection                               |
| Input characteristic                            |
| Input characteristic                            |
| Input current per channel for signal (1) typ.   |
| Signal frequency (max.)                         |
| Output current per channel                      |
| Supply voltage (field)                          |
| Current consumption (5 V system supply)         |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Functional safety                               |
| Safety standards                                |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |                          |
|---|--------------------------|
| fixed   | pluggable                |
| 8   |                          |
| SIL 3; Category 4, PL <sub>e</sub> (two-channel); SIL 2; Category 2; PL <sub>d</sub> (one-channel)                            |                          |
| Drain; A, C0, C1, C2, C3  |                          |
| PROFIsafe V2.6 (PROFINET)   |                          |
| PROFIsafe address adjustable via DIP switch or engineering software   |                          |
| 8 x (Fail-safe input with test pulse)   |                          |
| clock sensitive   |                          |
| Type 1 per IEC 61131  |                          |
| 3 mA  |                          |
| 50 Hz   |                          |
| 0.1 A   |                          |
| 24 VSELV/PELV DC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                          |
| 120 mA  |                          |
| 0 ... +55 °C  |                          |
| (24 x 100 x 67.8) mm  |                          |
| IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061  |                          |
| CE; Marine; OrdLoc/HazLoc   |                          |
| wago.com/750-662/000-004  | wago.com/753-662/000-004 |

|              |
|--------------|
| Accessories  |
| Plug; Safety |

|          |          |
|----------|----------|
| Item no. | Item no. |
| -        | 753-120  |

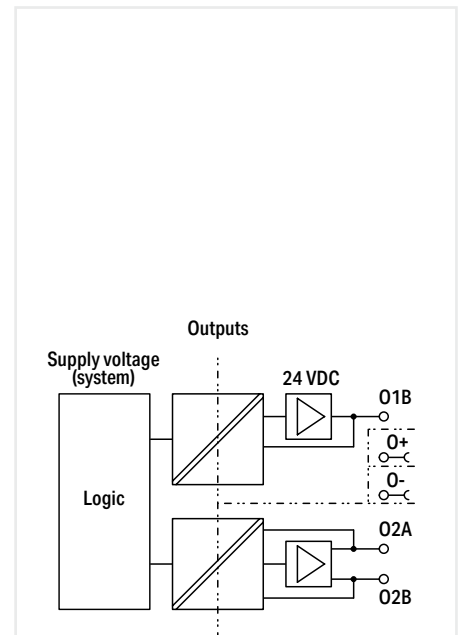
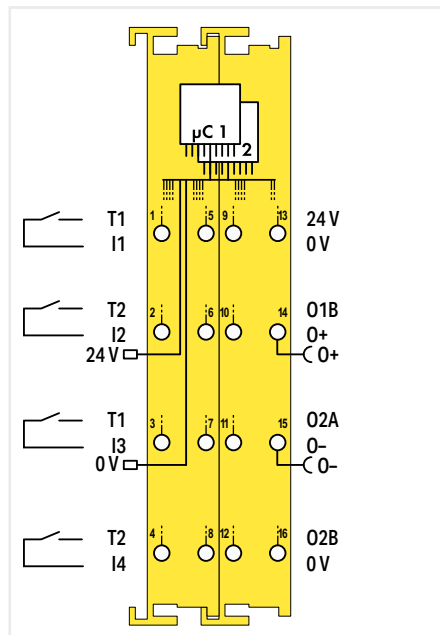
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

## Functional safety ► Digital input; Digital output

7.8



750-666/000-004



|   |  |
|---|--|
| Item description                                | Safe 4/2 channel digital input/output; 24 VDC; 10 A; PROFIsafe                                     |
| Version   | Standard   |
| Item no.  | 750-666/000-004  |
| Order Text                                      | 4FDI/2FDO 24V/10A PROFIsafe  |
| Technical data                                  |  |
| Pluggable connector                             | fixed  |
| Number of digital inputs                        | 4  |
| Achievable safety classes                       | SIL 3; Category 4, PL <sub>e</sub> (two-channel); SIL 2; Category 2; PL <sub>d</sub> (one-channel) |
| Interface types according to ZVEI (inputs)      | Drain; A, C0, C1, C2, C3   |
| Protocols                                       | PROFIsafe V2.6 (PROFINET)  |
| Configuration options                           | PROFIsafe address adjustable via DIP switch or engineering software                                |
| Sensor connection                               | 4 x (Fail-safe input with test pulse)  |
| Input characteristic                            | clock sensitive  |
| Input characteristic                            | Type 1 per IEC 61131   |
| Input current per channel for signal (1) typ.   | 3 mA   |
| Signal frequency (max.)                         | 50 Hz  |
| Number of digital outputs                       | 2  |
| Interface types according to ZVEI (outputs)     | Source; C0, C1, C2, C3, D0, D1, D2, D3   |
| Output circuit design                           | Power outputs  |
| Actuator connection                             | 2 x (fail-safe output with test pulse)   |
| Output current per channel                      | 10 A   |
| Output current                                  | short-circuit-protected  |
| Output current (module)                         | 20 A   |
| Switching frequency (max.)                      | 50 Hz; Resistive load  |
| Switching frequency (max.) (2)                  | 0.1 Hz; Inductive load   |
| Switching frequency (max.) (3)                  | 0.1 Hz; Capacitive load  |
| Supply voltage (field)                          | 24 VSELV/PELV DC (-25 ... +30 %); via power jumper contacts (power supply via blade contact)       |
| Current consumption (5 V system supply)         | 120 mA   |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (24 x 100 x 67.8) mm   |
| Functional safety                               |  |
| Safety standards                                | IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc  |
| For data sheet and additional information, see: | wago.com/750-666/000-004   |

This module enables a fail-safe 2-channel switch-off (single failure protection) when the power outputs are used in a bipolar configuration. If a fail-safe 1-channel switch-off is adequate, two independent switching channels are available.

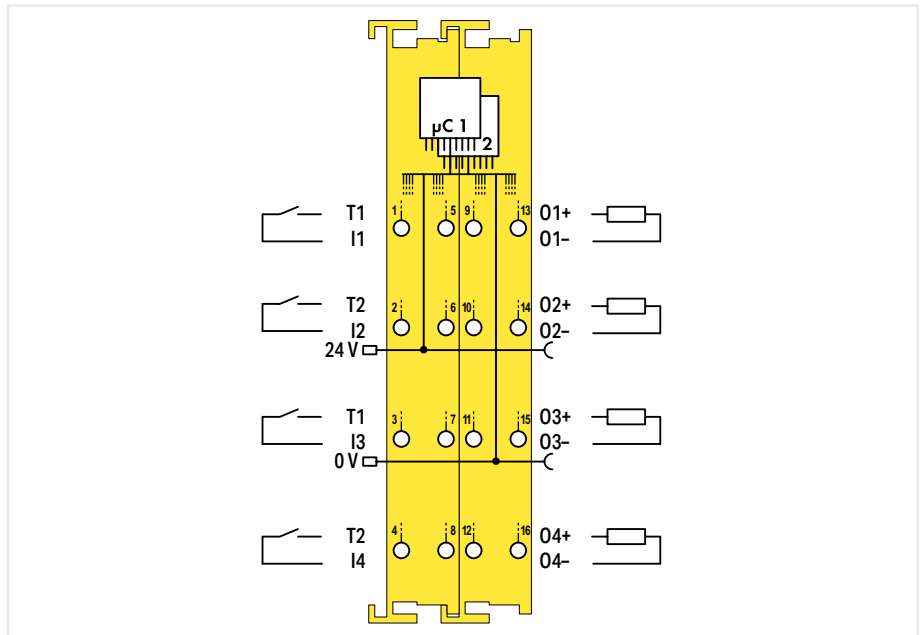
The module is capable of safely shutting off the supply voltage of entire actuator groups which are connected to the standard modules arranged to the right. The 2-channel circuit types P-M and P-P, as well as the 1-channel circuit types P, P or P, M are available.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

# Functional safety ▶ Digital input; Digital output



750-667/000-004



|                  |   |                            |
|------------------|---|----------------------------|
| Item description | Safe 4/4 channel digital input/output; 24 VDC; 2 A; PROFIsafe |                            |
| Version          | Standard  | pluggable                  |
| Item no.         | 750-667/000-004   | 753-667/000-004            |
| Order Text       | 4FDI/4FDO 24V/2A PROFIsafe                                    | 4FDI/4FDO 24V/2A PROFIsafe |

| Technical data                                  | fixed   | pluggable                |
|---|---|--------------------------|
| Pluggable connector                             |   |                          |
| Number of digital inputs                        | 4   |                          |
| Achievable safety classes                       | SIL 3; Category 4, PL <sub>e</sub> (two-channel); SIL 2; Category 2; PL <sub>d</sub> (one-channel)                            |                          |
| Interface types according to ZVEI (inputs)      | Drain; A, C0, C1, C2, C3  |                          |
| Protocols                                       | PROFIsafe V2.6 (PROFINET)   |                          |
| Configuration options                           | PROFIsafe address adjustable via DIP switch or engineering software   |                          |
| Sensor connection                               | 4 x (Fail-safe input with test pulse)   |                          |
| Input characteristic                            | clock sensitive   |                          |
| Input characteristic                            | Type 1 per IEC 61131  |                          |
| Input current per channel for signal (1) typ.   | 3 mA  |                          |
| Signal frequency (max.)                         | 50 Hz   |                          |
| Number of digital outputs                       | 4   |                          |
| Interface types according to ZVEI (outputs)     | Source; C0, C1, C2, C3, D0, D1, D2, D3  |                          |
| Output circuit design                           | Power outputs   |                          |
| Actuator connection                             | 4 x (fail-safe output with test pulse)  |                          |
| Output current per channel                      | 2 A   |                          |
| Output current                                  | short-circuit-protected   |                          |
| Output current (module)                         | 8 A   |                          |
| Capacitive load for each channel                | O1 ... O4; 47 µF  |                          |
| Switching frequency (max.)                      | 50 Hz; Resistive load   |                          |
| Switching frequency (max.) (2)                  | 0.1 Hz; Inductive load  |                          |
| Supply voltage (field)                          | 24 VSELV/PELV DC (-25 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                          |
| Current consumption (5 V system supply)         | 120 mA  |                          |
| Ambient temperature (operation)                 | 0 ... +55 °C  |                          |
| Dimensions W x H x D                            | (24 x 100 x 67.8) mm  |                          |
| Functional safety                               |   |                          |
| Safety standards                                | IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061  |                          |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc   |                          |
| For data sheet and additional information, see: | wago.com/750-667/000-004  | wago.com/753-667/000-004 |
| Accessories                                     | Item no.  | Item no.                 |
| Plug; Safety                                    | -   | 753-120                  |

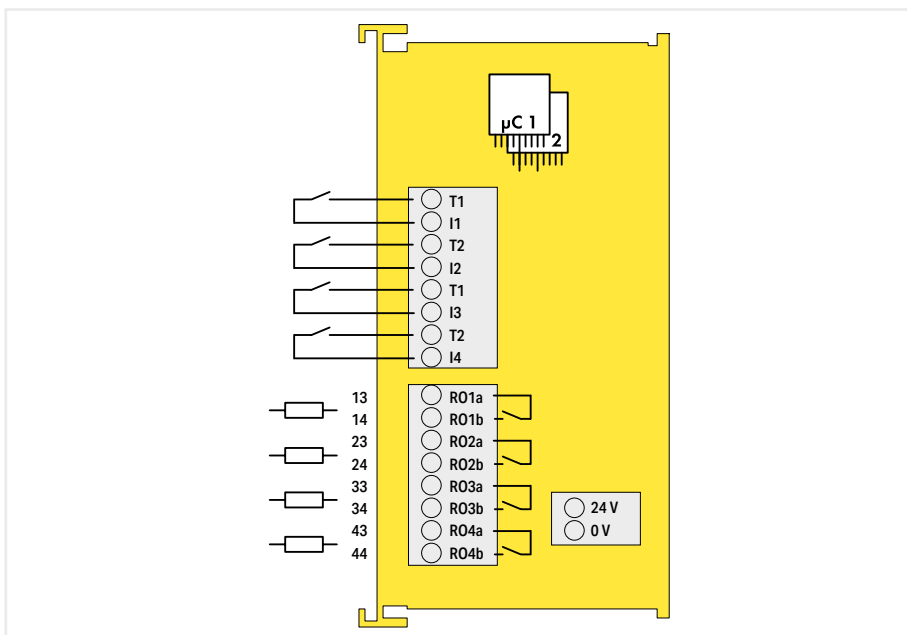
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

## Functional safety ► Digital input; Relay output

7.8



750-669/000-003



|                  |   |
|------------------|---|
| Item description | Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar |
| Item no.         | 750-669/000-003   |
| Order Text       | 4FDI/4FRO; 48VAC/ 60VDC; 6A; PROFIsafe V2 iPar  |

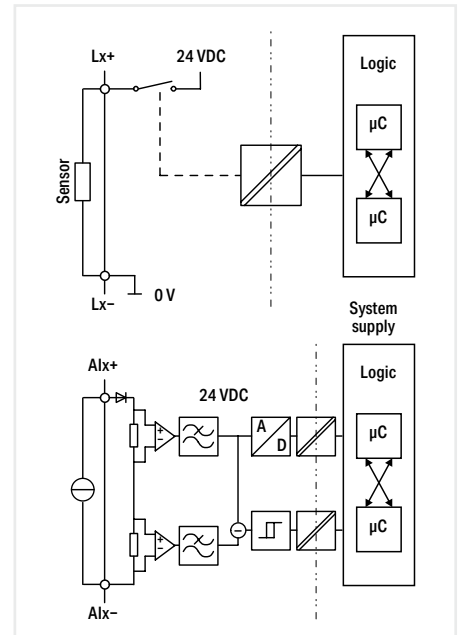
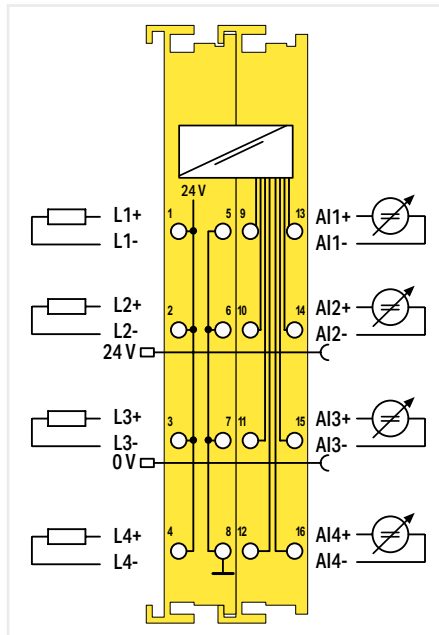
|   |   |
|---|---|
| Technical data                                  |   |
| Number of digital inputs                        | 4   |
| Achievable safety classes                       | SIL 3; Category 4, PL e   |
| Protocols                                       | PROFIsafe V2  |
| Configuration options                           | PROFIsafe address adjustable via DIP switch or engineering software                   |
| Sensor connection                               | 4 x (Fail-safe input with test pulse)   |
| Input characteristic                            | clock sensitive   |
| Input characteristic                            | Type 1  |
| Input current per channel for signal (1) typ.   | 2.2 mA  |
| Signal frequency (max.)                         | 50 Hz   |
| Number of digital outputs                       | 4   |
| Output circuit design                           | Relay outputs   |
| Actuator connection                             | 4 x (fail-safe output with test pulse)  |
| Switching voltage range                         | 5 ... 60 VDC (SELV/PELV); 5 ... 48 VAC  |
| Isolation voltage                               | Relay outputs: 48 VAC, 60 VDC   |
| Switching current (note)                        | Switching current range compatible with the WAGO 75x-66x/000-003 PROFIsafe I/O Module |
| Output current per channel                      | 6 A   |
| Output current (module)                         | 24 A  |
| Switching delay                                 | 50 ms   |
| Supply voltage (system and sensor)              | 24 VDC(-25 ... +30 %)   |
| Supply voltage (field)                          | 24 VDC; via pluggable connector (Push-in CAGE CLAMP® connection)                      |
| Current consumption (5 V system supply)         | 145 mA  |
| Isolation                                       | 500 V system/field  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (48 x 100 x 69.8) mm  |
| Functional safety                               |   |
| Safety standards                                | IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061  |
| Approvals                                       | CE; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see: | wago.com/750-669/000-003  |

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

# Functional safety ▶ Analog input



750-668/000-004



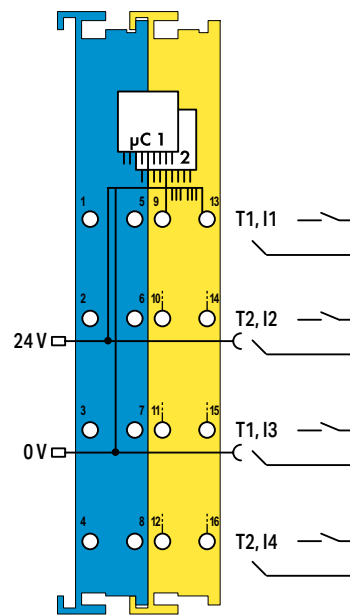
|  |   |                               |
|--|---|-------------------------------|
| Item description   | <b>Safe Analog Input, 4 Channels; 0/4 ... 20 mA; Differential Input; PROFIsafe</b>  |                               |
| Version  | <b>Standard</b>   | <b>pluggable</b>              |
| Item no.   | 750-668/000-004   | 753-668/000-004               |
| Order Text   | 4FAI 0/4-20 mA Diff PROFIsafe   | 4FAI 0/4-20 mA Diff PROFIsafe |
| Technical data   |   |                               |
| Number of analog inputs  | 4   |                               |
| Achievable safety classes                                      | SIL 3; Category 4, PL <sub>e</sub> (two-channel); SIL 2; Category 2; PL <sub>d</sub> (one-channel)                            |                               |
| Protocols  | PROFIsafe V2  |                               |
| Configuration options  | PROFIsafe address adjustable via DIP switch or engineering software   |                               |
| Sensor connection  | 4 x (2-wire, 3-wire, 4-wire)  |                               |
| Signal characteristics   | Differential  |                               |
| Resolution [bit]   | 16 bits   |                               |
| Load impedance   | 300 Ω   |                               |
| Common-mode voltage (max.)                                     | 60 V  |                               |
| Noise rejection at sampling frequency                          | 38 dB   |                               |
| Measurement error (reference temperature)                      | 25 °C   |                               |
| Measurement error, deviation (max.) from the upper-range value | 0.05 %  |                               |
| Temperature error (max.) of the upper-range value              | 0.006 %/K   |                               |
| Output current per channel                                     | 1.5 A   |                               |
| Output current (module)  | 1.5 A   |                               |
| Current carrying capacity                                      | 40 mA   |                               |
| Sensor supply  | Outputs L1 ... L4   |                               |
| Supply voltage (field)   | 24 VSELV/PELV DC (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |                               |
| Current consumption (5 V system supply)                        | 120 mA  |                               |
| Isolation  | 500 V system/field  |                               |
| Ambient temperature (operation)                                | 0 ... +55 °C  |                               |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  | (24 x 100 x 69) mm            |
| Functional safety  |   |                               |
| Safety standards   | IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061  |                               |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |                               |
| For data sheet and additional information, see:                | wago.com/750-668/000-004  | wago.com/753-668/000-004      |
| <b>Accessories</b>   | <b>Item no.</b>   | <b>Item no.</b>               |
| Plug; Safety   | -   | 753-120                       |

## Functional safety ► Intrinsically safe modules (Ex i); Digital input

7.8



750-663/000-003



|   |  |
|---|--|
| Item description                                | Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar   |
| Version   | intrinsically safe   |
| Item no.  | 750-663/000-003  |
| Order Text                                      | 4F-Ex i DI; 24 VDC; PROFIsafe V2 iPar  |
| Technical data                                  |  |
| Number of digital inputs                        | 4  |
| Protocols                                       | PROFIsafe V2   |
| Configuration options                           | PROFIsafe address adjustable via DIP switch or engineering software  |
| Sensor connection                               | 4 x (Fail-safe input with test pulse)  |
| Input characteristic                            | clock sensitive  |
| Input characteristic                            | Type 1   |
| Input filter                                    | 0 ... 200 ms (parameterizable in steps)  |
| Input current per channel for signal (1) typ.   | 3 mA   |
| Signal frequency (max.)                         | 50 Hz  |
| Short-circuit current                           | ≤ 25 mA  |
| Output current per channel                      | 0.05 A   |
| Supply voltage (field)                          | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 145 mA   |
| Isolation                                       | 300 VAC system/field   |
| Ambient temperature (operation)                 | 0 ... +55 °C   |
| Dimensions W x H x D                            | (24 x 100 x 67.8) mm   |
| Functional safety                               |  |
| Achievable risk reduction                       | SIL 3 per IEC 61508; SIL 3 per IEC 61511; SIL 3 per IEC 62061; Cat. 4, PL e per EN ISO 13849   |
| Safety standards                                | IEC 61508; IEC 62061; EN ISO 13849; IEC 61511  |
| Explosion protection                            |  |
| Safety-relevant data (circuit)                  | $U_o = 27.3 \text{ V}$ ; $I_o = 23 \text{ mA}$ ; $P_o = 157 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC                            | $L_o = 61 \text{ mH}$ ; $C_o = 64 \text{ nF}$  |
| Reactances Ex ia IIB                            | $L_o = 100 \text{ mH}$ ; $C_o = 552 \text{ nF}$  |
| Reactances Ex ia IIA                            | $L_o = 100 \text{ mH}$ ; $C_o = 2.28 \text{ } \mu\text{F}$   |
| Reactances Ex ia I                              | $L_o = 100 \text{ mH}$ ; $C_o = 2.95 \text{ } \mu\text{F}$   |
| Reactances (note)                               | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard                                     | EN IEC 60079-0, -7, -11  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO   |
| Marking   | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see: | wago.com/750-663/000-003   |

This module combines intrinsic safety with functional safety and was specifically developed for reliable acquisition from potential-free, contact-based emergency stop switches, safety interlock switches, mode selectors and safety sensors that are located in hazardous environments.

Thus, safety functions with fail-safe sensors from Ex Zones 0 and 1 can be implemented.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.



# Intrinsically Safe Modules Ex i

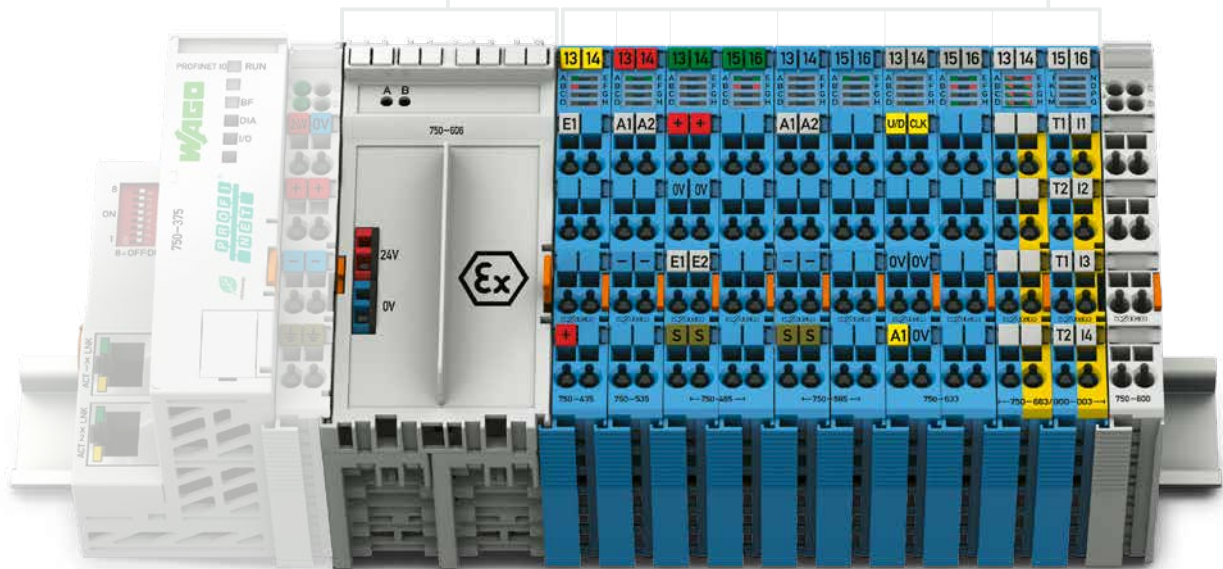


## Specialty Housing

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 48 x 100 x 70.9 mm                           |
| Depth from upper edge of DIN-rail | 63.7 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG |
| Strip length                      | 5 ... 6 mm / 0.22 inch                       |

## Housing Design (750 Series)

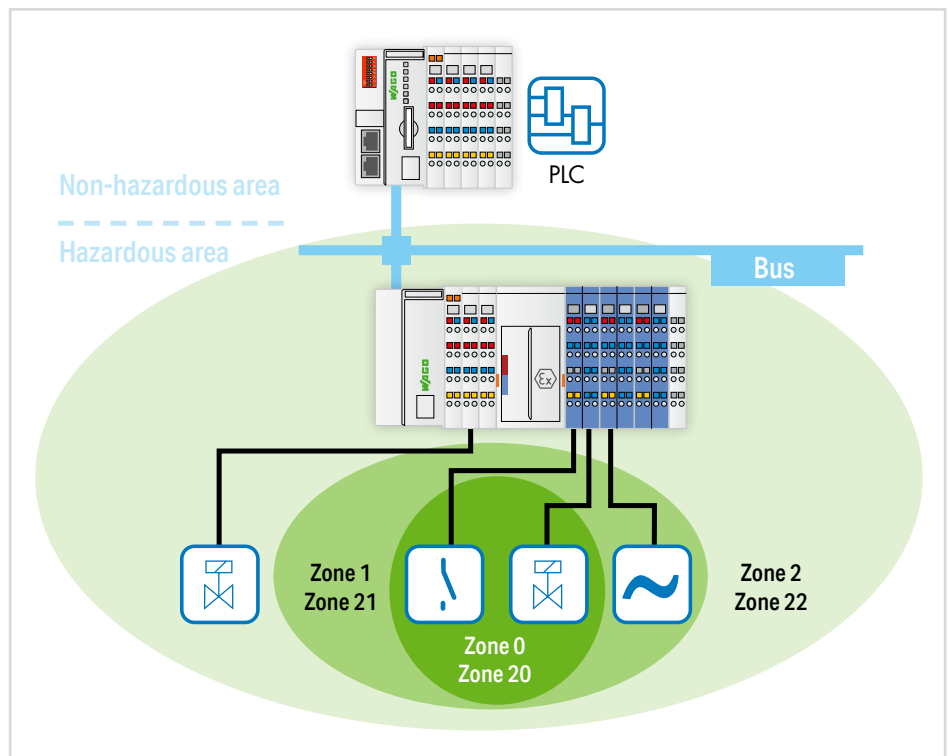
|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 or 24 x 100 x 67.8 mm                     |
| Depth from upper edge of DIN-rail | 60.6 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch                       |



## Use in Hazardous Areas

In many plants across the chemical and petro-chemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to facilities.

The modules within the WAGO I/O System 750 are designed for use in both non-hazardous and hazardous areas. The direct application of fieldbus technology in potentially explosive areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the I/O System 750 offers a safe, easy and economical connection to the sensors/actuators of Zones 0/20 and 1/21. The "blue" Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO I/O System 750 is also approved for mining applications.





## I/O System – 750 and 753 Series, Intrinsically Safe Modules Ex i

### Contents

| Function   | Description  | Item Number     | Page |
|--|--|-----------------|------|
| Power Supply Ex i  | Supply Module; 24 VDC; Diagnostics; Intrinsically Safe                         | 750-606*        | 432  |
|  | Supply Module; 24 VDC; Intrinsically Safe                                      | 750-625/000-001 | 432  |
| Digital Input Ex i<br>for Proximity Sensors<br>per EN 60947-5-6    | 1-Channel Digital Input; NAMUR; Intrinsically Safe                             | 750-435         | 433  |
|  | 2-Channel Digital Input; NAMUR; Intrinsically Safe                             | 750-438         | 434  |
|  | Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar       | 750-663/000-003 | 428  |
|  | 8-Channel Digital Input; NAMUR; Intrinsically Safe                             | 750-439*        | 435  |
| Digital Output Ex i  | 2-Channel Digital Output; 24 VDC; Intrinsically Safe                           | 750-535*        | 436  |
|  | 4-Channel Digital Output; 24 VDC; Valve; Intrinsically Safe                    | 750-539         | 437  |
|  | 2-Channel Relay Output; Changeover Contact; Potential-Free; Intrinsically Safe | 750-538         | 438  |
| Analog Input Ex i  | 2-Channel Analog Input; 4 ... 20 mA; Intrinsically Safe                        | 750-485         | 439  |
|  | 4-Channel Analog Input; 0/4 ... 20 mA; NAMUR NE43; Intrinsically Safe          | 750-486*        | 440  |
|  | 2-Channel Analog Input; 4 ... 20 mA HART; Intrinsically Safe                   | 750-484*        | 441  |
|  | 2-Channel Analog Input; 4 ... 20 mA HART; NAMUR NE43; Intrinsically Safe       | 750-484/000-001 | 442  |
|  | 4-Channel Analog Input; RTD/TC; Intrinsically Safe                             | 750-489         | 443  |
| Analog Output Ex i   | 2-Channel Analog Output; 0 ... 20 mA; Intrinsically Safe                       | 750-585*        | 444  |
|  | 2-Channel Analog Output; 4 ... 20 mA; Intrinsically Safe                       | 750-586         | 445  |
| Function Module Ex i   | Up/Down Counter; Intrinsically Safe  | 750-633*        | 446  |
| *This module is also available as a variant of the 750 XTR Series. |  | See Section 8   |      |

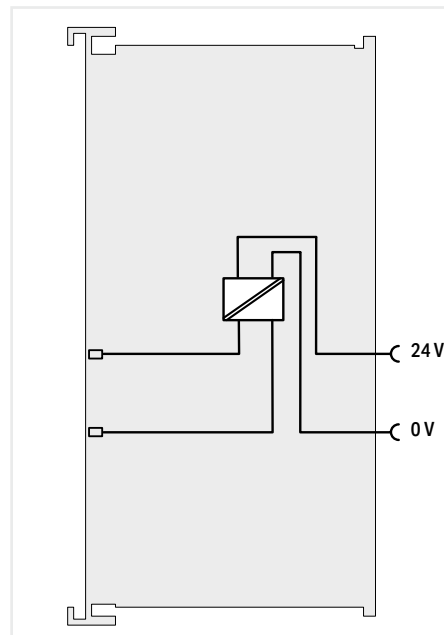
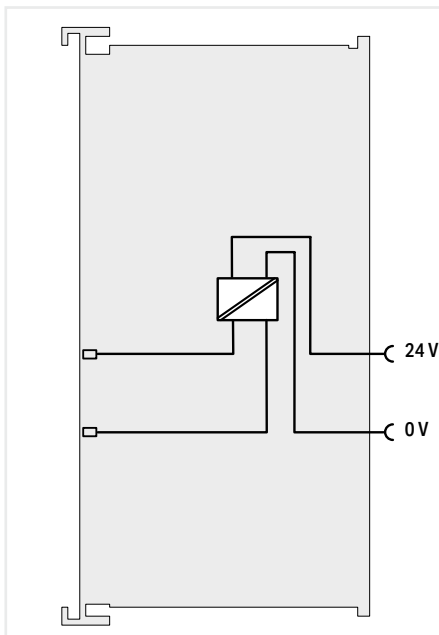


I/O System –  
750 XTR Series

## Intrinsically safe modules (Ex i) ▶ Supply module



750-625/000-001



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                            |
|----------------------------|
| Power Supply; 24 VDC       |
| intrinsically safe         |
| 750-625/000-001            |
| Power Supply; 24 VDC; Ex i |

|                                   |
|-----------------------------------|
| Power Supply; 24 VDC; Diagnostics |
| Diagnostics; intrinsically safe   |
| 750-606                           |
| Power Supply; 24 VDC; Diagn; Ex i |

## Technical data

|   |
|---|
| Current consumption (5 V system supply) |
| Input voltage (note)                    |
| Supply voltage (field)                  |

|   |
|---|
| 7.5 mA  |
| 24 VDC (-25 % ... +30 %)  |
| 24 VDC (-25 ... +30 %); (Adjacent Ex i modules are supplied with $U_o = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |

|   |
|---|
| 7.5 mA  |
| 24 VDC (-25 % ... +30 %)  |
| 24 VDC (-25 ... +30 %); (Adjacent Ex i modules are supplied with $U_o = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |

|   |
|---|
| Current carrying capacity (power jumper contacts) |
| Fuse  |
| Data width  |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Explosion protection                              |
| Power supply (input)                              |
| Power supply (output)                             |

|                      |
|----------------------|
| 1 A                  |
| electronic           |
| -                    |
| 0 ... +55 °C         |
| (48 x 100 x 70.9) mm |

|  |
|--|
| 1 A  |
| electronic                                     |
| 2 bits (input voltage failure, fuse triggered) |
| 0 ... +55 °C                                   |
| (48 x 100 x 70.9) mm                           |

|             |
|-------------|
| Ex standard |
| Approvals   |

|   |
|---|
| $U_n = 24 \text{ VDC} (-25 \% \dots +30 \%)$ ; $P_{\max.} = 29 \text{ W}$ ; $U_m = 253 \text{ V}$<br>$U_o = 26.8 \text{ V}$ (safe voltage per IEC 60079-11, protection level ia); $U_n = 24 \text{ V} \pm 0.3 \text{ V}$ , $I_n = 1 \text{ A}$<br>EN IEC 60079-0, -7, -11 |
| CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO   |

|   |
|---|
| $U_n = 24 \text{ VDC} (-25 \% \dots +30 \%)$ ; $P_{\max.} = 29 \text{ W}$ ; $U_m = 253 \text{ V}$<br>$U_o = 26.8 \text{ V}$ (safe voltage per IEC 60079-11, protection level ia); $U_n = 24 \text{ V} \pm 0.3 \text{ V}$ , $I_n = 1 \text{ A}$<br>EN IEC 60079-0, -7, -11 |
| CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO   |

|   |
|---|
| Marking   |
| For data sheet and additional information, see: |

|   |
|---|
| ATEX/IECEX: II 3G Ex ec IIC T4 Gc<br>wago.com/750-625/000-001 |
|---|

|   |
|---|
| ATEX/IECEX: II 3G Ex ec IIC T4 Gc<br>wago.com/750-606 |
|---|

The supply modules monitor the voltage supply of the downstream intrinsically safe segment and separate the intrinsically safe from the non-intrinsically safe section of the I/O system. The input and output sides are electrically isolated from each other.

Note: If, due to load conditions, more than one supply module is required per station, four spacer modules (750-616) must be placed between the intrinsically safe sections.

General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!

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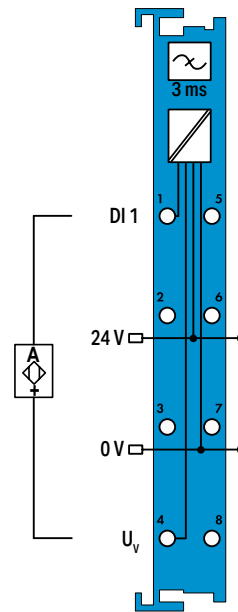
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General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!

## Intrinsically safe modules (Ex i) ▶ Digital input



750-435

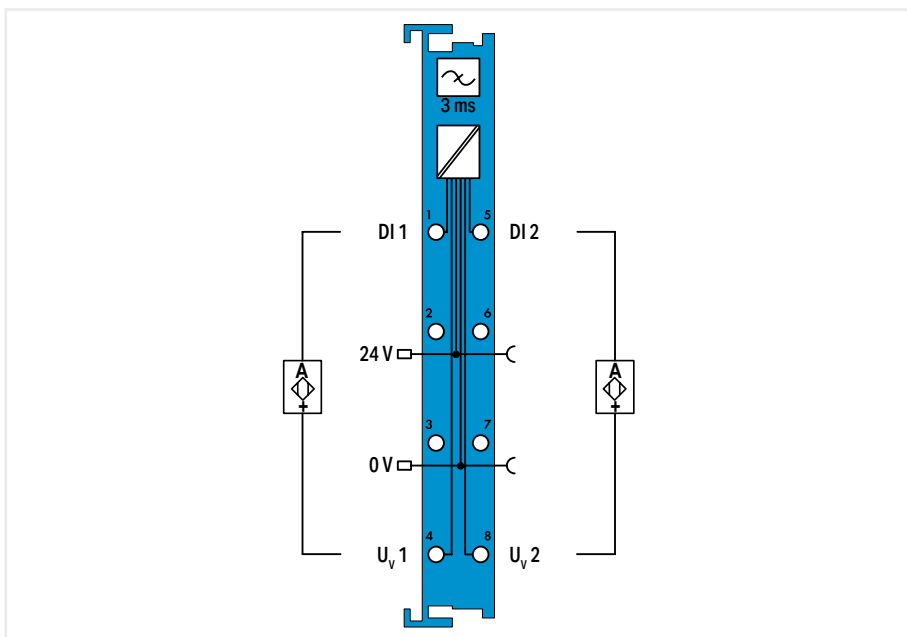


|  |   |
|--|---|
| Item description   | 1-Channel Digital Input; NAMUR  |
| Version  | intrinsically safe  |
| Item no.   | 750-435   |
| Order Text   | 1DI; NAMUR; Ex i  |
| Technical data   |   |
| Number of digital inputs   | 1   |
| Signal type  | NAMUR   |
| Sensor connection  | 1 x (2-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Open-circuit voltage   | 8.2 V   |
| Diagnostics  | Short circuit, wire break   |
| Supply voltage (sensor)  | 8.2 VDC; short-circuit-protected, each channel supplied separately  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 13 mA   |
| Current consumption (5 V system supply)                          | 2.5 mA  |
| Input data width (internal) max.                                 | 2 bits  |
| Data width   | 2-bit input: 1-bit status, 1-bit error (short circuit/wire break)   |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_o = 12 \text{ V}$ ; $I_o = 16 \text{ mA}$ ; $P_o = 48 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 180 \text{ mH}$ ; $C_o = 1.4 \mu\text{F}$  |
| Reactances Ex ia IIB   | $L_o = 560 \text{ mH}$ ; $C_o = 9 \mu\text{F}$  |
| Reactances Ex ia IIA   | $L_o = 900 \text{ mH}$ ; $C_o = 36 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 1 \text{ H}$ ; $C_o = 38 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )   |
| Ex standard  | EN IEC 60079-0, -7, -11   |
| Approvals  | CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO  |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-435  |

## Intrinsically safe modules (Ex i) ► Digital input



750-438

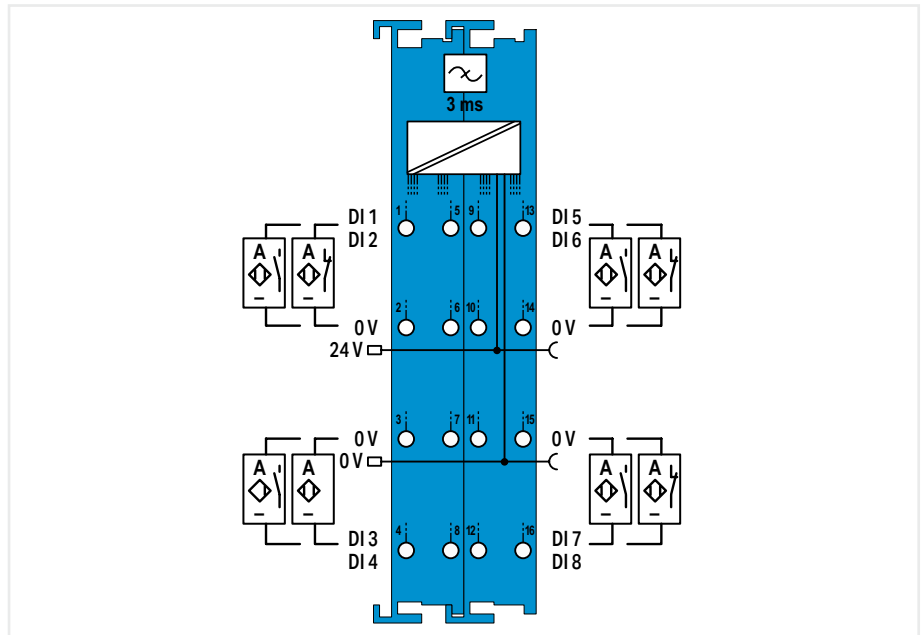


|  |  |
|--|--|
| Item description   | <b>2-Channel Digital Input; NAMUR</b>  |
| Version  | <b>intrinsically safe</b>  |
| Item no.   | <b>750-438</b>   |
| Order Text   | <b>2DI; NAMUR; Ex i</b>  |
| Technical data   |  |
| Number of digital inputs   | 2  |
| Signal type  | NAMUR  |
| Sensor connection  | 2 x (2-wire)   |
| Input characteristic   | high-side switching  |
| Input filter (digital)   | 3 ms   |
| Open-circuit voltage   | 8.2 V  |
| Supply voltage (sensor)  | 8.2 VDC; short-circuit-protected, each channel supplied separately   |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 16 mA  |
| Current consumption (5 V system supply)                          | 2.5 mA   |
| Input data width (internal) max.                                 | 2 bits   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 12 \text{ V}$ ; $I_o = 13.5 \text{ mA}$ ; $P_o = 40.5 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_o = 190 \text{ mH}$ ; $C_o = 1.4 \mu\text{F}$   |
| Reactances Ex ia IIB   | $L_o = 600 \text{ mH}$ ; $C_o = 9 \mu\text{F}$   |
| Reactances Ex ia IIA   | $L_o = 1 \text{ H}$ ; $C_o = 36 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 1 \text{ H}$ ; $C_o = 38 \mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-438   |

# Intrinsically safe modules (Ex i) ▶ Digital input



750-439



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                       |
|---------------------------------------|
| <b>8-Channel Digital Input; NAMUR</b> |
| <b>intrinsically safe</b>             |
| <b>750-439</b>                        |
| <b>8DI; NAMUR; Ex i</b>               |

|   |  |
|---|--|
| Technical data  |  |
| Number of digital inputs  | 8  |
| Signal type   | NAMUR  |
| Sensor connection   | 4 x (2-wire)   |
| Input characteristic  | high-side switching  |
| Input filter (digital)  | 3 ms   |
| Open-circuit voltage  | 8.2 V  |
| Diagnostics   | Short circuit; wire break (can be switched off)  |
| Supply voltage (sensor)   | 8.2 VDC; short-circuit-protected, each channel supplied separately   |
| Supply voltage (field)  | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load)                                    | 11 mA  |
| Current consumption (5 V system supply)   | 56 mA  |
| Input data width (internal) max.  | 16 bits  |
| Output data width (internal) max.   | 16 bits  |
| Isolation   | 300 VAC system/field   |
| Ambient temperature (operation)   | 0 ... +55 °C   |
| Dimensions W x H x D  | (24 x 100 x 67.8) mm   |
| Explosion protection  |  |
| Safety-relevant data (circuit)  |  |
| Reactances Ex ia IIC  | $U_o = 11.76 \text{ V}; I_o = 12.4 \text{ mA}; P_o = 36.67 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIB  | $L_o = 100 \text{ mH}; C_o = 1 \mu\text{F}$  |
| Reactances Ex ia IIA  | $L_o = 100 \text{ mH}; C_o = 9.9 \mu\text{F}$  |
| Reactances Ex ia I  | $L_o = 100 \text{ mH}; C_o = 39 \mu\text{F}$   |
| Reactances (note)   | $L_o = 100 \text{ mH}; C_o = 30 \mu\text{F}$   |
| Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ ) |  |
| Ex standard   | EN IEC 60079-0, -7, -11  |
| Approvals   | CE; Marine; OrdLoc/HazLoc/AEX; ATEX/IECEx; INMETRO   |
| Marking   | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I   |
| For data sheet and additional information, see:   |  |
| wago.com/750-439  |  |

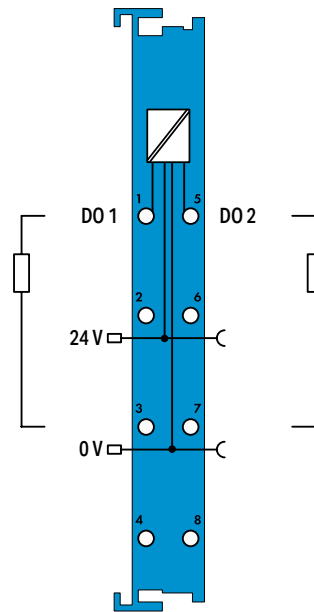
|  |  |
|--|--|
| 8  |  |
| NAMUR  |  |
| 4 x (2-wire)   |  |
| high-side switching  |  |
| 3 ms   |  |
| 8.2 V  |  |
| Short circuit; wire break (can be switched off)  |  |
| 8.2 VDC; short-circuit-protected, each channel supplied separately   |  |
| 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| 11 mA  |  |
| 56 mA  |  |
| 16 bits  |  |
| 16 bits  |  |
| 300 VAC system/field   |  |
| 0 ... +55 °C   |  |
| (24 x 100 x 67.8) mm   |  |
| Safety-relevant data (circuit)   |  |
| $U_o = 11.76 \text{ V}; I_o = 12.4 \text{ mA}; P_o = 36.67 \text{ mW}$ ; linear characteristic curve   |  |
| $L_o = 100 \text{ mH}; C_o = 1 \mu\text{F}$  |  |
| $L_o = 100 \text{ mH}; C_o = 9.9 \mu\text{F}$  |  |
| $L_o = 100 \text{ mH}; C_o = 39 \mu\text{F}$   |  |
| $L_o = 100 \text{ mH}; C_o = 30 \mu\text{F}$   |  |
| Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |  |
| EN IEC 60079-0, -7, -11  |  |
| CE; Marine; OrdLoc/HazLoc/AEX; ATEX/IECEx; INMETRO   |  |
| ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I   |  |
| wago.com/750-439   |  |

The process image can be used to define the sensor type (break or make contact) as well as to switch off the diagnostics (e.g., if contact monitoring in order to suppress the LED diagnostics).

## Intrinsically safe modules (Ex i) ► Digital output



750-535

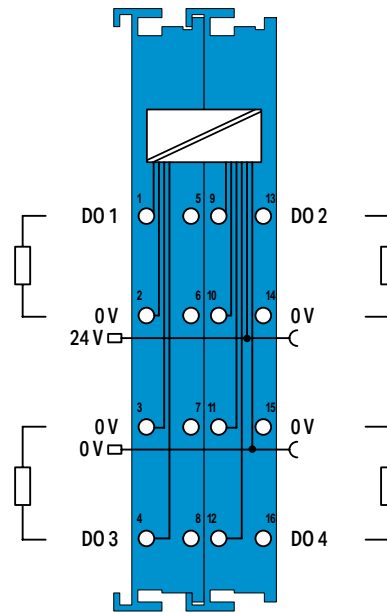


|  |  |
|--|--|
| Item description   | <b>2-Channel Digital Output; 24 VDC</b>  |
| Version  | <b>intrinsically safe</b>  |
| Item no.   | <b>750-535</b>   |
| Order Text   | <b>2DO; 24 VDC; Ex i</b>   |
| Technical data   |  |
| Number of digital outputs  | 2  |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 2 x (2-wire)   |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 8.5 mA   |
| Current consumption (5 V system supply)                          | 7 mA   |
| Output data width (internal) max.                                | 2 bits   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}$ ; $I_o = 106 \text{ mA}$ ; $P_o = 723 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_o = 3 \text{ mH}$ ; $C_o = 88 \text{ nF}$   |
| Reactances Ex ia IIB   | $L_o = 12 \text{ mH}$ ; $C_o = 680 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_o = 18 \text{ mH}$ ; $C_o = 2.2 \mu\text{F}$  |
| Reactances Ex ia I   | $L_o = 20 \text{ mH}$ ; $C_o = 3.6 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-535   |

## Intrinsically safe modules (Ex i) ▶ Digital output



750-539

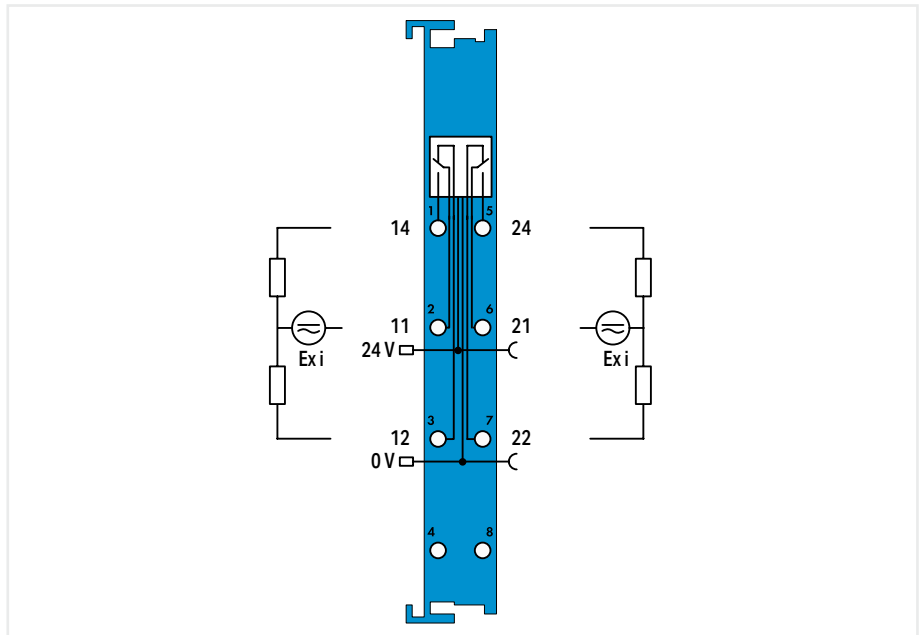


|  |   |
|--|---|
| Item description   | 4-Channel Digital Output; 24 VDC; Valve   |
| Version  | intrinsically safe  |
| Item no.   | 750-539   |
| Order Text   | 4DO; 24 VDC; valve; Ex i  |
| Technical data   |   |
| Number of digital outputs  | 4   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 4 x (2-wire)  |
| Switching frequency (max.)                                       | 100 Hz  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_0 = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 10 mA   |
| Current consumption (5 V system supply)                          | 20 mA   |
| Input data width (internal) max.                                 | 4 bits  |
| Output data width (internal) max.                                | 4 bits  |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_0 = 27.3 \text{ V}$ ; $I_0 = 117.5 \text{ mA}$ ; $P_0 = 800.1 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_0 = 13 \mu\text{H}$ ; $C_0 = 88 \text{ nF}$  |
| Reactances Ex ia IIB   | $L_0 = 8.1 \text{ mH}$ ; $C_0 = 683 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_0 = 14 \text{ mH}$ ; $C_0 = 2.28 \mu\text{F}$  |
| Reactances Ex ia I   | $L_0 = 21 \text{ mH}$ ; $C_0 = 540 \text{ nF}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_0$ ) and inductance ( $L_0$ )   |
| Ex standard  | EN IEC 60079-0, -7, -11   |
| Approvals  | CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEx; INMETRO   |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I   |
| For data sheet and additional information, see:                  | wago.com/750-539  |

## Intrinsically safe modules (Ex i) ▶ Digital output



750-538



|  |  |
|--|--|
| Item description   | 2-Channel Relay Output; Changeover contact; Potential-free   |
| Version  | intrinsically safe   |
| Item no.   | 750-538  |
| Order Text   | 2RO; 100 VAC/ 30 VDC; Pot-free; Relay2CO   |
| Technical data   |  |
| Number of digital outputs  | 2  |
| Signal type  | Digital  |
| Signal type (voltage)  | 100 VAC; 30 VDC  |
| Output circuit design  | 2 changeover contacts; Relay   |
| Output characteristic  | potential-free   |
| Switching current (max.)   | 0.5 A  |
| Switching current (note)   | 0.5 A at 100 VAC; 1 A at 30 VDC  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 2 x (2-wire)   |
| Switching frequency (max.)                                       | 0.3 Hz   |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact)   |
| Current consumption, field supply (module with no external load) | 24 mA  |
| Current consumption (5 V system supply)                          | 26 mA  |
| Output data width (internal) max.                                | 2 bits   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | <b>Relay output:</b> $U_i = 30 \text{ VDC}$ ; $I_i = 1 \text{ A}$ ; $P_i = 30 \text{ W}$ ; $U_i = 100 \text{ VAC}$ ; $I_i = 0.5 \text{ A}$ ; $P_i = 50 \text{ VA}$ ; $L_i = \text{negligibly small}$ ; $C_i = \text{negligibly small}$ |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-538   |

Details on relay!

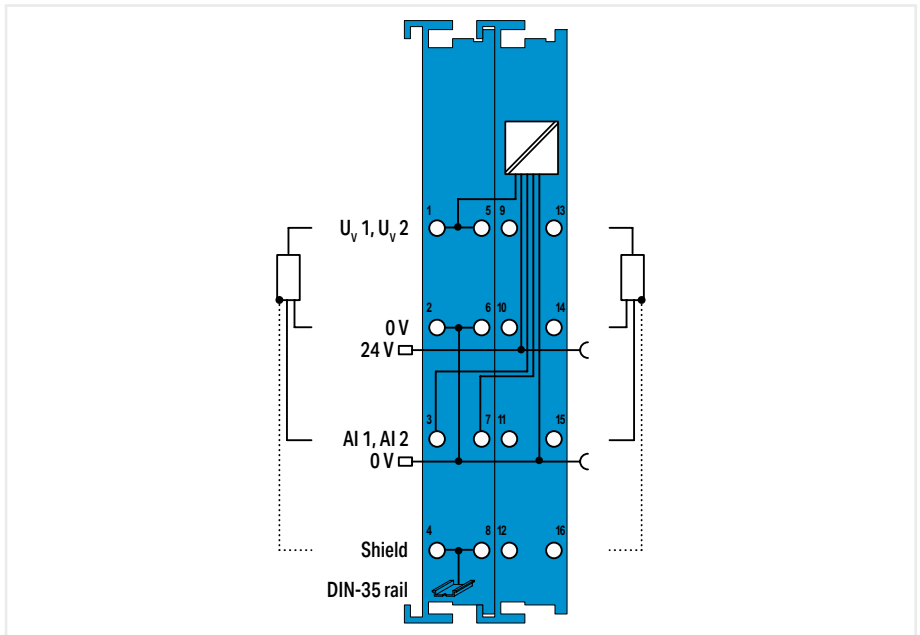
Both maximum switching current and voltage must comply with EN 60079-11.



Intrinsically safe modules (Ex i) ▶ Analog input ▶ 4 ... 20 mA



750-485

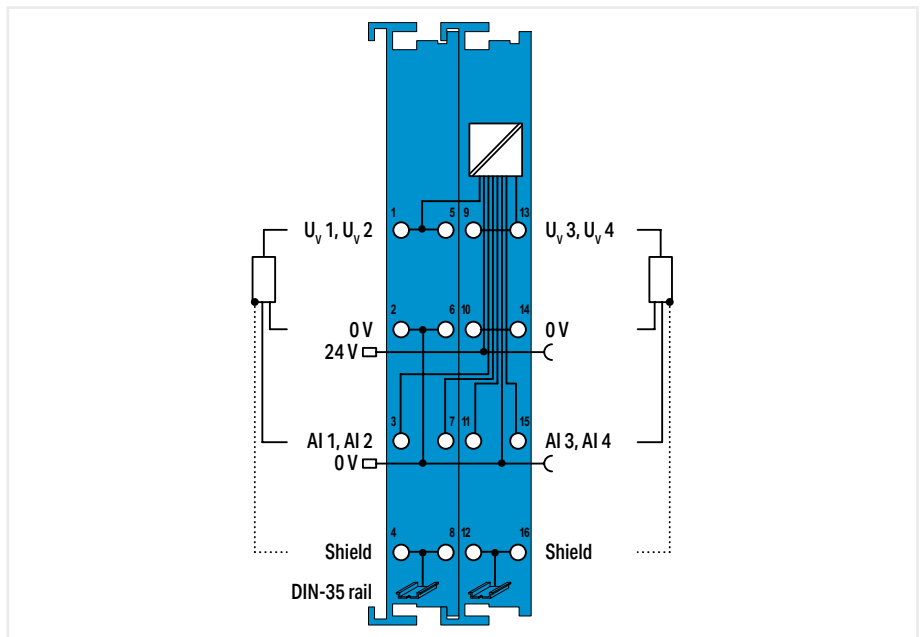


|  |  |
|--|--|
| Item description   | 2-Channel Analog Input; 4 ... 20 mA  |
| Version  | intrinsically safe   |
| Item no.   | 750-485  |
| Order Text   | 2AI; 4-20mA; SE; Ex i  |
| Technical data   |  |
| Number of analog inputs  | 2  |
| Signal type  | Current  |
| Signal type (current)  | 4 ... 20 mADC  |
| Sensor connection  | 2 x (3-wire)   |
| Signal characteristics   | Single-ended   |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 2 ms   |
| Input resistance (max.)  | 100 Ω  |
| Measurement error (reference temperature)                        | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value   | 0.2 %  |
| Temperature error (max.) of the upper-range value                | 0.01 %/K   |
| Supply voltage (sensor)  | 16 VDC; Transmitter supply $U_v$ at 20 mA  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 11 mA  |
| Current consumption (5 V system supply)                          | 31 mA  |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}$ ; $I_o = 90 \text{ mA}$ ; $P_o = 0.61 \text{ W}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 5 \text{ mH}$ ; $C_o = 88 \text{ nF}$   |
| Reactances Ex ia IIB   | $L_o = 18 \text{ mH}$ ; $C_o = 680 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_o = 40 \text{ mH}$ ; $C_o = 2.2 \mu\text{F}$  |
| Reactances Ex ia I   | $L_o = 100 \text{ mH}$ ; $C_o = 3.5 \mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE,  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-485   |

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ 0/4 ... 20 mA; NAMUR NE43



750-486

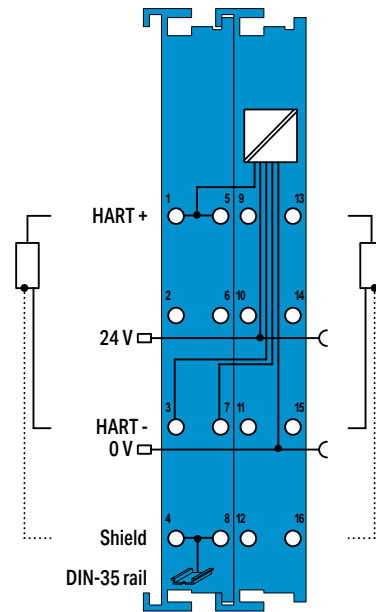


|  |  |
|--|--|
| Item description   | 4-Channel Analog Input; 0/4 ... 20 mA; NAMUR NE43  |
| Version  | NAMUR NE43; intrinsically safe   |
| Item no.   | 750-486  |
| Order Text   | 4AI; 0/4-20mA; SE; 12bits; Diagn; Ex i   |
| Technical data   |  |
| Number of analog inputs  | 4  |
| Signal type  | Current  |
| Signal type (current)  | 0 ... 20 mADC; 4 ... 20 mADC   |
| Sensor connection  | 2 x (3-wire)   |
| Signal characteristics   | Single-ended   |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 10 ms  |
| Input resistance (max.)  | 200 Ω  |
| Measurement error (reference temperature)                        | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value   | 0.1 %  |
| Temperature error (max.) of the upper-range value                | 0.01 %/K   |
| Supply voltage (sensor)  | 15 VDC; Transmitter supply $U_v$ at 20 mA  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 19 mA  |
| Current consumption (5 V system supply)                          | 45 mA  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}$ ; $I_o = 98.4 \text{ mA}$ ; $P_o = 0.672 \text{ W}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_o = 970 \mu\text{H}$ ; $C_o = 88 \text{ nF}$  |
| Reactances Ex ia IIB   | $L_o = 13 \text{ mH}$ ; $C_o = 683 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_o = 22 \text{ mH}$ ; $C_o = 2.28 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 31 \text{ mH}$ ; $C_o = 3.6 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX; INMETRO   |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-486   |

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ 4 ... 20 mA HART



750-484



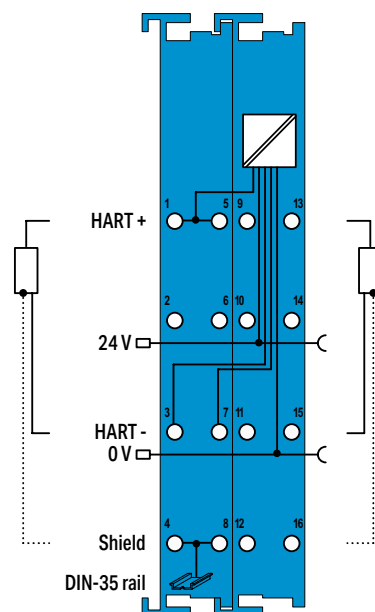
|  |   |
|--|---|
| Item description   | 2-Channel Analog Input; 4 ... 20 mA HART  |
| Version  | intrinsically safe  |
| Item no.   | 750-484   |
| Order Text   | 2AI; 4-20mA HART; Ex i  |
| Technical data   |   |
| Number of analog inputs  | 2   |
| Signal type  | Current   |
| Signal type (current)  | 4 ... 20 mA DC  |
| Sensor connection  | 2 x (2-wire)  |
| Input filter   | parameterizable   |
| Signal characteristics   | Single-ended  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.2 %   |
| Temperature error (max.) of the upper-range value                | 0.01 %/K  |
| Overvoltage protection   | 30 V, reverse polarity protected  |
| Diagnostics  | Wire break, measurement range overflow  |
| Supply voltage (sensor)  | 16.5 VDC; Transmitter supply $U_o$ at 20 mA   |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 26 mA   |
| Current consumption (5 V system supply)                          | 25 mA   |
| Data width   | 2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox                                 |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}$ ; $I_o = 92.7 \text{ mA}$ ; $P_o = 630 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_o = 1.5 \text{ mH}$ ; $C_o = 87 \text{ nF}$  |
| Reactances Ex ia IIB   | $L_o = 15 \text{ mH}$ ; $C_o = 670 \text{ nF}$  |
| Reactances Ex ia IIA   | $L_o = 38 \text{ mH}$ ; $C_o = 2.2 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 36 \text{ mH}$ ; $C_o = 3.49 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )   |
| Ex standard  | EN IEC 60079-0, -7, -11   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEx; INMETRO   |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I   |
| For data sheet and additional information, see:                  | wago.com/750-484  |

In addition to analog signal processing, this module offers optional HART communication for parameterizing or recording dynamic variables.

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ 4 ... 20 mA HART; NAMUR NE43



750-484/000-001



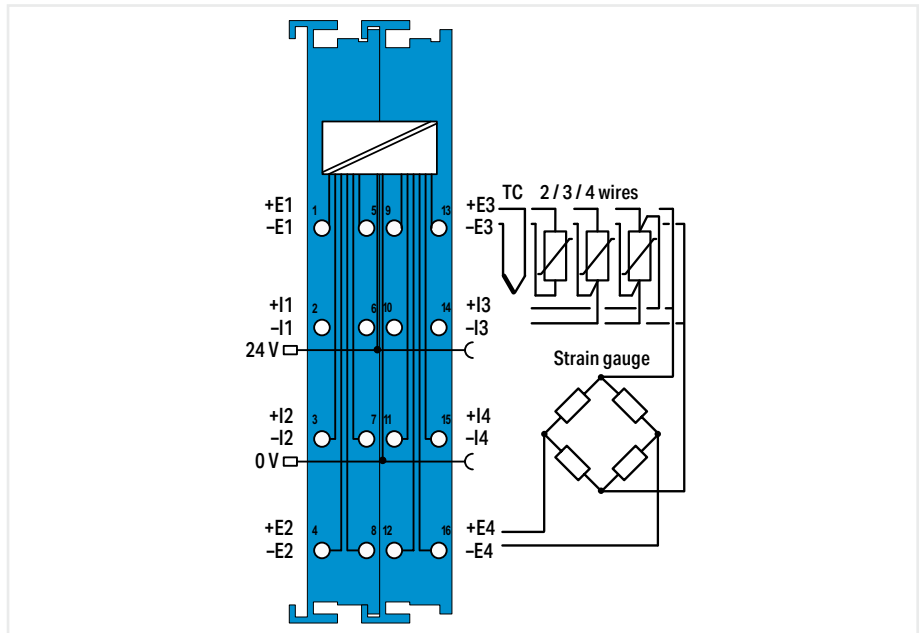
|  |  |
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| Item description   | 2-Channel Analog Input; 4 ... 20 mA HART; NAMUR NE43   |
| Version  | NAMUR NE43; intrinsically safe   |
| Item no.   | 750-484/000-001  |
| Order Text   | 2AI; 4-20mA HART; NE43; Ex i   |
| Technical data   |  |
| Number of analog inputs  | 2  |
| Signal type  | Current  |
| Signal type (current)  | 4 ... 20 mA DC   |
| Sensor connection  | 2 x (2-wire)   |
| Input filter   | parameterizable  |
| Signal characteristics   | Single-ended   |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 10 ms  |
| Measurement error (reference temperature)                        | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value   | 0.2 %  |
| Temperature error (max.) of the upper-range value                | 0.01 %/K   |
| Overvoltage protection   | 30 V, reverse polarity protected   |
| Diagnostics  | Wire break, measurement range overflow   |
| Supply voltage (sensor)  | 16.5 VDC; Transmitter supply $U_T$ at 20 mA  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_0 = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 26 mA  |
| Current consumption (5 V system supply)                          | 25 mA  |
| Data width   | 2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_0 = 27.3 \text{ V}$ ; $I_0 = 92.7 \text{ mA}$ ; $P_0 = 630 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_0 = 1.5 \text{ mH}$ ; $C_0 = 87 \text{ nF}$   |
| Reactances Ex ia IIB   | $L_0 = 15 \text{ mH}$ ; $C_0 = 670 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_0 = 38 \text{ mH}$ ; $C_0 = 2.2 \text{ }\mu\text{F}$  |
| Reactances Ex ia I   | $L_0 = 36 \text{ mH}$ ; $C_0 = 3.49 \text{ }\mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_0$ ) and inductance ( $L_0$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE; Ⓢ- OrdLoc/HazLoc; Ⓢ ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-484/000-001   |

In addition to analog signal processing, this module offers optional HART communication for parameterizing or recording dynamic variables.

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ Resistance sensors/thermocouples



750-489

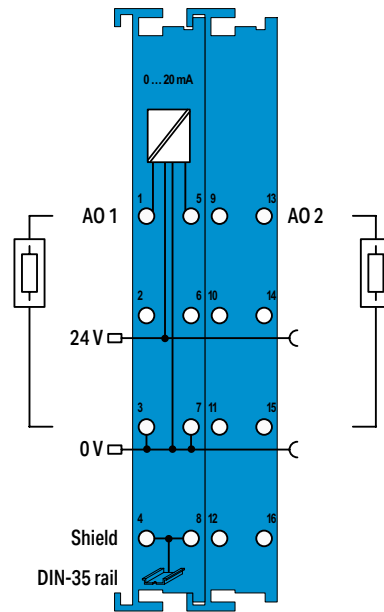


|  |   |
|--|---|
| Item description   | 4-Channel Analog Input; RTD/TC  |
| Version  | intrinsically safe  |
| Item no.   | 750-489   |
| Order Text   | 4AI; RTD/TC; Ex i   |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Potentiometer positions; Thermocouple; Resistive temperature device; Resistors; mV encoder  |
| Sensor connection  | 4 x (2-wire); RTD/R: 3-wire; 4-wire   |
| Resolution (over entire range)                                   | 0.1 K of full scale value; 0.01 K of full scale value (restricted to -50 °C ... +150 °C)  |
| Conversion time  | ≥10 ms/2 wires (per channel)*; ≥20 ms/3 wires, 4 wires (per channel)*; *for RTD/R; TC/U conversion time depends on module setting   |
| Measurement error (25 °C)  | In delivery state: ±0.2 % of the upper-range value (value achieved during calibration in operating environment 0 ≤ TA ≤ 55 °C); After user calibration: ±0.05 % of the upper-range value (only valid in the thermally stable operating state) |
| Temperature coefficient  | ±0.001 %/K of the upper-range value   |
| Cold junction compensation                                       | integrated  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: U <sub>o</sub> = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)  |
| Current consumption, field supply (module with no external load) | 120 mA  |
| Current consumption (5 V system supply)                          | 60 mA   |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Isolation  | per EN/IEC 60079-11: 300 VAC system/supply; per EN/UL 61010-2-201: 1200 VDC system/supply/channel   |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | U <sub>o</sub> = 4 V; I <sub>o</sub> = 13.46 mA; P <sub>o</sub> = 13.46 mW; linear characteristic curve   |
| Reactances Ex ia IIC   | L <sub>o</sub> = 0.19 H; C <sub>o</sub> = 100 μF  |
| Reactances Ex ia IIB   | L <sub>o</sub> = 0.78 H; C <sub>o</sub> = 1000 μF   |
| Reactances Ex ia IIA   | L <sub>o</sub> = 1.57 H; C <sub>o</sub> = 1000 μF   |
| Reactances Ex ia I   | L <sub>o</sub> = 2.57 H; C <sub>o</sub> = 1000 μF   |
| Reactances (note)  | Reactances, if the internal inductance L <sub>i</sub> or capacitance C <sub>i</sub> (without cable) of the connected device is ≤1 % of the specified values.  |
| Ex standard  | EN IEC 60079-0, -7, -11   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I   |
| For data sheet and additional information, see:                  | wago.com/750-489  |

## Intrinsically safe modules (Ex i) ▶ Analog output ▶ 0 ... 20 mA



750-585

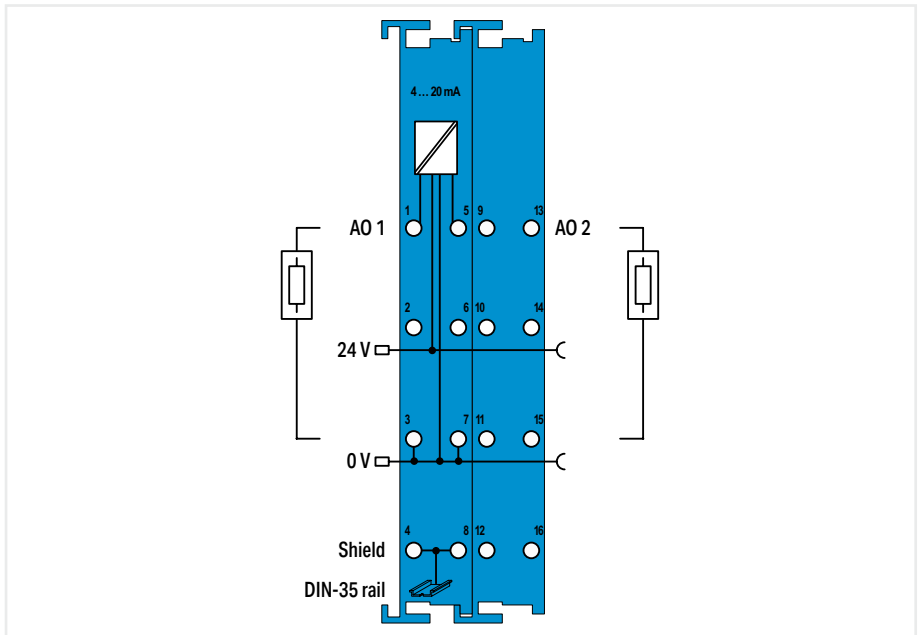


|  |  |
|--|--|
| Item description   | 2-Channel Analog Output; 0 ... 20 mA   |
| Version  | intrinsically safe   |
| Item no.   | 750-585  |
| Order Text   | 2AO; 0-20mA; Ex i  |
| Technical data   |  |
| Number of analog outputs   | 2  |
| Signal type  | Current  |
| Signal type (current)  | 0 ... 20 mA DC   |
| Signal characteristics   | Single-ended   |
| Load impedance (current output) max.                             | 500 Ω  |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 2 ms   |
| Output error, reference temperature                              | 25 °C  |
| Output error, deviation (max.) of the upper-range value          | 0.2 %  |
| Temperature error (max.) of the output range value               | 0.01 %/K   |
| Actuator connection  | 2 x (2-wire)   |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 19 mA  |
| Current consumption (5 V system supply)                          | 21 mA  |
| Data width   | 2 x 16-bit data  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}$ ; $I_o = 57.5 \text{ mA}$ ; $P_o = 392 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 11 \text{ mH}$ ; $C_o = 88 \text{ nF}$  |
| Reactances Ex ia IIB   | $L_o = 56 \text{ mH}$ ; $C_o = 680 \text{ nF}$   |
| Reactances Ex ia IIA   | $L_o = 90 \text{ mH}$ ; $C_o = 2.2 \text{ μF}$   |
| Reactances Ex ia I   | $L_o = 110 \text{ mH}$ ; $C_o = 3.5 \text{ μF}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc/AEx;  ATEX/IECEX; INMETRO  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-585   |

Intrinsically safe modules (Ex i) ▶ Analog output ▶ 4 ... 20 mA



750-586

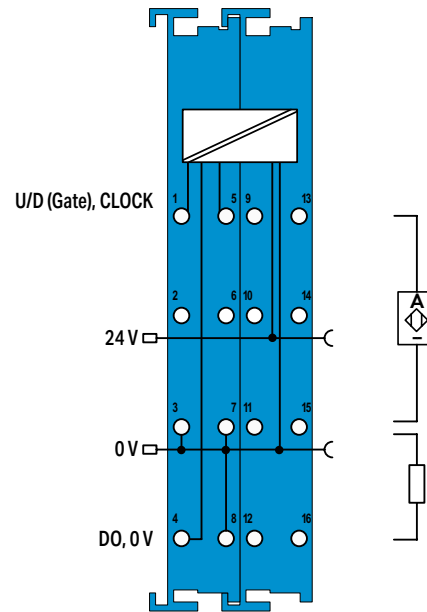


|  |  |
|--|--|
| Item description   | 2-Channel Analog Output; 4 ... 20 mA   |
| Version  | intrinsically safe   |
| Item no.   | 750-586  |
| Order Text   | 2AO; 2-4-wire; Ex i  |
| Technical data   |  |
| Number of analog outputs   | 2  |
| Signal type  | Current  |
| Signal type (current)  | 4 ... 20 mADC  |
| Signal characteristics   | Single-ended   |
| Load impedance (current output) max.                             | 500 Ω  |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 2 ms   |
| Output error, reference temperature                              | 25 °C  |
| Output error, deviation (max.) of the upper-range value          | 0.2 %  |
| Temperature error (max.) of the output range value               | 0.01 %/K   |
| Actuator connection  | 2 x (2-wire)   |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 19 mA  |
| Current consumption (5 V system supply)                          | 21 mA  |
| Data width   | 2 x 16-bit data  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 27.3 \text{ V}; I_o = 57.5 \text{ mA}; P_o = 392 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 11 \text{ mH}; C_o = 88 \text{ nF}$   |
| Reactances Ex ia IIB   | $L_o = 56 \text{ mH}; C_o = 680 \text{ nF}$  |
| Reactances Ex ia IIA   | $L_o = 90 \text{ mH}; C_o = 2.2 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 110 \text{ mH}; C_o = 3.5 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO   |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-586   |

## Intrinsically safe modules (Ex i) ► Counter



750-633



|  |  |
|--|--|
| Item description   | Up/Down Counter  |
| Version  | intrinsically safe   |
| Item no.   | 750-633  |
| Order Text   | Up/Down Counter; Ex i  |
| Technical data   |  |
| Number of counters   | 1  |
| Number of digital outputs  | 1  |
| Sensor supply $U_v$  | 8.2 V  |
| Switching frequency  | 20 Hz ... 50 kHz   |
| Counter depth  | 32 bits  |
| Output voltage   | 24 VDC   |
| Input filter   | 10 $\mu$ s   |
| Input resistance (max.)  | 1000 $\Omega$  |
| Open-circuit voltage   | 8.2 V  |
| Supply voltage (field)   | 24 VDC; (Ex i power supply: $U_o = \text{max. } 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 31 mA  |
| Current consumption (5 V system supply)                          | 25 mA  |
| Data width   | 1 x 32-bit data, 1 x 8-bit status/diagnostics  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | 0 ... +55 $^{\circ}\text{C}$   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety data (input)  | $U_o = 12 \text{ V}$ ; $I_o = 13.5 \text{ mA}$ ; $P_o = 40.5 \text{ mW}$ ; linear characteristic curve   |
| Reactances of Ex ia IIC inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 1.4 \mu\text{F}$   |
| Reactances of Ex ia IIB inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 9 \mu\text{F}$   |
| Reactances of Ex ia IIA inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 36 \mu\text{F}$  |
| Reactances of Ex ia I inputs                                     | $L_o = 100 \text{ mH}$ ; $C_o = 38 \mu\text{F}$  |
| Safety data (output)   | $U_o = 26.8 \text{ V}$ ; $I_o = 96.7 \text{ mA}$ ; $P_o = 648 \text{ mW}$ ; linear characteristic curve  |
| Reactances of Ex ia IIC output                                   | $L_o = 0.5 \text{ mH}$ ; $C_o = 88 \text{ nF}$   |
| Reactances of Ex ia IIB output                                   | $L_o = 10 \text{ mH}$ ; $C_o = 683 \text{ nF}$   |
| Reactances of Ex ia IIA output                                   | $L_o = 18 \text{ mH}$ ; $C_o = 2.2 \mu\text{F}$  |
| Reactances of Ex ia I output                                     | $L_o = 26 \text{ mH}$ ; $C_o = 3.6 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN IEC 60079-0, -7, -11  |
| Approvals  | CE,  Marine,  OrdLoc/HazLoc/AEX;  ATEX/IECEx; INMETRO  |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; I (M1) [Ex ia Ma] I; II (1) D [Ex ia Da] IIIC  |
| For data sheet and additional information, see:                  | wago.com/750-633   |





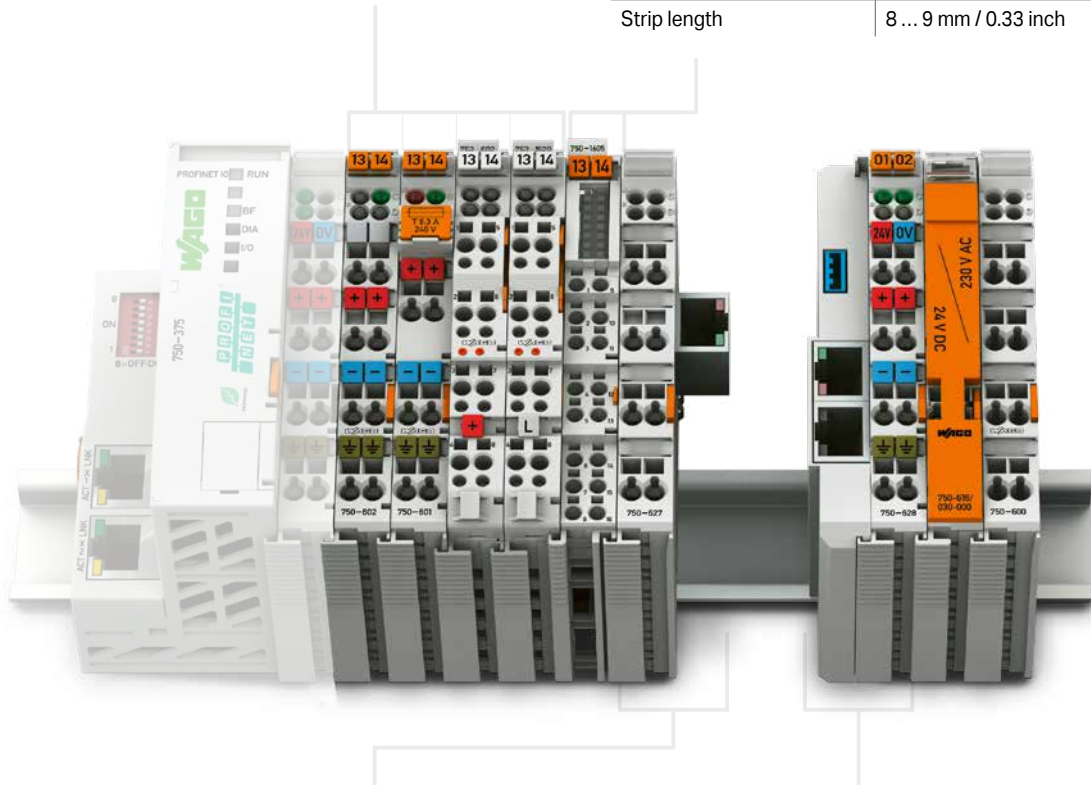
# Supply/Segment Modules

## Housing Design (750/753 Series)

|                                   |   |
|-----------------------------------|---|
| Dimensions W x H x D              | 12 x 100 x 69.8 mm  |
| Depth from upper edge of DIN rail | 62.6 mm   |
| Connection technology             | CAGE CLAMP®   |
| Conductor cross-section           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG                              |
| Strip length                      | 750 Series: 8 ... 9 mm / 0.33 inch<br>753 Series: 9 ... 10 mm / 0.37 inch |

## Housing Design (750 Series), with Push-in CAGE CLAMP® Connections (up to 16 connection points)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 x 100 x 69 mm   |
| Depth from upper edge of DIN rail | 61.8 mm  |
| Connection technology             | Push-in CAGE CLAMP®  |
| Conductor cross-section           | Solid:<br>0.08 ... 2.5 mm <sup>2</sup> / 28 ... 16 AWG<br>Fine-stranded:<br>0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch   |



## Specialty Housing (End Module for Bus Extension)

|                                   |                    |
|-----------------------------------|--------------------|
| Dimensions W x H x D              | 24 x 100 x 69.8 mm |
| Depth from upper edge of DIN rail | 62.6 mm            |

## Specialty Housing (Coupler Module for Bus Extension)

|                                   |                    |
|-----------------------------------|--------------------|
| Dimensions W x H x D              | 24 x 100 x 69.8 mm |
| Depth from upper edge of DIN rail | 62.6 mm            |



I/O System –  
750 XTR Series



# I/O System – 750 and 753 Series, Supply/Segment Modules

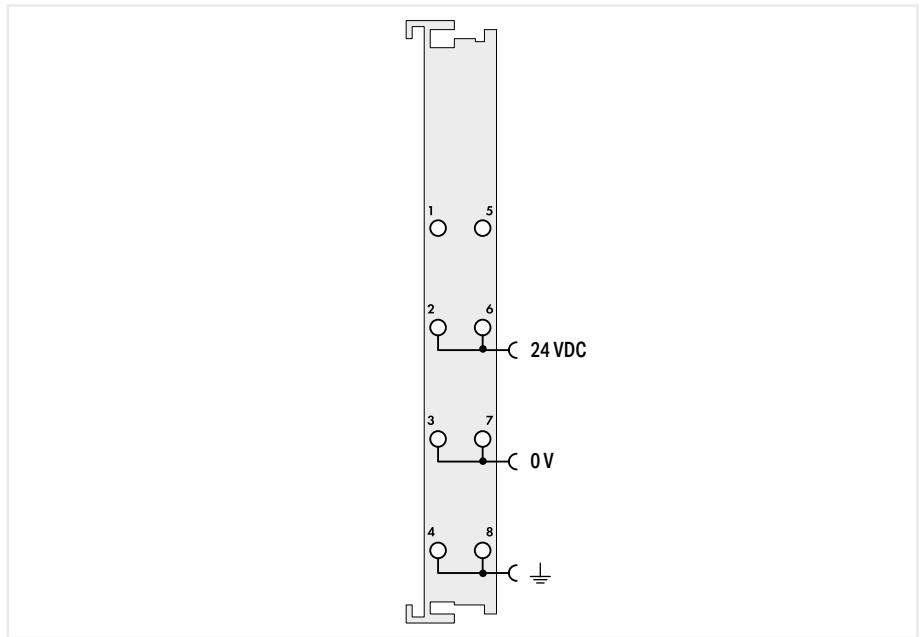
## Contents

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|  | Field Supply Filter (Surge); 24 VDC; Higher Isolation; Ground Fault Diagnostics      | 750-624/020-002  |                      |                  | 466  |
|  | Field Supply Filter (Surge); 24 VDC  | 750-624          |                      |                  | 466  |
|  | Field Supply Filter (Surge); 24 VDC; without Power Jumper Contacts                   | 750-624/000-001  |                      |                  | 467  |
|  | Supply Filter; 24 VDC; Higher Isolation  | 750-626/020-000* | 750-626/025-001      |                  | 468  |
| Supply Filter; 24 VDC; Higher Isolation; Ground Fault Diagnostics  | 750-626/020-002  |                  |                      | 468              |      |
| Local Bus Extension  | Filter Module; 24 VDC  | 750-626          | 750-626/025-000      |                  | 468  |
|  | Bus Extension End Module   | 750-627          |                      |                  | 469  |
| Spacer Module  | Coupler Module for Bus Extension   | 750-628          |                      |                  | 470  |
|  | Binary Spacer Module   | 750-622          |                      |                  | 471  |
|  | Spacer Module; Active  |                  |                      | 753-1629         | 472  |
|  | Spacer Module; Active; Without Power Jumper Contacts                                 |                  |                      | 753-1629/000-001 | 472  |
| Distance Module  | Spacer Module; Passive   |                  |                      | 753-629/020-000  | 473  |
|  | Distance Module  | 750-616*         |                      |                  | 474  |
|  | Distance Module; 24 VDC/230 VAC  | 750-616/030-000  |                      |                  | 474  |
| End Module   | Distance Module  | 750-621          |                      |                  | 475  |
|  | End Module   | 750-600*         | 750-600/025-000      |                  | 476  |
|  | End Module; with Potential Group   | 750-600/000-001* |                      |                  | 477  |
| Ex i   |  | See Section 7.9  |                      |                  |      |
| *This module is also available as a variant of the 750 XTR Series. |  | See Section 8    |                      |                  |      |

# Supply module ▶ 24 VDC



750-602



7.10

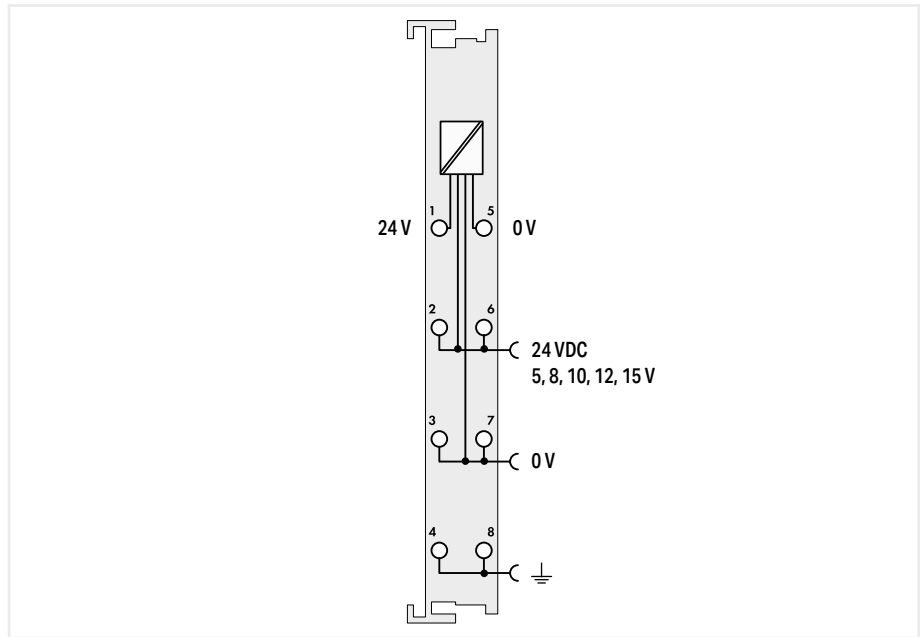
|   |  |                             |  |  |
|---|--|-----------------------------|--|--|
| Item description                                  |  | <b>Power Supply; 24 VDC</b> |  |  |
| Version   | Standard   | ext. temperature            | pluggable (delivery without connector) |  |
| Item no.  | 750-602  | 750-602/025-000             | 753-602                                |  |
| Order Text  | Power Supply; 24 VDC   | Power Supply; 24 VDC; T     | Power Supply; 24 VDC                   |  |
| Technical data                                    |  |                             |  |  |
| Pluggable connector                               | -  | pluggable                   |  |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |                             |  |  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |                             |  |  |
| Current carrying capacity (power jumper contacts) | 10 A   |                             |  |  |
| Ambient temperature (operation)                   | 0 ... +55 °C   | -20 ... +60 °C              | 0 ... +55 °C                           |  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |                             |  |  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |                             |  |  |
| For data sheet and additional information, see:   | wago.com/750-602   |                             | wago.com/753-602                       |  |
| <b>Accessories</b>                                | <b>Item no.</b>  | <b>Item no.</b>             | <b>Item no.</b>                        |  |
| Plug  | -  | -                           | 753-110                                |  |

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

## Supply module ▶ 24 VDC; DIP switch



750-623



|                  |                                   |
|------------------|-----------------------------------|
| Item description | Power Supply; 24 VDC/5 ... 15 VDC |
| Version          | Standard                          |
| Item no.         | 750-623                           |
| Order Text       | Power Supply; 24/5-15 VDC         |

|                  |                                   |
|------------------|-----------------------------------|
| Item description | Power Supply; 24 VDC/5 ... 15 VDC |
| Version          | Standard                          |
| Item no.         | 750-623                           |
| Order Text       | Power Supply; 24/5-15 VDC         |

|   |   |
|---|---|
| Technical data                                  |   |
| Supply voltage (system)                         | 5 VDC; via data contacts  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Output voltage adjustable in steps via DIP switch: 5 V; 8 V; 10 V; 12 V; 15 V |
| Total current (system supply)                   | 500 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       |   |
| For data sheet and additional information, see: | wago.com/750-623  |

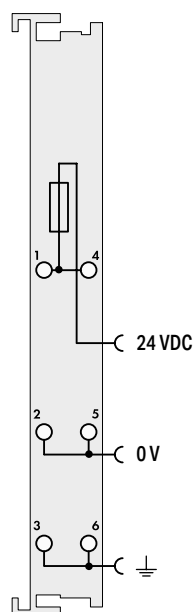
|   |   |
|---|---|
| Technical data                                  |   |
| Supply voltage (system)                         | 5 VDC; via data contacts  |
| Supply voltage (field)                          | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Output voltage adjustable in steps via DIP switch: 5 V; 8 V; 10 V; 12 V; 15 V |
| Total current (system supply)                   | 500 mA  |
| Ambient temperature (operation)                 | 0 ... +55 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |
| Approvals                                       |   |
| For data sheet and additional information, see: | wago.com/750-623  |

This I/O module converts the applied supply voltage to a value selected via DIP switch and provides it to the field devices connected to the downstream I/O modules.

## Supply module ► 24 VDC; fuse holder



750-601



7.10

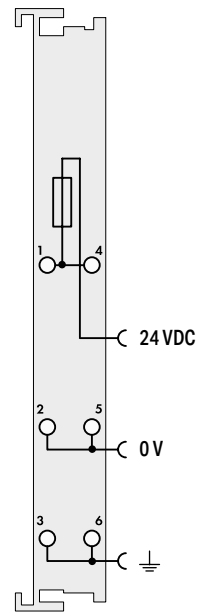
|   |  |
|---|--|
| Item description                                  | Power Supply; 24 VDC; Fuse holder  |
| Version   | Standard   |
| Item no.  | 750-601  |
| Order Text  | Power Supply; 24 VDC   |
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 6.3 A  |
| Fuse  | 5 x 20; T 6.3 A (not included)   |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-601   |

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

## Supply module ▶ 24 VDC; fuse holder; diagnostics



750-610



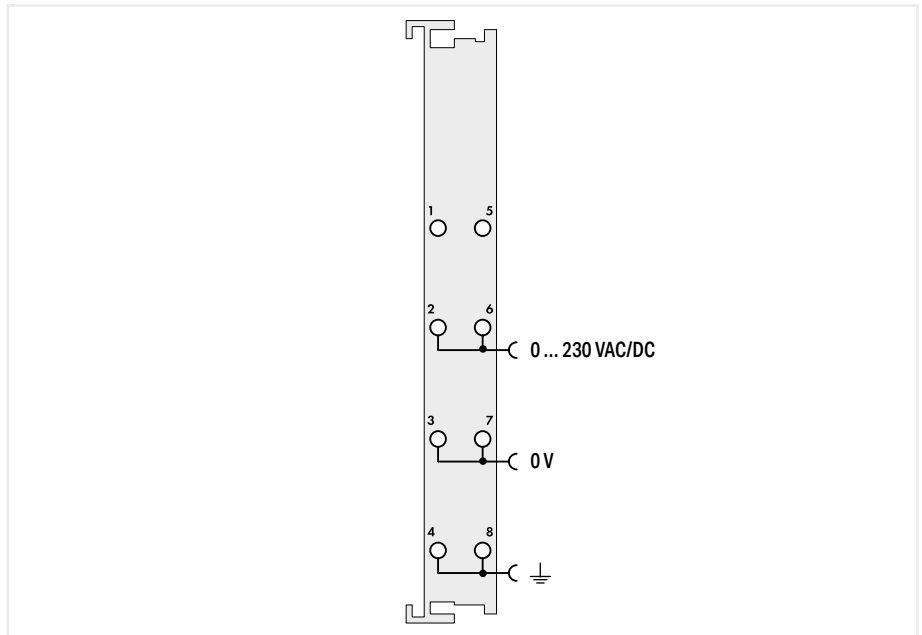
|   |  |
|---|--|
| Item description                                  | Power Supply; 24 VDC; Fuse holder; Diagnostics   |
| Version   | Diagnostics  |
| Item no.  | 750-610  |
| Order Text  | Power Supply; 24 VDC; Fuse; Diagn  |
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current consumption (5 V system supply)           | 5 mA   |
| Current carrying capacity (power jumper contacts) | 6.3 A  |
| Fuse  | 5 x 20; T 6.3 A (not included)   |
| Diagnostics                                       | Supply voltage (field): Detection "on" at > 15 VDC; Detection "off" at < 5 VDC   |
| Data width  | 2 bits (1 bit current monitoring, 1 bit fuse fault)  |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-610   |

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.

## Supply module ▶ 0 ... 230 VAC/DC



750-612



7.10

|   |  |  |
|---|--|--|
| Item description                                  | Power Supply; 0 ... 230 VAC/DC   |  |
| Version   | Standard   | pluggable (delivery without connector) |
| Item no.  | 750-612  | 753-612                                |
| Order Text  | Power Supply; 0-230 VAC/VDC  | Power Supply; 0-230 VAC/VDC            |
| Technical data                                    |  |  |
| Pluggable connector                               | -  | pluggable                              |
| Supply voltage (system)                           | 5 VDC; via data contacts   |  |
| Supply voltage (field)                            | 230 VAC/DC (-15 ... +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |  |
| Current carrying capacity (power jumper contacts) | 10 A   |  |
| Ambient temperature (operation)                   | 0 ... +55 °C   |  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |  |
| Approvals   | CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |  |
| For data sheet and additional information, see:   | wago.com/750-612   | wago.com/753-612                       |
| Accessories                                       | Item no.   | Item no.                               |
| Plug  | -  | 753-110                                |

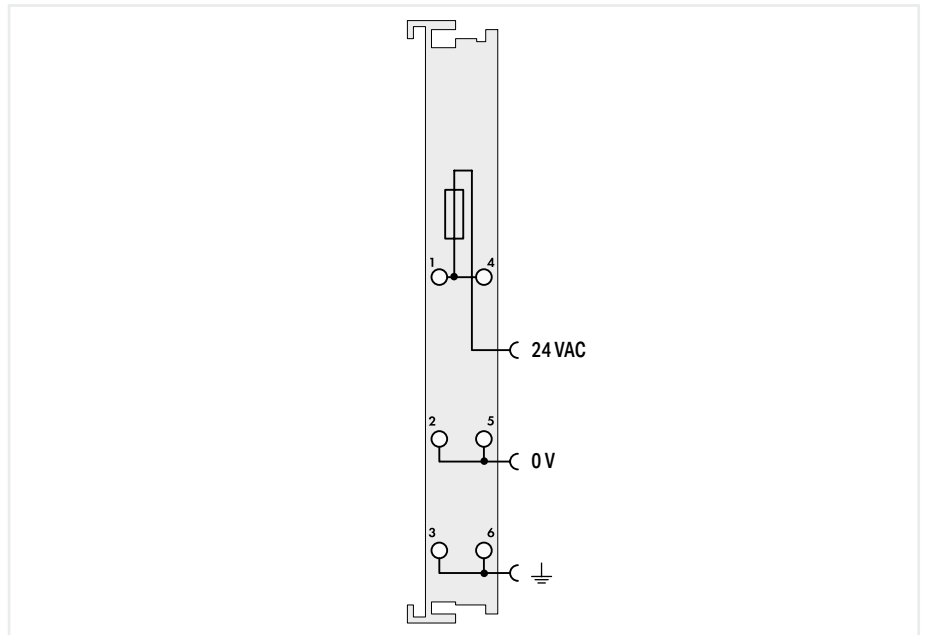
This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.



## Supply module ▶ 24 VAC



750-617



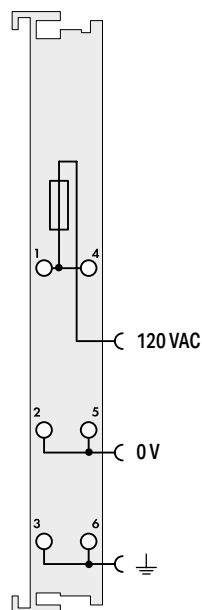
|   |  |
|---|--|
| Item description                                  | Power Supply; 24 VAC; Fuse holder  |
| Version   | Standard   |
| Item no.  | 750-617  |
| Order Text  | Power Supply; 24 VAC; Fuse   |
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 24 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 6.3 A  |
| Fuse  | 5 x 20; T 6.3 A (not included)   |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |
| Approvals   | CE, UL, OrdLoc   |
| For data sheet and additional information, see:   | wago.com/750-617   |

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

## Supply module ► 120 VAC



750-615



7.10

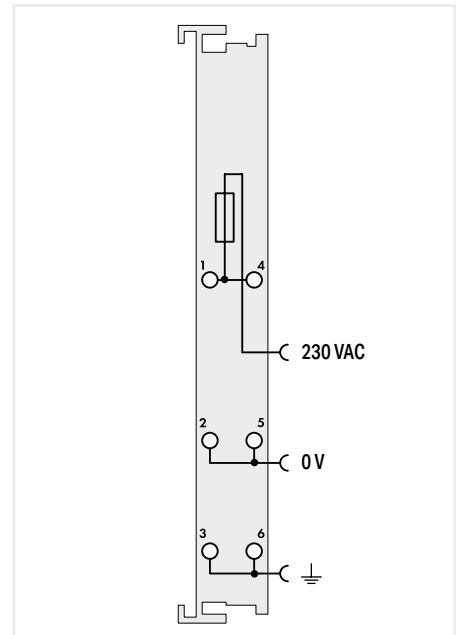
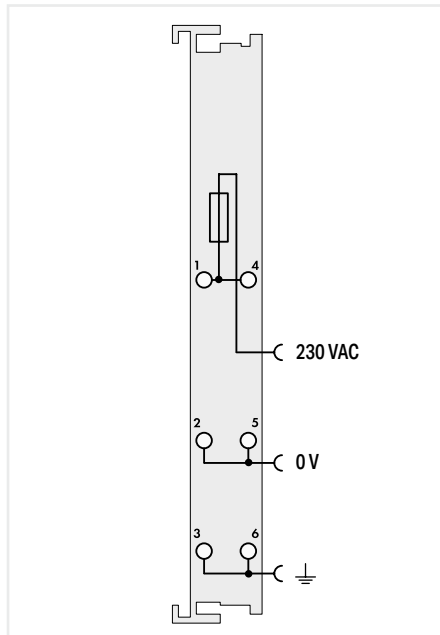
|   |   |
|---|---|
| Item description                                  | Power Supply; 120 VAC; Fuse holder  |
| Version   | Standard  |
| Item no.  | 750-615   |
| Order Text  | Power Supply; 120 VAC; Fuse   |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 120 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 6.3 A   |
| Fuse  | 5 x 20; T 6.3 A (not included)  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE;  OrdLoc/HazLoc;  ATEX/IECEx   |
| For data sheet and additional information, see:   | wago.com/750-615  |

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

# Supply module ▶ 230 VAC



750-609



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                    |
|------------------------------------|
| Power Supply; 230 VAC; Fuse holder |
| Standard                           |
| 750-609                            |
| Power Supply; 230 VAC; Fuse        |

|   |
|---|
| Power Supply; 230 VAC; Fuse holder; Diagnostics |
| Diagnostics                                     |
| 750-611   |
| Power Supply; 230 VAC; Fuse; Diagn              |

|   |
|---|
| Technical data                                    |
| Supply voltage (system)                           |
| Supply voltage (field)                            |
| Current consumption (5 V system supply)           |
| Current carrying capacity (power jumper contacts) |
| Fuse  |
| Diagnostics                                       |
| Data width  |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Approvals   |

|   |
|---|
| 5 VDC; via data contacts  |
| 230 VAC (-15 ... +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| -   |
| 6.3 A   |
| 5 x 20; T 6.3 A (not included)  |
| -   |
| -   |
| 0 ... +55 °C  |
| (12 x 100 x 69.8) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

|   |
|---|
| 5 VDC; via data contacts  |
| 230 VAC (-15 ... +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| 5 mA  |
| 6.3 A   |
| 5 x 20; T 6.3 A (not included)  |
| Supply voltage (field): Detection "on" at > 164 VAC; Detection "off" at < 40 VAC  |
| 2 bits (1 bit current monitoring, 1 bit fuse fault)   |
| 0 ... +55 °C  |
| (12 x 100 x 69.8) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

For data sheet and additional information, see:

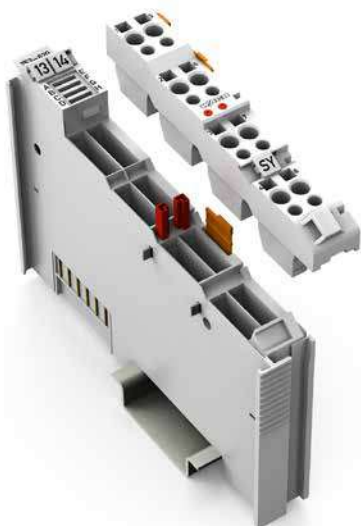
wago.com/750-609

wago.com/750-611

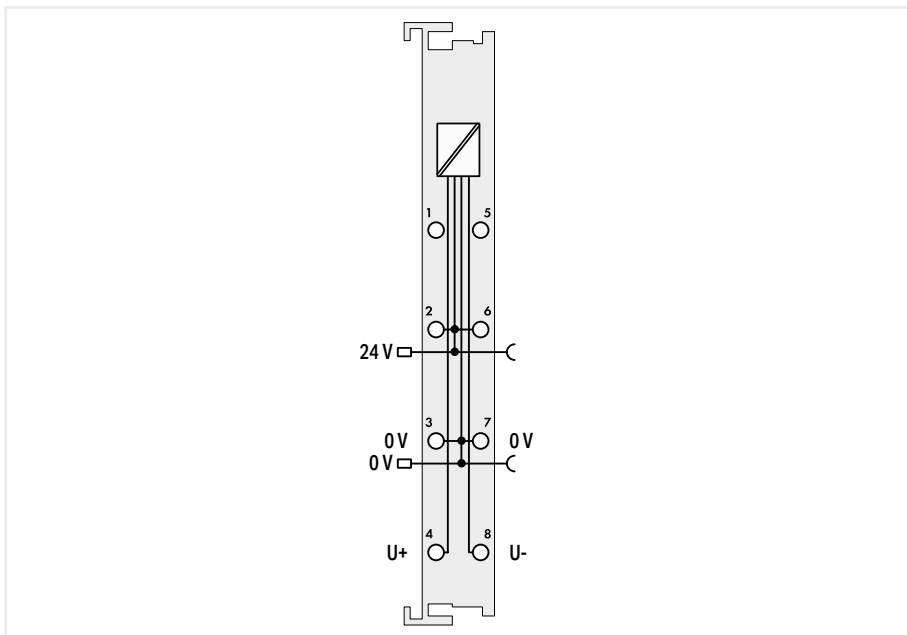
This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.

## Supply module ► DALI



753-620



7.10

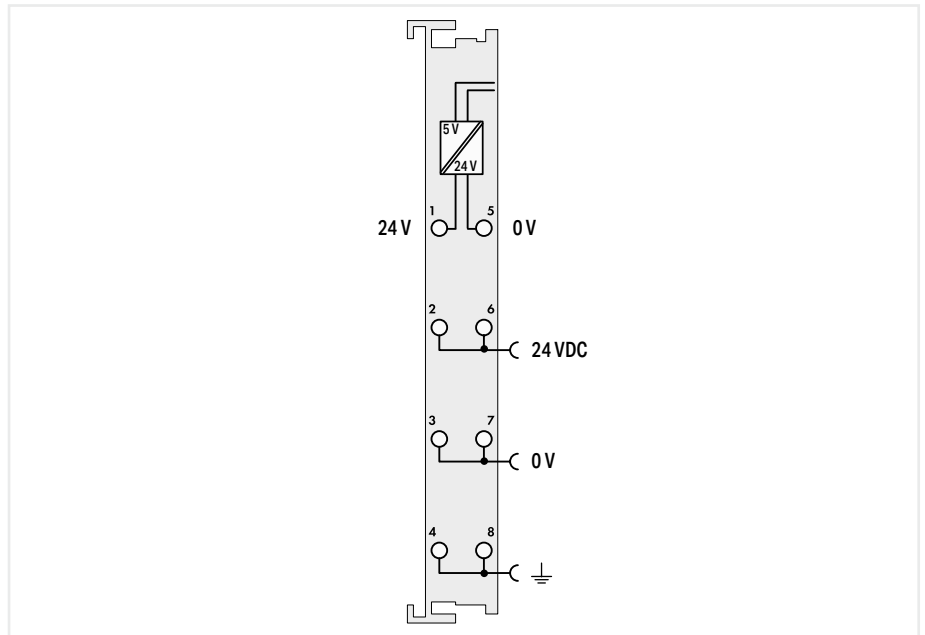
|   |  |
|---|--|
| Item description                                  | DALI Multi-Master DC/DC Converter  |
| Version   | pluggable  |
| Item no.  | 753-620  |
| Order Text  | DALI Multi-Master DC/DC-Converter  |
| Technical data                                    |  |
| Pluggable connector                               | pluggable  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact);<br>Supply voltage (DALI): 18 VDC; at +U and -U via CAGE CLAMP® connection |
| Total current (system supply)                     | 200 mA   |
| Current carrying capacity (power jumper contacts) | 10 A   |
| Test voltage (input/output)                       | 1.5 kV   |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |
| Approvals   | CE;  Marine;  OrdLoc   |
| For data sheet and additional information, see:   | wago.com/753-620   |

This I/O module powers the DALI Multi-Master (753-647). It uses the field supply, which is connected via the power jumper contacts. Cable bridges connect the module to the DALI Multi-Master.

## System power supply ▶ 24 VDC; system power supply



750-613



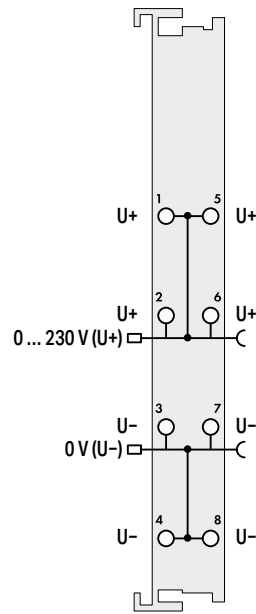
|   |  |
|---|--|
| Item description                                      | System Power Supply; 24 VDC  |
| Version   | Standard   |
| Item no.  | 750-613  |
| Order Text  | System Power Supply; 24 VDC  |
| Technical data  |  |
| Supply voltage (system)                               | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Input current (typ.) at nominal load (24 V)           | 500 mA   |
| Power supply efficiency (typ.) at nominal load (24 V) | 90 %   |
| Supply voltage (field)                                | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Total current (system supply)                         | 2000 mA  |
| Current carrying capacity (power jumper contacts)     | 10 A   |
| Isolation   | 500 V system/field   |
| Ambient temperature (operation)                       | 0 ... +55 °C   |
| Dimensions W x H x D                                  | (12 x 100 x 69.8) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see:       | wago.com/750-613   |

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules. It also serves as an additional system supply for large nodes, covering the I/O modules' power demands.

## Potential distribution module ▶ 0 ... 230 VAC/DC



750-614



7.10

|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                               |  |
|-------------------------------|--|
| <b>Potential Distribution</b> |  |
| Standard                      | pluggable (delivery without connector) |
| 750-614                       | 753-614                                |
| Potential Distribution        | Potential Distribution                 |

|   |   |
|---|---|
| Technical data                                    |   |
| Pluggable connector                               | -   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE, Marine, OrdLoc/HazLoc, ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-614 wago.com/753-614   |

|   |   |
|---|---|
| Technical data                                    |   |
| Pluggable connector                               | pluggable   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE, Marine, OrdLoc/HazLoc, ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-614 wago.com/753-614   |

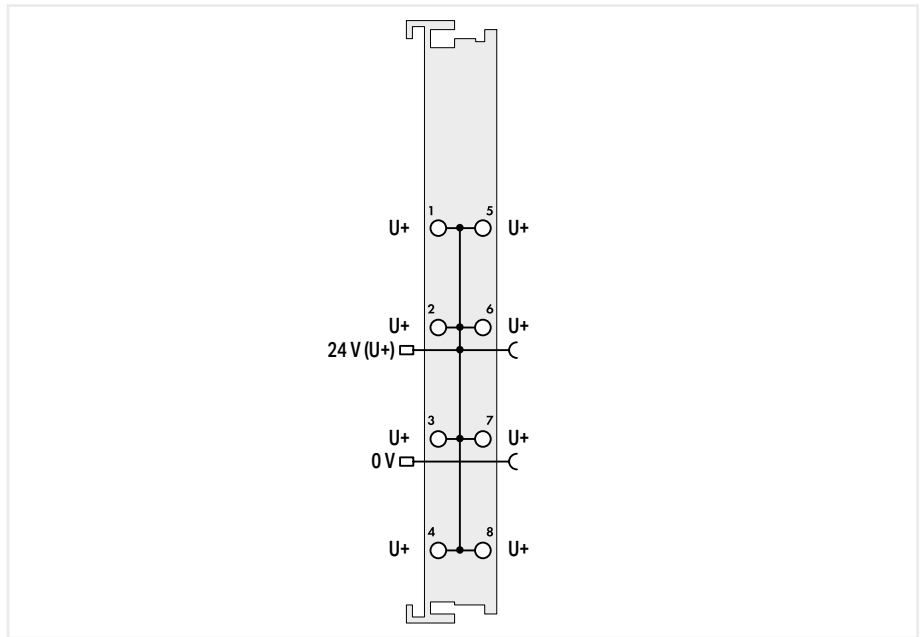
|                    |   |
|--------------------|---|
| <b>Accessories</b> |   |
| Plug               | - |

|                 |                 |
|-----------------|-----------------|
| <b>Item no.</b> | <b>Item no.</b> |
| -               | 753-110         |

## Potential distribution module ▶ 8x 24 V



750-603



|                  |                                 |
|------------------|---------------------------------|
| Item description | Potential Distribution; 8x 24 V |
| Version          | Standard                        |
| Item no.         | 750-603                         |
| Order Text       | Potential Distribution; 8*24V   |

|            |  |
|------------|--|
| Standard   | pluggable (delivery without connector) |
| Item no.   | 753-603                                |
| Order Text | Potential Distribution; 8*24V          |

|   |   |
|---|---|
| Technical data                                    |   |
| Pluggable connector                               | -   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE, L, Marine, OrdLoc/HazLoc, ATEX/IECEX  |
| For data sheet and additional information, see:   | wago.com/750-603  |

|   |   |
|---|---|
| Standard  | pluggable   |
| Item no.  | 753-603   |
| Order Text  | Potential Distribution; 8*24V   |
| Technical data                                    |   |
| Pluggable connector                               | -   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |
| Approvals   | CE, L, Marine, OrdLoc/HazLoc, ATEX/IECEX  |
| For data sheet and additional information, see:   | wago.com/753-603  |

|             |   |
|-------------|---|
| Accessories |   |
| Plug        | - |

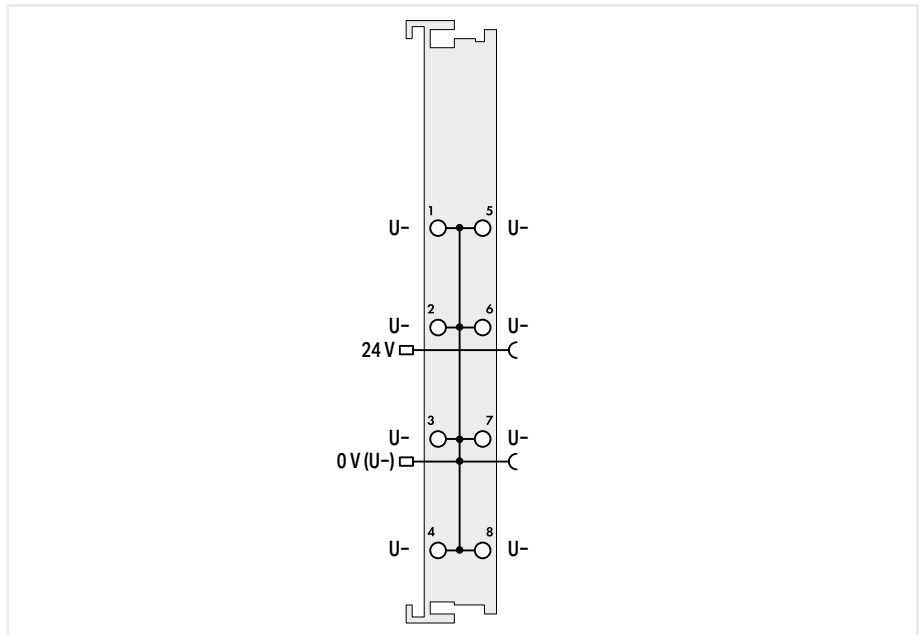
|          |         |
|----------|---------|
| Item no. | 753-110 |
| Plug     | -       |

7.10  
Supply and Segment Modules

## Potential distribution module ▶ 8x 0 V



750-604



7.10

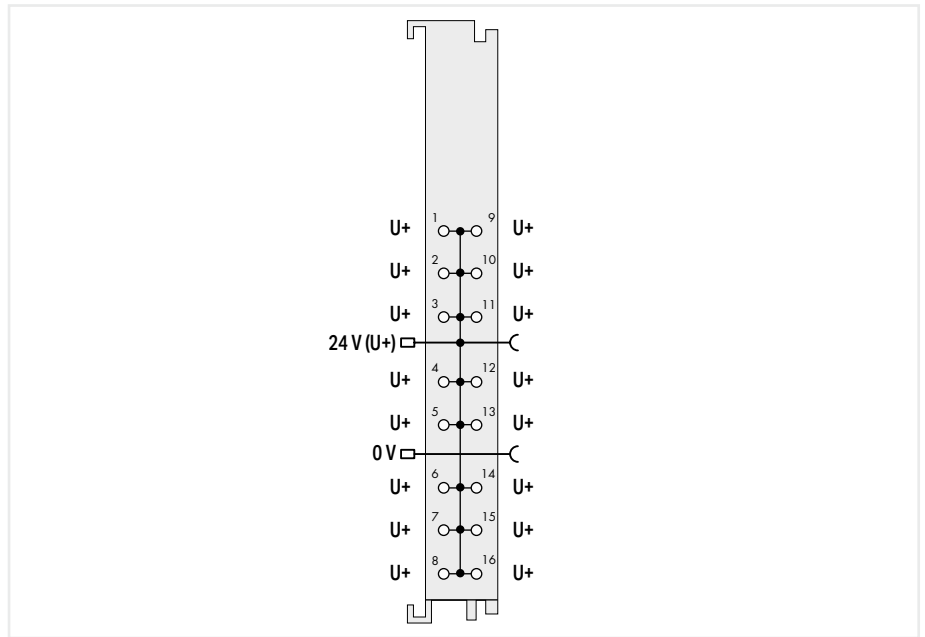
|   |   |  |
|---|---|--|
| Item description                                  | <b>Potential Distribution; 8x 0 V</b>   |  |
| Version   | Standard  | pluggable (delivery without connector) |
| Item no.  | 750-604   | 753-604                                |
| Order Text  | Potential Distribution; 8*0V  | Potential Distribution; 8*0V           |
| Technical data                                    |   |  |
| Pluggable connector                               | -   | pluggable                              |
| Supply voltage (system)                           | 5 VDC; via data contacts  |  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current carrying capacity (power jumper contacts) | 10 A  |  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |  |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm  |  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |  |
| For data sheet and additional information, see:   | wago.com/750-604  | wago.com/753-604                       |
| Accessories                                       | Item no.  | Item no.                               |
| Plug  | -   | 753-110                                |



## Potential distribution module ▶ 16x 24 V



750-1605



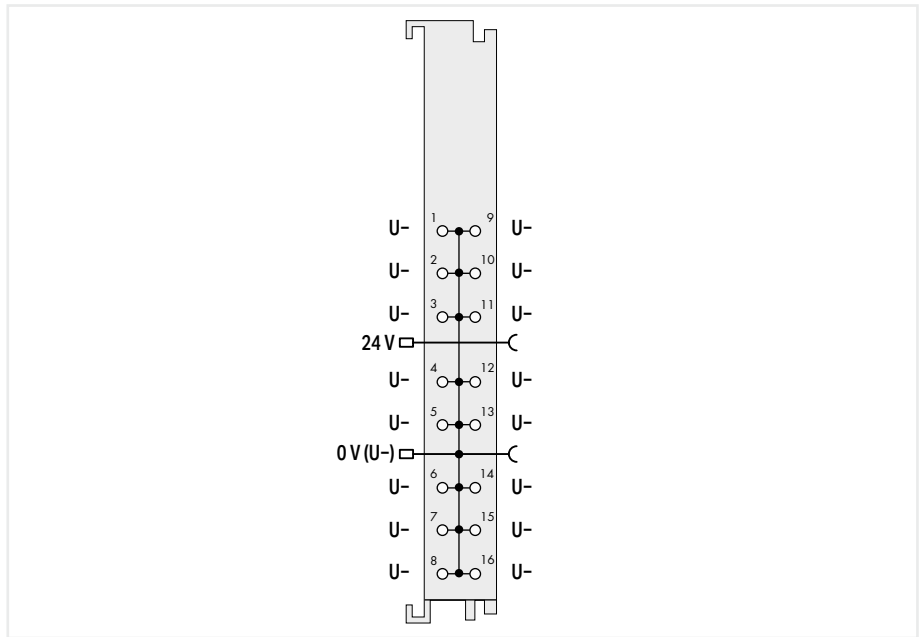
|                  |                                  |
|------------------|----------------------------------|
| Item description | Potential Distribution; 16x 24 V |
| Version          | Standard with 16 connectors      |
| Item no.         | 750-1605                         |
| Order Text       | Potential Distribution; 16*24V   |

|   |   |
|---|---|
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Ambient temperature (operation)                   | 0 ... +55 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69) mm  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see:   | wago.com/750-1605   |

## Potential distribution module ▶ 16x 0 V



750-1606



7.10

|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                                 |
|---------------------------------|
| Potential Distribution; 16x 0 V |
| Standard with 16 connectors     |
| 750-1606                        |
| Potential Distribution; 16*0V   |

|   |
|---|
| Technical data                                    |
| Supply voltage (system)                           |
| Supply voltage (field)                            |
| Current carrying capacity (power jumper contacts) |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Approvals   |

|   |
|---|
| 5 VDC; via data contacts  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 10 A  |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

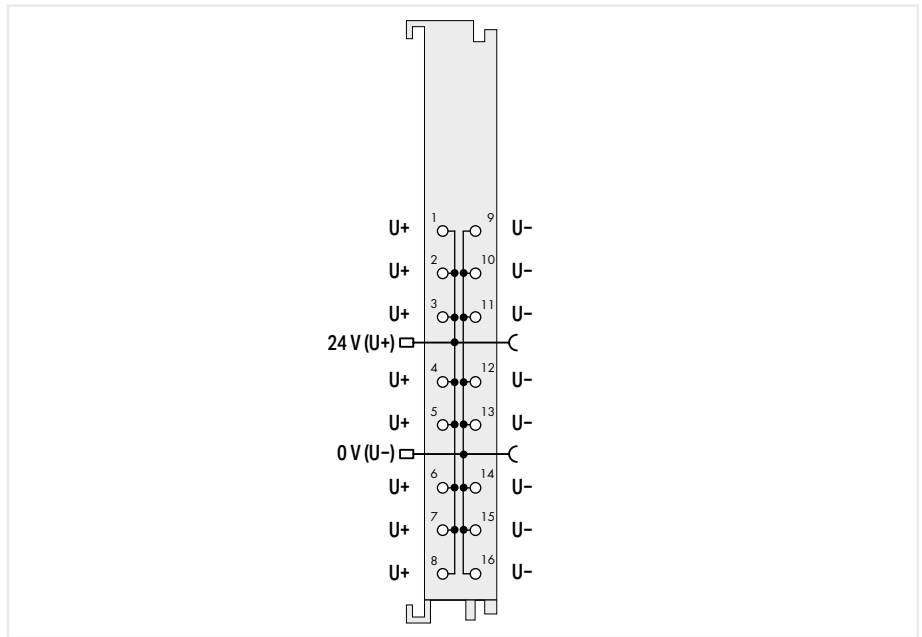
For data sheet and additional information, see:

wago.com/750-1606

## Potential distribution module ▶ 8x 24 V/8x 0 V



750-1607



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| Potential Distribution; 8x 24 V/8x 0 V |
| Standard with 16 connectors            |
| 750-1607                               |
| Potential Distribution; 8*24V/8*0V     |

|   |
|---|
| Technical data                                    |
| Supply voltage (system)                           |
| Supply voltage (field)                            |
| Current carrying capacity (power jumper contacts) |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Approvals   |

|   |
|---|
| 5 VDC; via data contacts  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 10 A  |
| 0 ... +55 °C  |
| (12 x 100 x 69) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

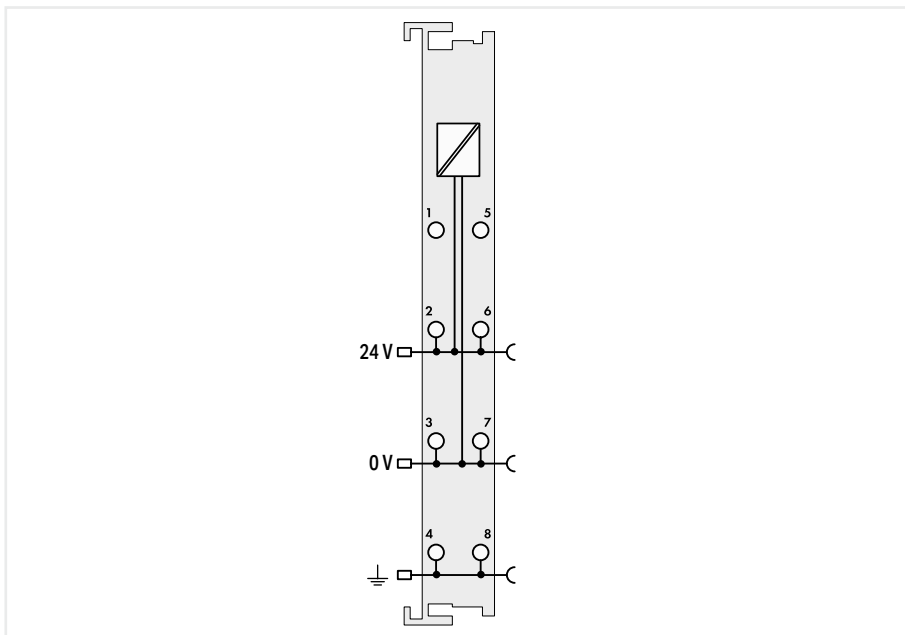
For data sheet and additional information, see:

wago.com/750-1607

## Filter module ► Field supply filter



750-624



| Item description   | Field Supply Filter (Surge); 24 VDC   |  |  |
|--|---|--|--|
| Version  | Standard  | Higher isolation   | higher isolation; ground fault diagnostics |
| Item no.   | 750-624   | 750-624/020-000  | 750-624/020-002                            |
| Order Text   | Field Supply Filter; 24 VDC   | Field Supply Filter; 24 VDC; HI  | Field Supply Filter; 24 VDC HI; GF         |
| <b>Technical data</b>  |   |  |  |
| Supply voltage (system)  | 5 VDC; via data contacts  |  |  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) | 24 VSELV DC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |  |
| Current consumption (5 V system supply)                          | -   | 29 mA  |  |
| Current carrying capacity (power jumper contacts)                | 10 A  |  |  |
| Current consumption, field supply (module with no external load) | -   | 16 mA  |  |
| Application  | Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules   | Marine-certified operation in conjunction with 750 Series I/O Modules  |  |
| Data width   | -   | 8-bit input; 8-bit output  |  |
| Ambient temperature (operation)                                  | 0 ... +55 °C  |  |  |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm  |  |  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  | CE;  Marine;  OrdLoc/HazLoc  | CE;  Marine;  OrdLoc/HazLoc                |

For data sheet and additional information, see:

[wago.com/750-624](http://wago.com/750-624)

Use in systems with isolation monitoring requires the high isolation variants.

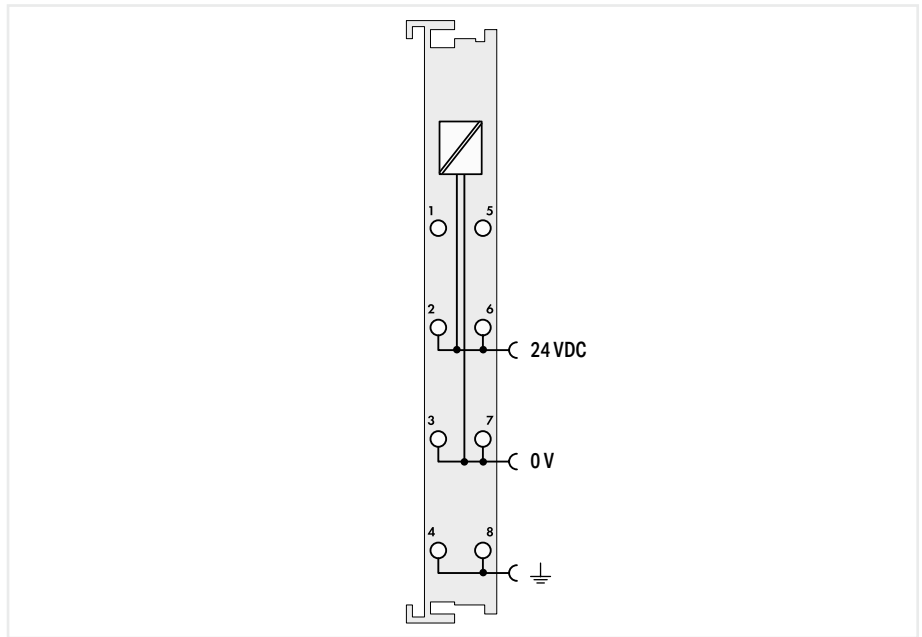
Ground diagnostics (response values) 750-624/020-002:

- Pre-alarm 50 kΩ (±15 %)
- Main alarm 25 kΩ (±15 %)
- Hysteresis (typ.) 25 ... 30 %
- Response time ≤ 5 s (typ. 2.5 s)
- Internal resistance DC (test circuit) > 10 MΩ (test inactive), > 90 kΩ (test active)
- Test current ≤ 180 μA (RF=0 Ω)
- Permissible system leakage capacitance ≤ 2 μF

## Filter module ▶ Field supply filter; without power jumper contacts



750-624/000-001



|                  |                                     |   |
|------------------|-------------------------------------|---|
| Item description | Field Supply Filter (Surge); 24 VDC |   |
| Version          | without power jumper contacts       | higher isolation; without power jumper contacts |
| Item no.         | 750-624/000-001                     | 750-624/020-001                                 |
| Order Text       | Field Supply Filter; 24 VDC; NC     | Field Supply Filter; 24 VDC; HI; NC             |

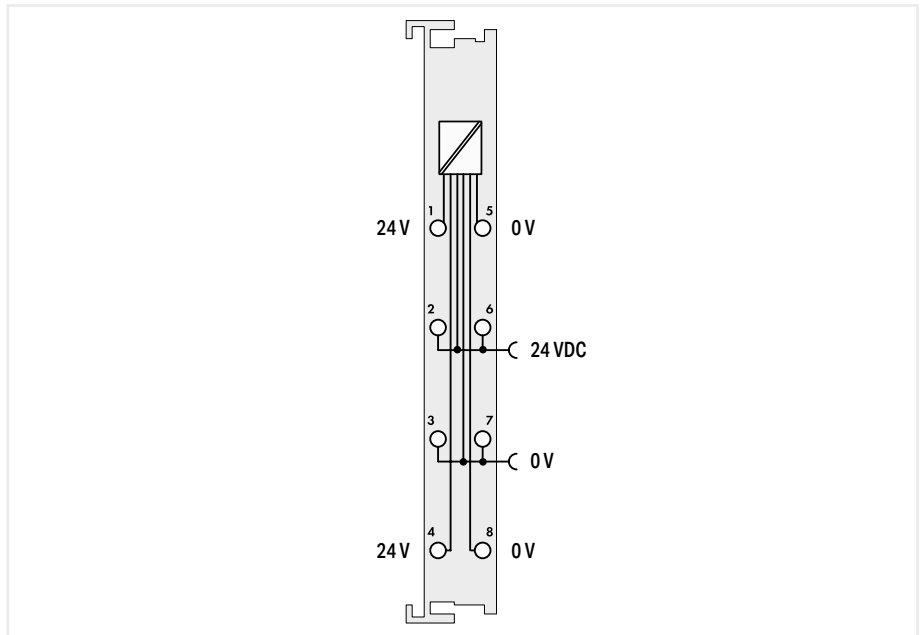
|   |   |   |
|---|---|---|
| Technical data                                  |   |   |
| Supply voltage (system)                         | 5 VDC; via data contacts  |   |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)  |   |
| Application                                     | Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules | Marine-certified operation in conjunction with 750 Series I/O Modules |
| Ambient temperature (operation)                 | 0 ... +55 °C  |   |
| Dimensions W x H x D                            | (12 x 100 x 69.8) mm  |   |
| Approvals                                       | CE,  Marine;  OrdLoc/HazLoc   | CE,  Marine;  OrdLoc/HazLoc;  ATEX/IECEx                              |
| For data sheet and additional information, see: | <a href="http://wago.com/750-624/000-001">wago.com/750-624/000-001</a>  |   |

Use in systems with isolation monitoring requires the high isolation variants.

## Filter module ► Power supply filter



750-626



7.10

| Item description   | Supply Filter; 24 VDC  |                                       |  |   |  |
|--|--|---------------------------------------|--|---|--|
| Version  | Standard   | ext. temperature                      | Higher isolation   | higher isolation; ground fault diagnostics  | Higher isolation; extended temperature   |
| Item no.   | 750-626  | 750-626/025-000                       | 750-626/020-000  | 750-626/020-002   | 750-626/025-001  |
| Order Text   | Supply Filter; 24 VDC  | Supply Filter; 24 VDC; T              | Supply Filter; 24 VDC; HI  | Supply Filter; 24 VDC HI; GF  | Supply Filter; 24 VDC; HI; T   |
| Technical data   |  |                                       |  |   |  |
| Supply voltage (system)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |                                       |  | 24 VDC (-25 ... +30 %)  | 24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |                                       |  | 24 VSELV DC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current consumption (5 V system supply)                          | -  |                                       |  | 29 mA   | -  |
| Current via system voltage (max.)                                | 1.5 A (1 A up to hardware version 04)  | 1.5 A (1 A up to hardware version 04) | 1.5 A (1 A up to hardware version 04)  | -   | 1.5 A (1 A up to hardware version 04)  |
| Current carrying capacity (power jumper contacts)                | 10 A   |                                       |  |   |  |
| Current consumption, field supply (module with no external load) | -  |                                       |  | 16 mA   | -  |
| Isolation  | -  |                                       |  | 300 VDC (limited by a transient protection device) system/field   | -  |
| Application  | Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules            |                                       | Marine-certified operation in conjunction with 750 Series Couplers and Controllers |   |  |
| Data width   | -  |                                       |  | 8-bit input; 8-bit output   | -  |
| Ambient temperature (operation)                                  | 0 ... +55 °C   | -20 ... +60 °C                        | 0 ... +55 °C   |   | -20 ... +60 °C   |
| Dimensions W x H x D   | (12 x 100 x 69.8) mm   |                                       |  |   |  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |                                       |  | CE; Marine; OrdLoc/HazLoc   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |

For data sheet and additional information, see:

wago.com/750-626

Use in systems with isolation monitoring requires the high isolation variants.

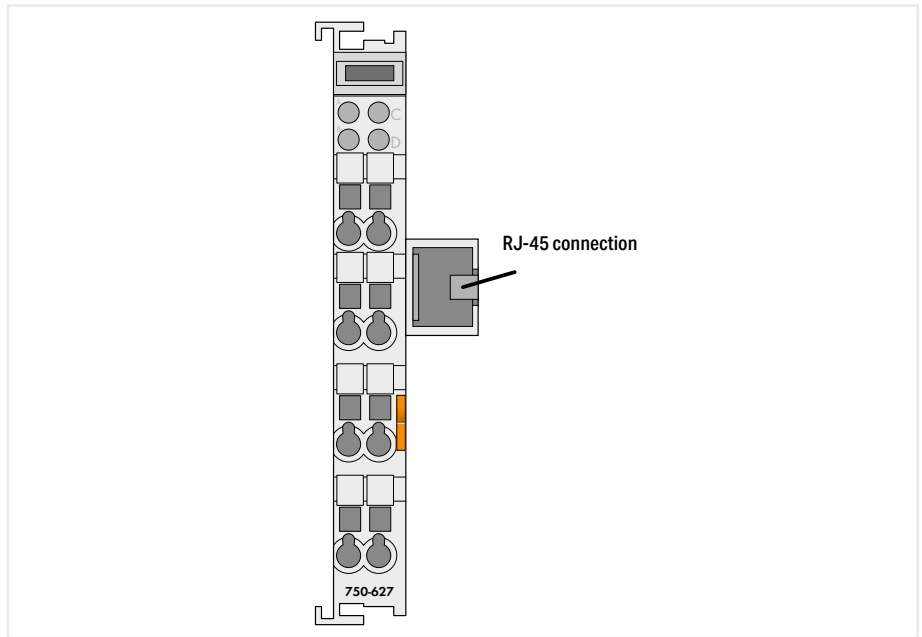
Ground diagnostics (response values) 750-626/020-002:

- Pre-alarm 50 kΩ (±15 %)
- Main alarm 25 kΩ (±15 %)
- Hysteresis (typ.) 25 ... 30 %
- Response time ≤ 5 s (typ. 2.5 s)
- Internal resistance DC (test circuit) >10 MΩ (test inactive), >90 kΩ (test active)
- Test current ≤180 μA (RF=0 Ω)
- Permissible system leakage capacitance ≤ 2 μF

## Bus extension ► End module



750-627



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                          |
|--------------------------|
| Bus Extension End Module |
| Standard                 |
| 750-627                  |
| Bus Extension End Module |

|   |
|---|
| Technical data                                |
| Device-specific                               |
| Connection technology: communication/fieldbus |
| Supply voltage (system)                       |
| Current consumption (5 V system supply)       |
| Isolation                                     |
| Ambient temperature (operation)               |
| Dimensions W x H x D                          |
| Approvals                                     |

|   |
|---|
| Number of coupler modules: up to 10; Distance (max.): 5 m (10 m see manual); (end/coupler modules or coupler/coupler modules) |
| Local bus: 1 x RJ-45  |
| 5 VDC; via data contacts  |
| 70 mA   |
| 500 V system/field  |
| 0 ... +55 °C  |
| (24 x 100 x 69.8) mm  |
| CE;  Marine;  OrdLoc  |

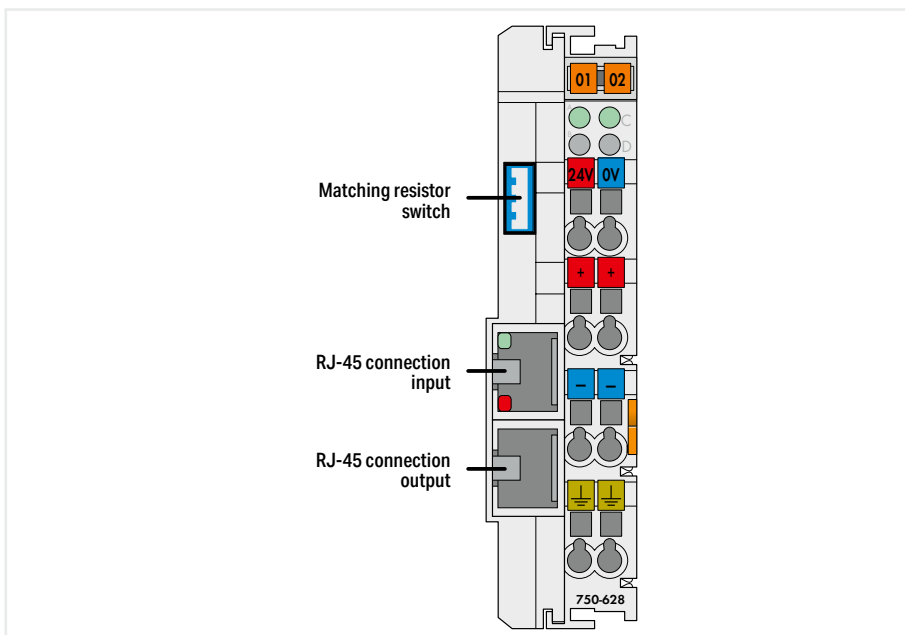
For data sheet and additional information, see:

wago.com/750-627

## Bus extension ► Coupler module



750-628



## Item description

Version

Item no.

Order Text

Bus Extension Coupler Module

Standard

750-628

Bus Extension Coupler Module

## Technical data

Number of modules per node (max.)

64

Device-specific

Distance (max.): 5 m (10 m see manual); (end/coupler modules or coupler/coupler modules)

Connection technology: communication/fieldbus

Local bus: 2 x RJ-45

Supply voltage (system)

24 VDC (-15 ... +20 %); via pluggable connector (CAGE CLAMP® connection)

Input current (typ.) at nominal load (24 V)

200 mA

Power supply efficiency (typ.) at nominal load (24 V)

76 %

Supply voltage (field)

24 VDC (-15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)

Current consumption (5 V system supply)

150 mA

Total current (system supply)

400 mA

Current carrying capacity (power jumper contacts)

10 A

Isolation

500 V system/field

Ambient temperature (operation)

0 ... +55 °C

Dimensions W x H x D

(24 x 100 x 69.8) mm

Approvals

CE; Marine; OrdLoc

For data sheet and additional information, see:

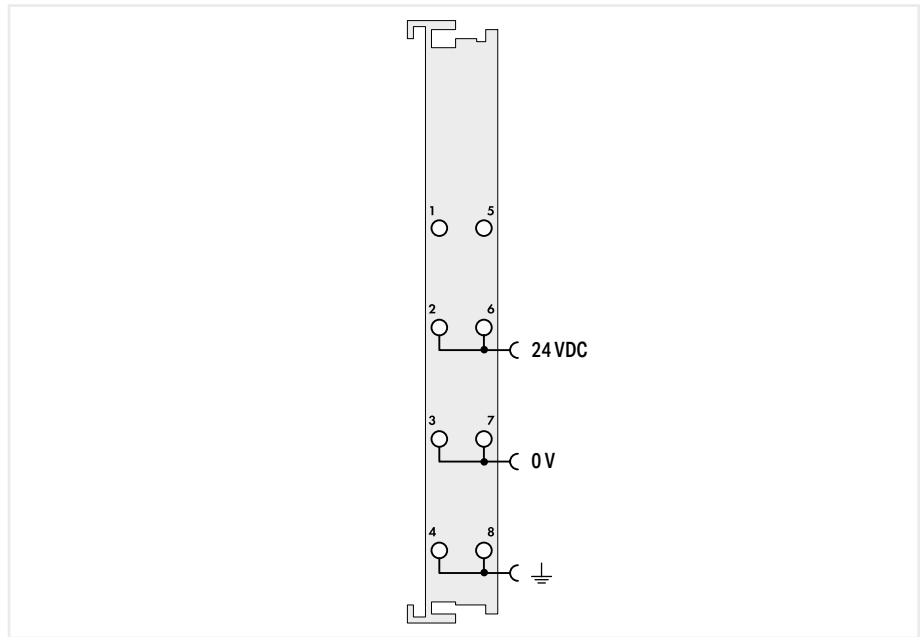
wago.com/750-628



## Spacer module ► Binary



750-622



|                  |                      |
|------------------|----------------------|
| Item description |                      |
| Version          |                      |
| Item no.         | 750-622              |
| Order Text       | Binary Spacer Module |

|                      |
|----------------------|
| Binary Spacer Module |
| Standard             |
| 750-622              |
| Binary Spacer Module |

|   |  |
|---|--|
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current consumption (5 V system supply)           | 10 mA  |
| Current carrying capacity (power jumper contacts) | 10 A   |
| Isolation   | 500 V system/field   |
| Data width  | 2, 4, 6 or 8 bits (adjustable via DIP switches)  |
| Operating mode                                    | Inputs DIP 3: OFF; Outputs DIP 3: ON   |
| Ambient temperature (operation)                   | 0 ... +55 °C   |
| Dimensions W x H x D                              | (12 x 100 x 69.8) mm   |
| Approvals   | CE, OrdLoc/HazLoc, ATEX/IECEx  |

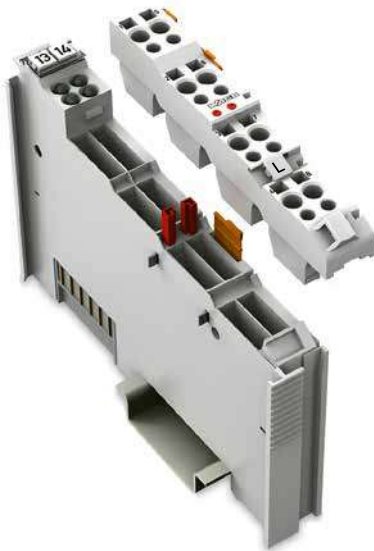
|  |  |
|--|--|
|  | 5 VDC; via data contacts   |
|  | 24 VDC (-15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
|  | 10 mA  |
|  | 10 A   |
|  | 500 V system/field   |
|  | 2, 4, 6 or 8 bits (adjustable via DIP switches)  |
|  | Inputs DIP 3: OFF; Outputs DIP 3: ON   |
|  | 0 ... +55 °C   |
|  | (12 x 100 x 69.8) mm   |
|  | CE, OrdLoc/HazLoc, ATEX/IECEx  |

For data sheet and additional information, see:

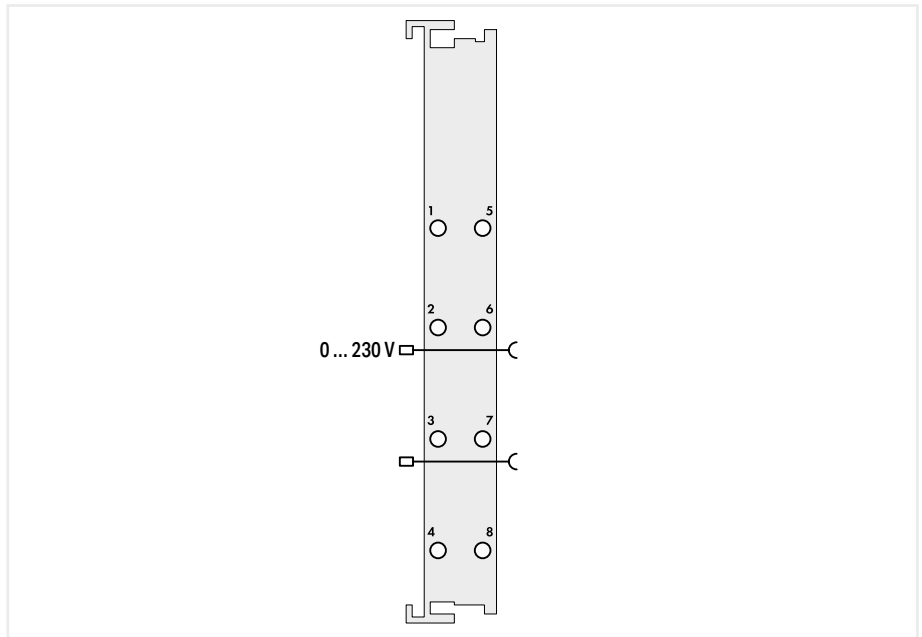
wago.com/750-622

This binary spacer module reserves bit addresses in the process image of a fieldbus node.

## Spacer module ► active



753-1629



7.10

|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |   |
|--|---|
| <b>Spacer Module</b>                           |   |
| active; pluggable (delivery without connector) | active; without power jumper contacts; pluggable (delivery without connector) |
| 753-1629                                       | 753-1629/000-001  |
| Spacer Module; Active                          | Spacer Module; Active; NC   |

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Supply voltage (system)                         |
| Supply voltage (field)                          |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

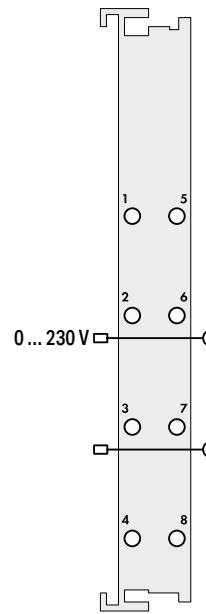
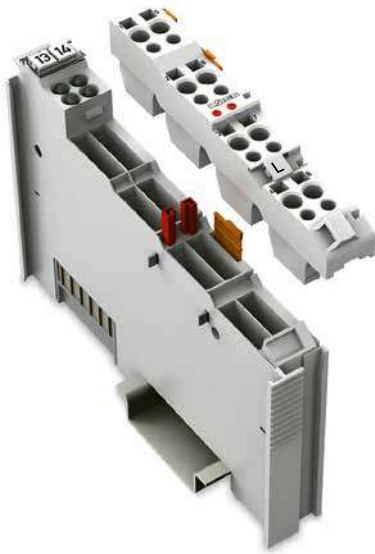
|   |                          |
|---|--------------------------|
|   | pluggable                |
|   | 5 VDC; via data contacts |
| Field-side supply via power jumper contacts | -                        |
|   | 0 ... +55 °C             |
|   | (12 x 100 x 69.8) mm     |
|   | CE,   OrdLoc             |
|   | wago.com/753-1629        |

|                    |
|--------------------|
| <b>Accessories</b> |
| Plug               |

|                 |                 |
|-----------------|-----------------|
| <b>Item no.</b> | <b>Item no.</b> |
| 753-110         | 753-110         |

This active spacer module enables both hardware and software space reservation for standard function modules (digital input/output modules and analog input/output modules) in PROFIBUS/PROFINET networks (only in conjunction with 750-333, 750-375, 750-377).

## Spacer module ► passive



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |
|---|
| Spacer Module                                   |
| passive; pluggable (delivery without connector) |
| 753-629/020-000                                 |
| Spacer Module; Passive                          |

|   |
|---|
| Technical data                                  |
| Pluggable connector                             |
| Supply voltage (system)                         |
| Supply voltage (field)                          |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |
| Accessories                                     |
| Plug  |

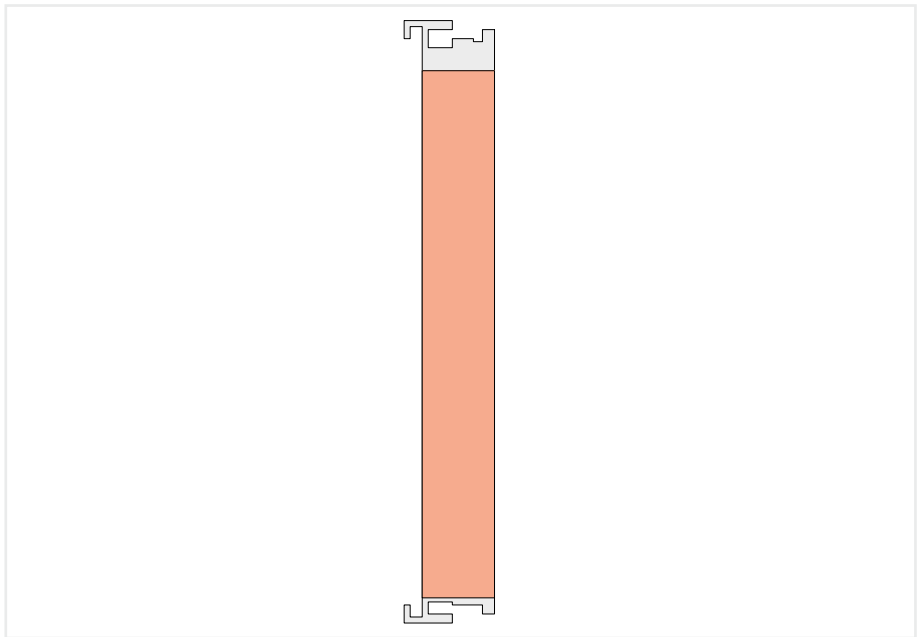
|   |
|---|
| pluggable                                   |
| 5 VDC; via data contacts                    |
| Field-side supply via power jumper contacts |
| 0 ... +55 °C                                |
| (12 x 100 x 69.8) mm                        |
| CE, RoHS, OrdLoc                            |
| wago.com/753-629/020-000                    |
| Item no.                                    |
| 753-110                                     |

This passive spacer module enables hardware space reservation for standard function modules (digital input/output modules and analog input/output modules).

## Distance module ▶ Distance module



750-616



7.10

|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                 |                                 |
|-----------------|---------------------------------|
| Distance Module |                                 |
| Standard        | labeled                         |
| 750-616         | 750-616/030-000                 |
| Distance Module | Distance Module; 24 VDC/230 VAC |

|                                 |
|---------------------------------|
| Technical data                  |
| Supply voltage (system)         |
| Ambient temperature (operation) |
| Dimensions W x H x D            |
| Approvals                       |

|  |
|--|
| 5 VDC; via data contacts                 |
| 0 ... +55 °C                             |
| (12 x 100 x 69.8) mm                     |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx |
| wago.com/750-616                         |

For data sheet and additional information, see:

This distance module visually divides a fieldbus node into sections. The 750-616 Distance Module has no power jumper contacts. The labeled version of the distance module is available under the item number 750-616/030-000.

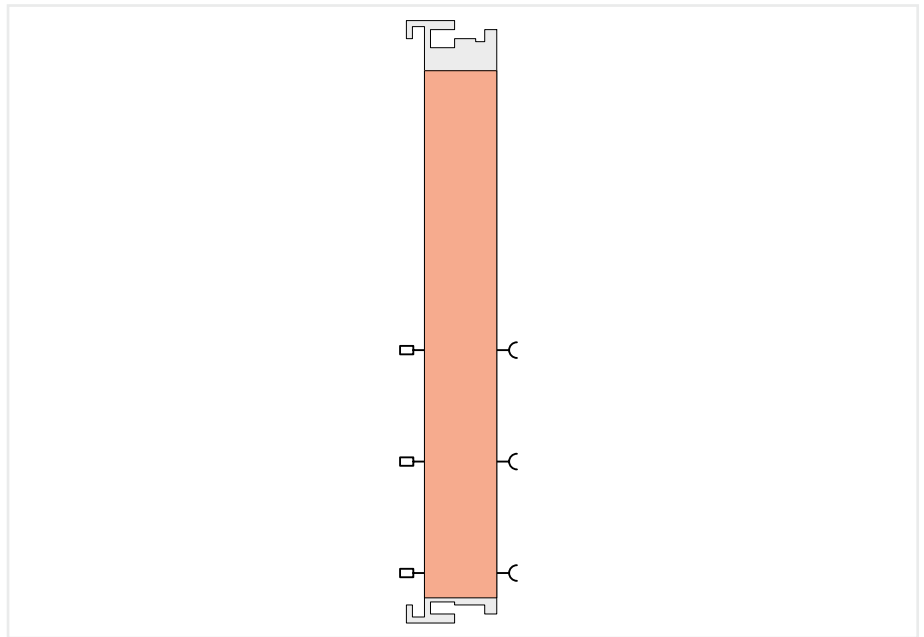
Notice:

Operation of the adjacent I/O modules requires a supply module.

## Distance module ► Distance module; with power jumper contacts



750-621



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                            |
|----------------------------|
| Distance Module            |
| with power jumper contacts |
| 750-621                    |
| Distance Module            |

|                                 |
|---------------------------------|
| Technical data                  |
| Supply voltage (system)         |
| Ambient temperature (operation) |
| Dimensions W x H x D            |
| Approvals                       |

|                               |
|-------------------------------|
| 5 VDC; via data contacts      |
| 0 ... +55 °C                  |
| (12 x 100 x 69.8) mm          |
| CE, OrdLoc/HazLoc, ATEX/IECEX |
| wago.com/750-621              |

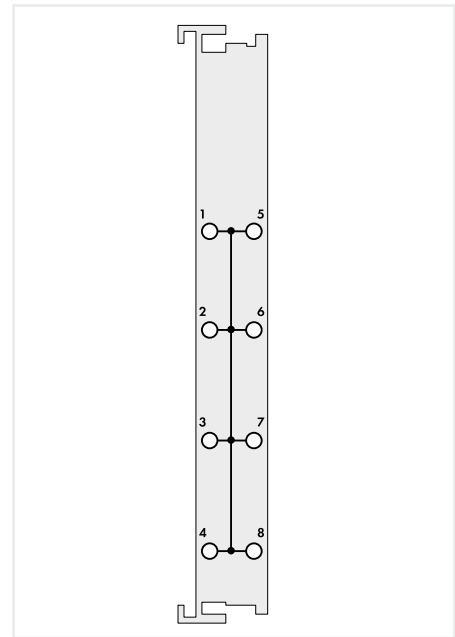
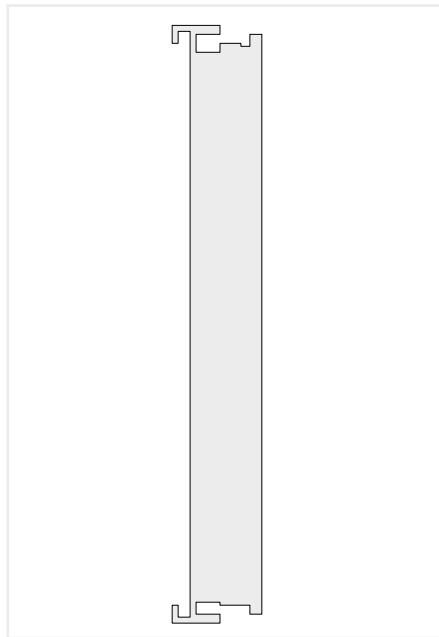
For data sheet and additional information, see:

The 750-621 Distance Module has power jumper contacts that can supply the power to adjacent I/O modules.

# Bus end module



750-600



7.10

|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                   |                  |
|-------------------|------------------|
| <b>End Module</b> |                  |
| Standard          | ext. temperature |
| 750-600           | 750-600/025-000  |
| End module        | End Module; T    |

|   |  |
|---|--|
| <b>End Module; with Potential Group</b> |  |
| Standard                                |  |
| 750-600/000-001                         |  |
| End Module; with Potential Group        |  |

|                           |   |
|---------------------------|---|
| Technical data            |   |
| Supply voltage (system)   | - |
| Voltage (potential group) | - |
| Rated surge voltage       | - |

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |

|   |  |
|---|--|
|   |  |
| 5 VDC; via data contacts                                    |  |
| 0 ... 230 VAC/DC; Supply via CAGE CLAMP® contacts           |  |
| 5 kV per EN 60870-2-1 / Class VV3, or 6.4 kV per EN 61010-1 |  |

|                                 |                      |                |
|---------------------------------|----------------------|----------------|
| Ambient temperature (operation) | 0 ... +55 °C         | -20 ... +60 °C |
| Dimensions W x H x D            | (12 x 100 x 69.8) mm |                |

|                      |  |                |
|----------------------|--|----------------|
| 0 ... +55 °C         |  | -20 ... +60 °C |
| (12 x 100 x 69.8) mm |  |                |

|                      |  |
|----------------------|--|
| 0 ... +55 °C         |  |
| (12 x 100 x 67.8) mm |  |

|   |
|---|
| Approvals                                       |
| For data sheet and additional information, see: |

|  |  |
|--|--|
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx<br><a href="http://wago.com/750-600">wago.com/750-600</a> |  |
|--|--|

|   |  |
|---|--|
| CE;  Marine;  OrdLoc/HazLoc<br><a href="http://wago.com/750-600">wago.com/750-600</a> |  |
|---|--|

|  |  |
|--|--|
| <p>This end module must be snapped onto the assembly at the end of a fieldbus node. The end module completes the internal data bus, ensuring flawless data transmission.</p> | <p>An end module must be snapped onto the assembly at the end of a fieldbus node. The end module completes the internal data bus, ensuring flawless data transmission.</p> |
|--|--|

An end module must be snapped onto the assembly at the end of a fieldbus node. In addition, the eight CAGE CLAMP® connections form a potential group. The end module completes the internal local data bus, ensuring flawless data transmission.





# I/O System – 750 XTR Series

## I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

## I/O System – 750 XTR Series

- For demanding applications in which the following are critical:
- Extreme temperature resistance
  - Immunity to electromagnetic interference and impulse voltages
  - Vibration and shock resistance










## I/O System Field

- Automate and Network Modular Machines for the Future
- Ethernet-based fieldbus standards (EtherCAT®, EtherNet/IP™, PROFINET)
  - Integrated Bluetooth® interface (Android/iOS App), OPC UA Server, Webserver
  - IO-Link Master and Devices



# I/O System – 750 XTR Series

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|    | 8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics; Extreme                                 | 750-537/040-000  | 500             |     |
|   | 8-Channel Digital Output; 24 VDC; 0.5 A; 2-Wire Connection; Extreme                           | 750-1515/040-000   | 501             |     |
|   | 8-Channel Digital Output; 24 VDC; 0.5 A; Low-Side Switching; 2-Wire Connection; Extreme       | 750-1516/040-000   | 502             |     |
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|   | 4-Channel Analog Input; 0 ... 20 mA; Single-Ended; Extreme                                    | 750-453/040-000  | 504             |     |
|   | 2-Channel Analog Input; 4 ... 20 mA; Differential Input; NAMUR NE 43; Extreme                 | 750-492/040-001  | 505             |     |
|   | 4-Channel Analog Input; 4 ... 20 mA; Single-Ended; Extreme                                    | 750-455/040-000  | 506             |     |
|   | 4-Channel Analog Input; ±10 VDC; Single-Ended; Extreme  | 750-457/040-000  | 507             |     |
|   | 4-Channel Analog Input; 0 ... 10 VDC; Single-Ended; Extreme                                   | 750-468/040-000  | 508             |     |
|   | 2-Channel Analog Input; 0 ... 30 VDC; Differential Input; Extreme                             | 750-483/040-000  | 509             |     |
|   | 4-Channel Analog Input; for Voltage/Current; Extreme  | 750-471/040-000  | 510             |     |
|   | 2/4-Channel Analog Input; Resistance Measurement; Adjustable; Extreme                         | 750-464/040-000  | 511             |     |
|   | 2-Channel Analog Input; Thermocouple; Adjustable; Extreme                                     | 750-469/040-000  | 512             |     |
|   | 3-Phase Power Measurement; 20 kVAC; 300 A; Extreme  | 750-495/040-010  | 513             |     |
|   | 3-Phase Power Measurement; 690 VAC 1 A; Extreme   | 750-495/040-000  | 514             |     |
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|  | Serial Interface RS-232/485; Extreme  | 750-652/040-000  | 522             |     |
|   | CAN Gateway; Extreme  | 750-658/040-000  | 523             |     |
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| Marking and Mounting Accessories  |   |  |                 |     |

## I/O System – 750 XTR Series

### General Product Information

#### Taking It to the eXTReme – The Standard for 750 XTR

Instantly recognizable by its dark gray modules, you will benefit from the unique added value of the WAGO I/O System 750 XTR for applications that are subjected to extreme environments.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – the WAGO I/O System 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore installations
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway systems

#### Superior Reliability in Extreme Climates

Automation systems are increasingly being located in outdoor and remote locations where components are directly affected by widely fluctuating temperature conditions such as wind turbines or transformer stations.

Engineered for freezing cold, extreme heat and high humidity, the WAGO I/O System 750 XTR provides absolute dependability in virtually any weather. The XTR version of the WAGO I/O System 750 is unfazed by both freezing cold down to -40°C and scorching heat up to +70°C. And this applies equally for both start-up and ongoing operation.

The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

#### eXTReme Evolution of the Tried and Tested

Using an industry-leading platform, the WAGO I/O System 750 XTR boasts the same proven benefits:

- Compact design: up to 16 channels in a module width of 12 mm (1/2")
- Easy to use
- Vibration-proof, fast and maintenance-free CAGE CLAMP® spring connections
- Fieldbus independence due to its modular design
- Clear identification with the WAGO WSB Marking System

#### Additional Protection against Interference Pulses

The WAGO I/O System 750 XTR provides greater immunity to impulse voltages up to 5 kV, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths ensure trouble-free operation.

#### High Mechanical Performance

Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples of the many applications that can stress automation systems. To perform in these demanding environments, the WAGO I/O System 750 XTR was developed to set new standards. With 5g of vibration resistance per DIN EN 60068-2-6 (acceleration: 50 m/s<sup>2</sup>) and shock resistance of 15g (150 m/s<sup>2</sup>) or 25g (250 m/s<sup>2</sup>) per IEC 60068-2-27, the system is engineered for dependability – no matter what. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

#### Worldwide Approvals

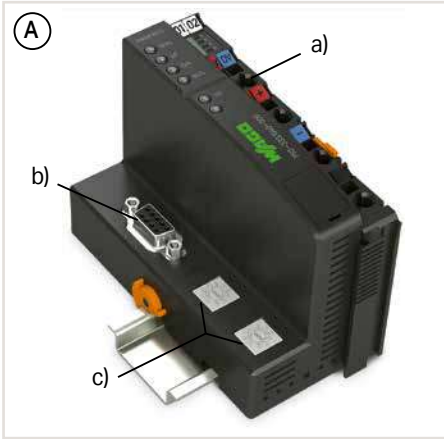
International approvals for industrial automation, marine automation and onshore/offshore applications guarantee worldwide use – even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.



#### Benefits:

- No need for air conditioning
  - Requires less space
  - Lower energy and maintenance costs
- Can be used in unshielded areas
- Maximum system uptime
- Use on vibrating/shock-generating system components
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

## I/O System – 750 XTR Series Interfaces and Types

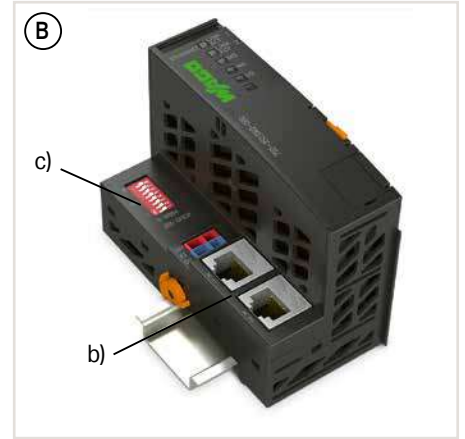


### Housing Design: Fieldbus Coupler (A)

- Includes a supply module (a) to power downstream I/O modules
- Technical differences on the connection level; fieldbus interface (b) and optional addressing switch (c)
- W x H x D (mm): 50.5 x 100 x 71.1

### Housing Design: Fieldbus Coupler Eco (B)

- Restriction on power supply and data width
- W x H x D (mm): 49.5 x 96.8 x 71.9



### Housing Design: 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm): 12 x 100 x 67.8

### Housing Design: 750 (D)

- 16 connection points (Push-in CAGE CLAMP®)
- W x H x D (mm): 12 x 100 x 69



### Housing Design: Double Width (E)

- Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.
- W x H x D (mm): 24 x 100 x 67.8

### Specialty Housing Design (F)

- Some modules are integrated into a specialty housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog pages.



### Housing Design: Intrinsically Safe XTR Modules (G)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm): 12 x 100 x 67.8

### Housing Design (Intrinsically Safe XTR Modules): Double Width (H)

- 16 connection points (CAGE CLAMP®)
- W x H x D (mm): 24 x 100 x 67.8



# I/O System – 750 XTR Series

## Application and Installation Instructions



Securing/Removing a module from the DIN-rail

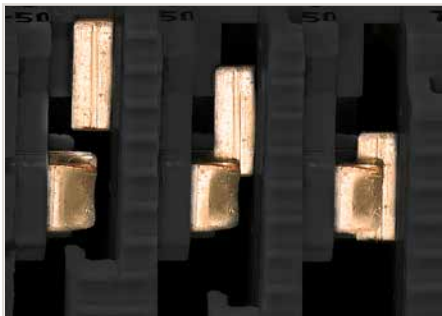


Secure, automatic data and electronics power supply connection via gold-plated pressure contacts



Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

8

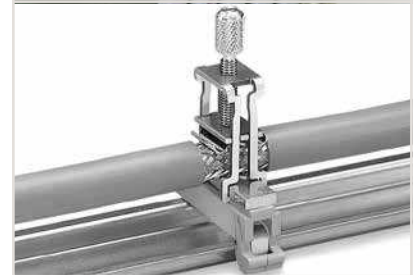


Secure, automatic power supply connection via self-cleaning blade contacts

**Notice:**

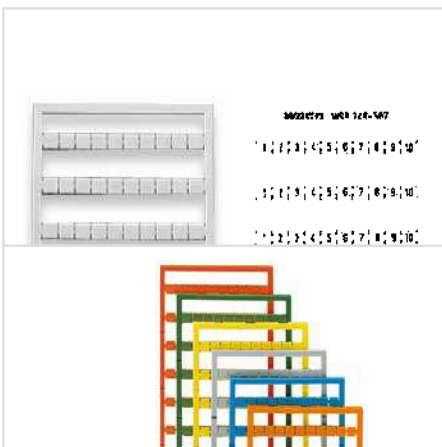
Some I/O modules do not provide all power jumper contacts. Therefore, an I/O module with three power jumper contacts (e.g., 2-channel digital input) cannot be connected to an I/O module that does not have all power jumper contacts.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail via a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.



Wide range of accessories available for EMC-compliant installation, including shield connection

### Marking Accessories



Mini-WSB marking cards (blank, pre-marked or colored) are suitable for all 750 Series I/O Modules.



Marker carrier for a single I/O module (suitable for all 750 and 753 Series I/O Modules); the marker carrier can be accommodated in the upper Mini-WSB marker slot.



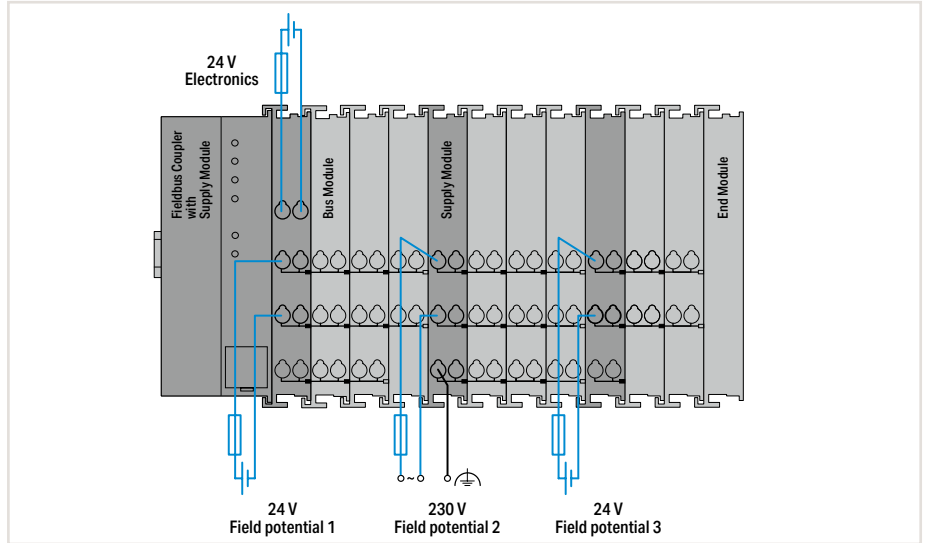
Marker carrier for one I/O node; both models (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.

# I/O System – 750 XTR Series

## Application and Installation Instructions

### Power Supply

The internal electronics are powered by the fieldbus coupler. The power supply to the field-side supply is electrically isolated. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible and customized supply configuration for a fieldbus node. Power supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Furthermore, the current consumed for field-side supply must not exceed 10 A. A variety of power supply modules allows re-feeding, creating potential groups and implementing emergency stops.



### Interference-Free in Safety-Related Applications

To easily and safely perform a cost-effective and centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

All 750 XTR Series Digital Output Modules are designed to provide interference-free safety functionality. The modules can be used in safety applications up to category 4 per DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.

#### Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

#### Notes:

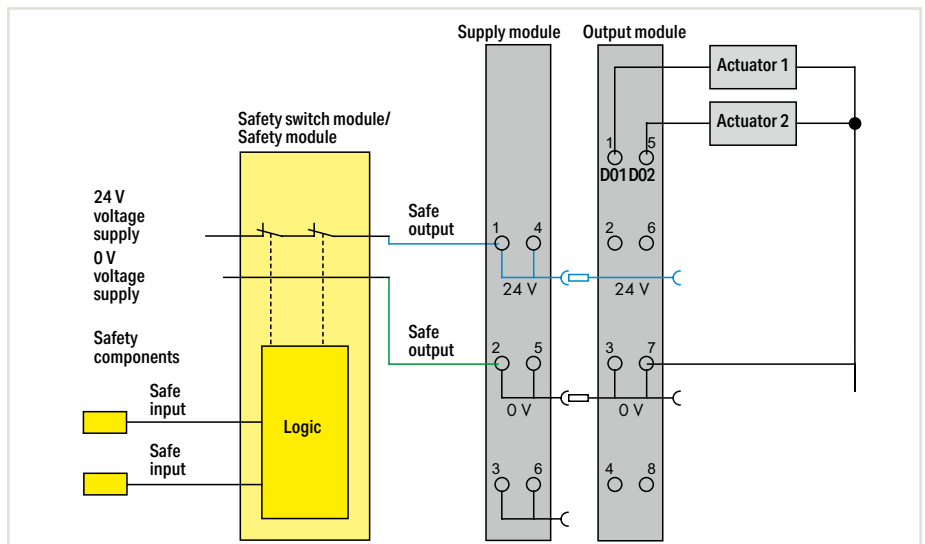
Additional steps must be implemented based on where the I/O system is installed: Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and railway systems.

A specific supply module (750-606/040-000) is required to operate intrinsically safe Ex i modules. Additionally, both supply modules and field-side power supply filters are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

Please refer to the manual for details about the power supply's design.

#### Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of modules are electrically isolated on the field side (i.e., electrically isolated power supply). This combination may be useful, for example, when there are only increased requirements for immunity to impulse voltages and interference, but the surrounding air temperature is not critical.

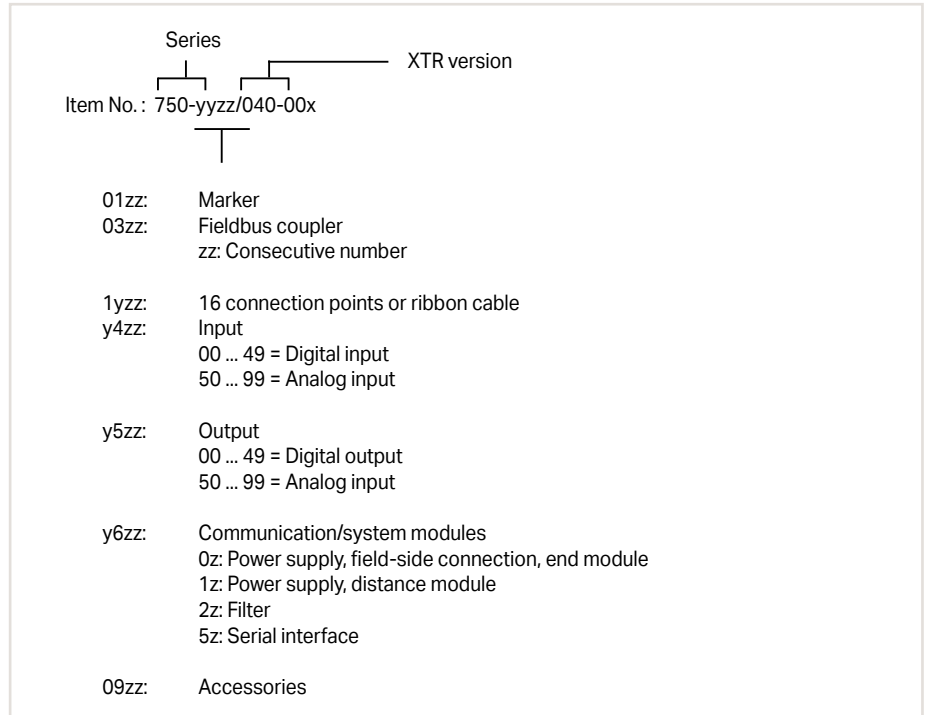


Example: 2-channel, double-pole power supply disconnection

## I/O System – 750 XTR Series

### Item Number Key

Explanation of an item number key's components



8

## Approvals

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).



## Standards and Rated Conditions for Rail Applications (EN 50155), not for Intrinsically Safe XTR Modules

| Railway Applications (EN 50155)                                     | Class/Standard Compliance    |
|---|------------------------------|
| <b>4.1 Rated operating conditions</b>                               |                              |
| 4.1.1 Altitude above sea level                                      | AX (EN 50125-1)              |
| 4.1.2 Surrounding air temperature                                   | TX                           |
| 4.1.3 Shock and vibration   | 1A and 1B (EN 61373)         |
| 4.1.4 Relative humidity   | 95 % (coated PCBs)           |
| <b>5.1 Power supply</b>   |                              |
| 5.1.1.1 Voltage fluctuations  |                              |
| Minimum voltage   | 0.725 x Un                   |
| Maximum voltage   | 1.3 x Un                     |
| 5.1.1.2 Power interruptions   | S1                           |
| <b>5.4 Surge, ESD, burst tests</b>                                  | EN 50121-3-2                 |
| <b>5.5 EMC (emission of interference, immunity to interference)</b> | EN 50121-3-2, EN 50121-4, -5 |
| <b>Fire behavior: per EN 45545-2 hazard level HL3</b>               |                              |
| WAGO is certified in accordance with the IRIS quality standard.     |                              |

## I/O System – 750 XTR Series

### Standards and Rated Conditions

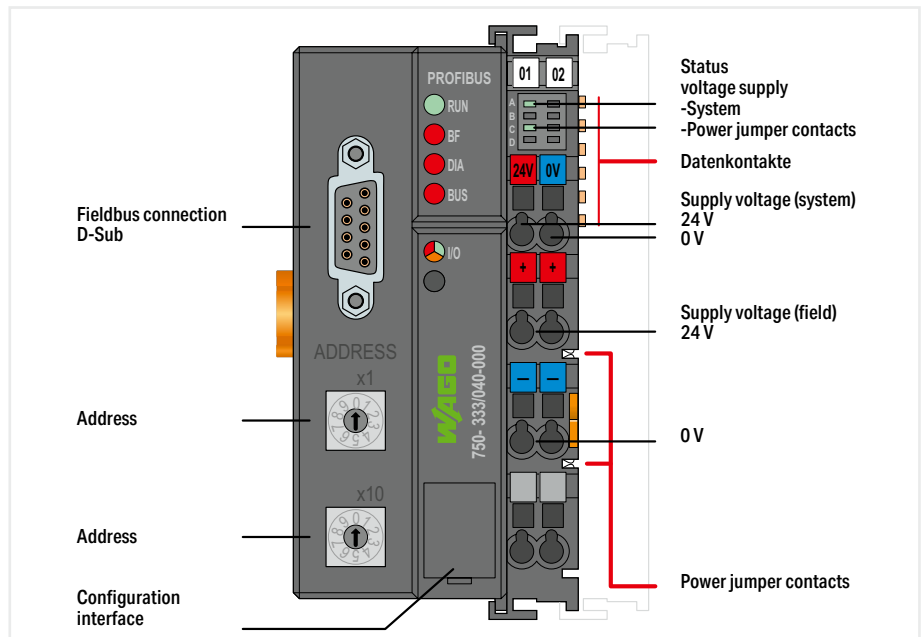
| General technical data                   |  |
|--|--|
| Ambient temperature (operation)          | -40 ... +70 °C   |
| Surrounding air temperature (storage)    | -40 ... +85 °C   |
| Relative humidity (without condensation) | 95 %   |
| Relative humidity (with condensation)    | Short-term condensation per Class 3K7/IEC EN 60721-3-3 and E-DIN 40046-721-3 (except for wind-driven precipitation, water and ice formation) |
| Operating altitude                       | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)                          |
| Vibration resistance                     | per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155; EN 61373  |
| Shock resistance                         | per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks), EN 50155, EN 61373   |
| Protection type                          | IP20   |
| Mounting position                        | horizontal (standing/lying); vertical  |
| Mounting type                            | DIN-35 rail  |
| Housing material                         | Polycarbonate; polyamide 6.6   |
| Exposure to pollutants                   | per IEC 60068-2-42 and IEC 60068-2-43  |

|                       |          |
|-----------------------|----------|
| Cables and connectors | Page 680 |
| Communication         | Page 678 |
| DIN-rail              | Page 716 |
| Marking               | Page 714 |
| Power supply          | Page 539 |
| Shield termination    | Page 708 |
| Supply module         | Page 524 |
| System enclosure      | Page 693 |
| Tool                  | Page 719 |

## Fieldbus couplers ► PROFIBUS DP; 2nd generation



750-333/040-000



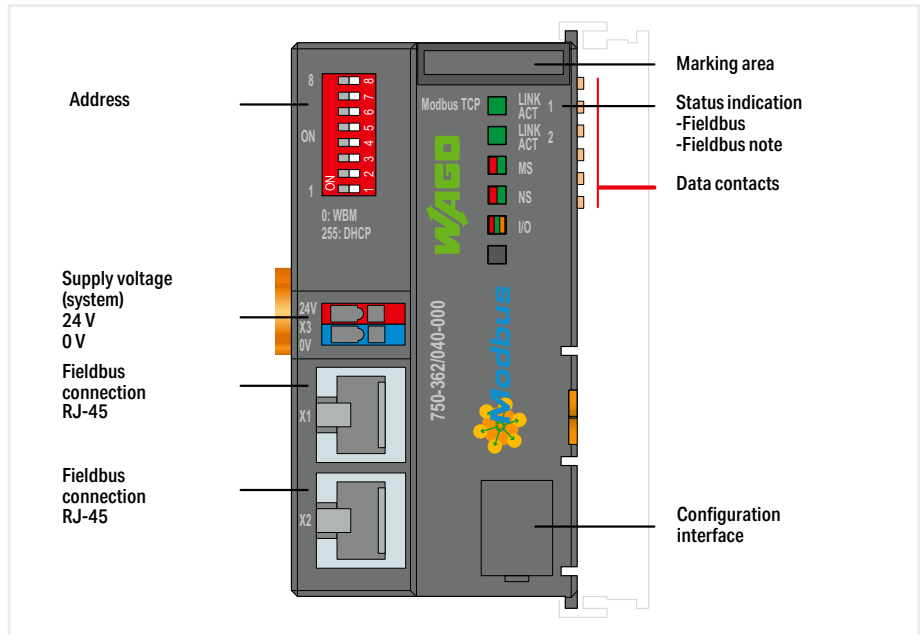
|   |   |
|---|---|
| Version   | extreme   |
| Item no.  | 750-333/040-000   |
| Order Text                                      | FC PROFIBUS; G2; 12MBd; XTR   |
| Technical data                                  |   |
| Communication                                   | PROFIBUS  |
| Protocols                                       | PROFIBUS DP/V1  |
| Connection technology: communication/fieldbus   | PROFIBUS: 1 x D-sub 9 socket  |
| Number of fieldbus nodes on master (max.)       | 96  |
| Baud rate                                       | 9.6 kBd ... 12 MBd  |
| Transmission medium (communication/fieldbus)    | Cu cable per EN 50170   |
| Number of modules per node (max.)               | 63  |
| Input and output process image (fieldbus) max.  | 244 bytes/244 bytes   |
| Supply voltage (system)                         | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)                          | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)     | 500 mA  |
| Current consumption (5 V system supply)         | 200 mA  |
| Total current (system supply)                   | 1800 mA   |
| Rated surge voltage                             | 1 kV  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (50.5 x 100 x 71.1) mm  |
| Approvals                                       | CE, Marine, OrdLoc/HazLoc, ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-333/040-000  |



# Fieldbus couplers ▶ Modbus TCP; ECO



750-362/040-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                        |
|------------------------|
| <b>extreme</b>         |
| 750-362/040-000        |
| FC Modbus TCP; G4; XTR |

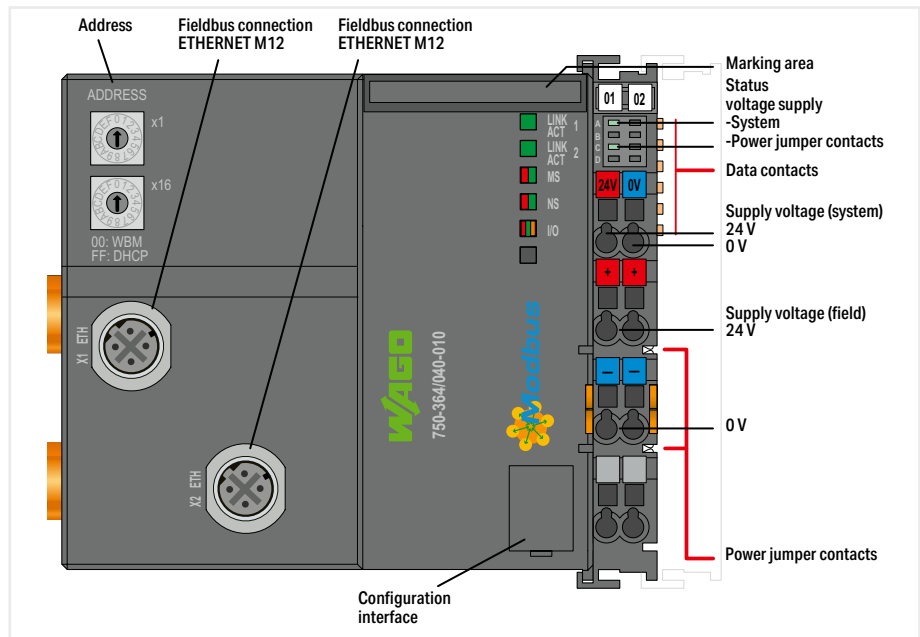
|   |
|---|
| Technical data                                  |
| Communication                                   |
| ETHERNET protocols                              |
| Connection technology: communication/fieldbus   |
| Baud rate                                       |
| Transmission medium (communication/fieldbus)    |
| Transmission performance                        |
| Number of modules per node (max.)               |
| Input and output process image (fieldbus) max.  |
| Supply voltage (system)                         |
| Derating  |
| Input current (typ.) at nominal load (24 V)     |
| Current consumption (5 V system supply)         |
| Total current (system supply)                   |
| Rated surge voltage                             |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| Modbus (TCP, UDP)   |
| HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP   |
| Modbus (TCP, UDP); 2 x RJ-45  |
| 10/100 Mbit/s   |
| Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length   |
| Class D per EN 50173  |
| 64  |
| 1020 words/1020 words   |
| 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 280 mA  |
| 350 mA  |
| 700 mA  |
| 1 kV  |
| -40 ... +70 °C  |
| (49.5 x 96.8 x 71.9) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| wago.com/750-362/040-000  |

## Fieldbus couplers ► Modbus TCP M12



750-364/040-010

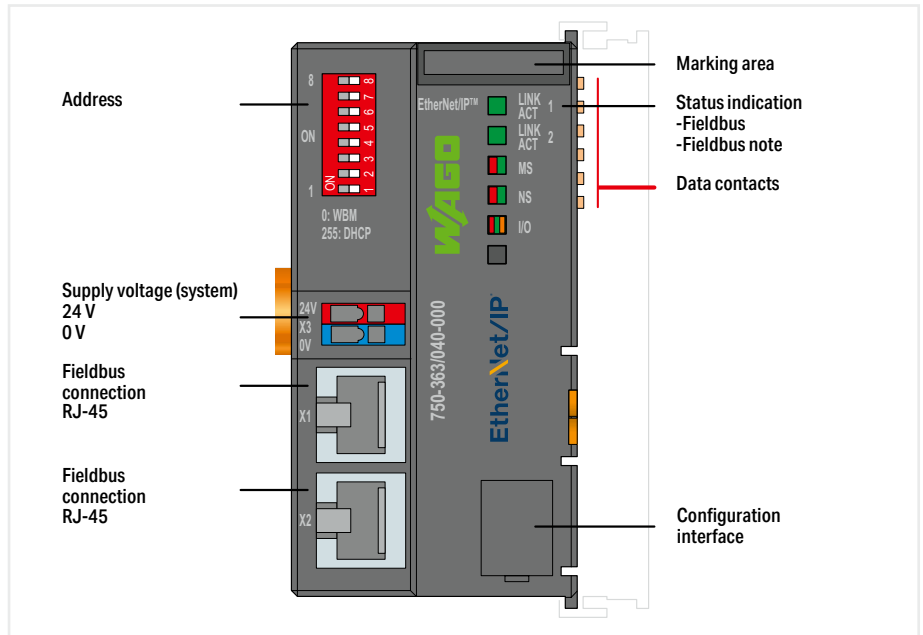


|   |   |
|---|---|
| Version   | <b>extreme</b>  |
| Item no.  | <b>750-364/040-010</b>  |
| Order Text                                      | <b>FC Modbus TCP M12; G4; XTR</b>   |
| Technical data                                  |   |
| Communication                                   | Modbus (TCP, UDP)   |
| ETHERNET protocols                              | HTTP(S); BootP; DHCP; DNS; FTP(S); SNMP   |
| Connection technology: communication/fieldbus   | Modbus (TCP, UDP): 2 x M12 socket; 4-pole; D-coded  |
| Baud rate                                       | 10/100 Mbit/s   |
| Transmission medium (communication/fieldbus)    | Twisted pair S-UTP; 100 Ω; Cat. 5; M12 D-coded; 100 m maximum cable length  |
| Transmission performance                        | Class D per EN 50173  |
| Number of modules per node (max.)               | 64  |
| Input and output process image (fieldbus) max.  | 1020 words/1020 words   |
| Supply voltage (system)                         | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Supply voltage (field)                          | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)     | 500 mA  |
| Current consumption (5 V system supply)         | 350 mA  |
| Total current (system supply)                   | 1700 mA   |
| Rated surge voltage                             | 1 kV  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (112 x 100 x 71.9) mm   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-364/040-010  |

Fieldbus couplers ▶ EtherNet/IP™; ECO



750-363/040-000



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                 |
|---------------------------------|
| <b>extreme</b>                  |
| <b>750-363/040-000</b>          |
| <b>FC EtherNet/IP™; G4; XTR</b> |

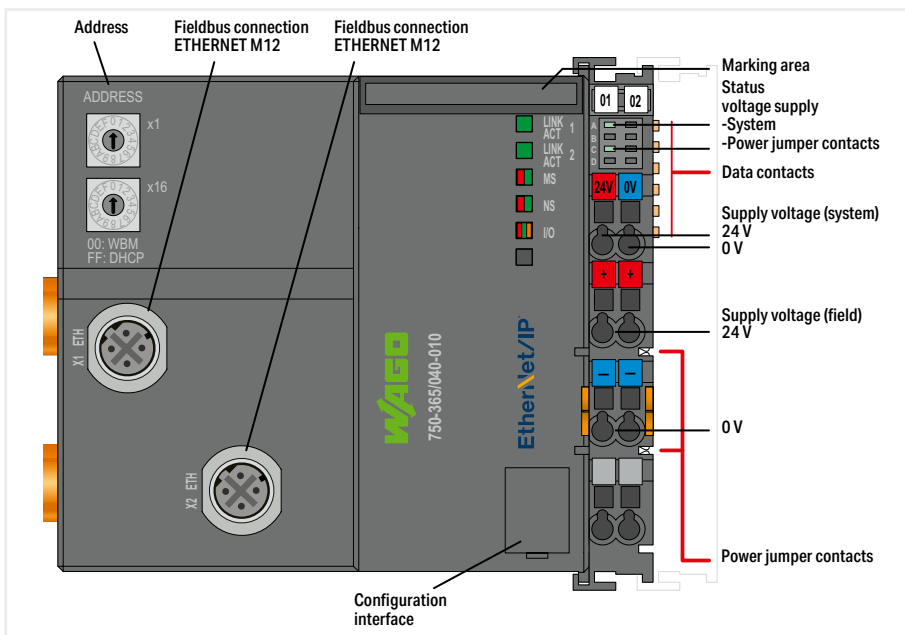
|   |
|---|
| Technical data                                  |
| Communication                                   |
| ETHERNET protocols                              |
| Connection technology: communication/fieldbus   |
| Baud rate                                       |
| Transmission medium (communication/fieldbus)    |
| Transmission performance                        |
| Number of modules per node (max.)               |
| Input and output process image (fieldbus) max.  |
| Supply voltage (system)                         |
| Derating  |
| Input current (typ.) at nominal load (24 V)     |
| Current consumption (5 V system supply)         |
| Total current (system supply)                   |
| Rated surge voltage                             |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| EtherNet/IP™  |
| HTTP(S); BootP; DHCP; DNS; SNMP; FTP(S); SNMP   |
| EtherNet/IP™: 2 x RJ-45   |
| 10/100 Mbit/s   |
| Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length   |
| Class D per EN 50173  |
| 64  |
| 1020 words/1020 words   |
| 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 280 mA  |
| 350 mA  |
| 700 mA  |
| 1 kV  |
| -40 ... +70 °C  |
| (49.5 x 96.8 x 71.9) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| wago.com/750-363/040-000  |

## Fieldbus couplers ▶ EtherNet/IP™ M12



750-365/040-010



|            |
|------------|
| Version    |
| Item no.   |
| Order Text |

|                                     |
|-------------------------------------|
| <b>extreme</b>                      |
| <b>750-365/040-010</b>              |
| <b>FC EtherNet/IP™ M12; G4; XTR</b> |

|  |
|--|
| Technical data                                 |
| Communication                                  |
| ETHERNET protocols                             |
| Connection technology: communication/fieldbus  |
| Baud rate                                      |
| Transmission medium (communication/fieldbus)   |
| Transmission performance                       |
| Number of modules per node (max.)              |
| Input and output process image (fieldbus) max. |
| Supply voltage (system)                        |
| Supply voltage (field)                         |
| Derating                                       |
| Input current (typ.) at nominal load (24 V)    |
| Current consumption (5 V system supply)        |
| Total current (system supply)                  |
| Rated surge voltage                            |
| Ambient temperature (operation)                |
| Dimensions W x H x D                           |
| Approvals                                      |

|   |
|---|
| EtherNet/IP™  |
| HTTP(S); BootP; DHCP; DNS; FTP(S); SNMP   |
| EtherNet/IP™: 2 x M12 socket; 4-pole; D-coded   |
| 10/100 Mbit/s   |
| Twisted pair S-UTP; 100 Ω; Cat. 5; M12 D-coded; 100 m maximum cable length  |
| Class D per EN 50173  |
| 64  |
| 1020 words/1020 words   |
| 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 500 mA  |
| 350 mA  |
| 1700 mA   |
| 1 kV  |
| -40 ... +70 °C  |
| (112 x 100 x 71.9) mm   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

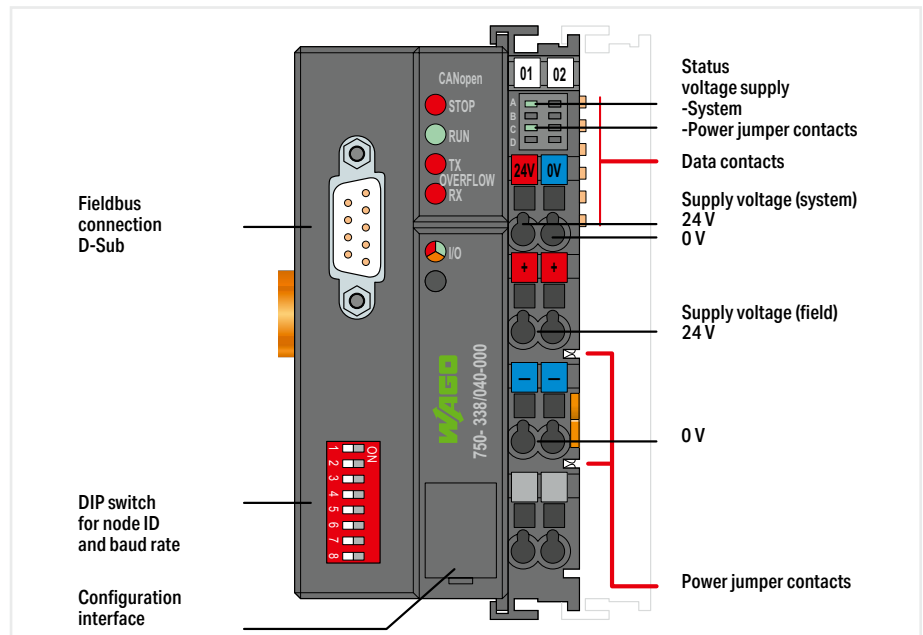
For data sheet and additional information, see:

wago.com/750-365/040-010

## Fieldbus couplers ▶ CANopen



750-338/040-000

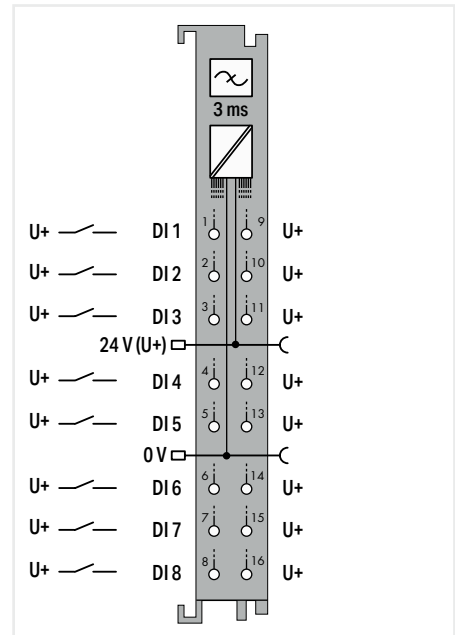
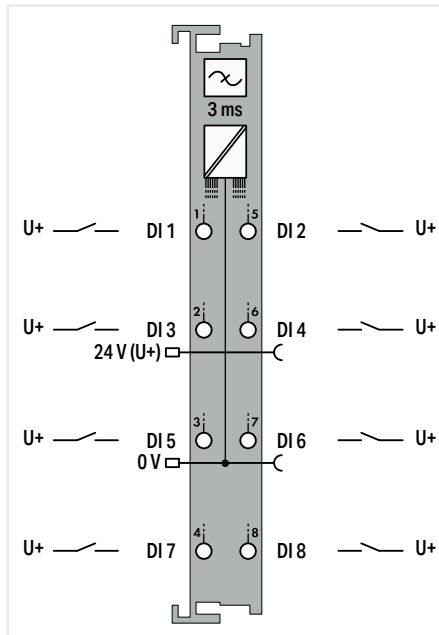


|   |  |
|---|--|
| Version   | extreme  |
| Item no.  | 750-338/040-000  |
| Order Text                                      | FC CANopen; DSub; XTR  |
| Technical data                                  |  |
| Communication                                   | CANopen  |
| Connection technology: communication/fieldbus   | CANopen: 1 x D-sub 9 plug  |
| Number of fieldbus nodes on master (max.)       | 110  |
| Baud rate                                       | 10 kBd ... 1 MBd   |
| Transmission medium (communication/fieldbus)    | Shielded Cu cable 3 x 0.25 mm <sup>2</sup>   |
| Number of modules per node (max.)               | 64   |
| Input and output process image (fieldbus) max.  | 512 bytes/512 bytes  |
| Number of PDOs                                  | 32 Tx / 32 Rx  |
| Number of SDOs                                  | 2 SDO servers  |
| Communication profile                           | DS-301 V4.1  |
| Device profile                                  | DS-401 V2.0; Limit value monitoring ; Edge-triggered PDOs; Configurable response in the event of an error  |
| Supply voltage (system)                         | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!   |
| Supply voltage (field)                          | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!  |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 °C); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Input current (typ.) at nominal load (24 V)     | 500 mA   |
| Current consumption (5 V system supply)         | 350 mA   |
| Total current (system supply)                   | 1650 mA  |
| Rated surge voltage                             | 1 kV   |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (50.5 x 100 x 71.1) mm   |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-338/040-000   |

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-430/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| <b>8-Channel Digital Input; 24 VDC; 3 ms</b> |
| <b>extreme</b>                               |
| <b>750-430/040-000</b>                       |
| <b>8DI; 24 VDC; 3ms; XTR</b>                 |

|   |
|---|
| <b>8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection</b> |
| <b>extreme with 16 connectors</b>                               |
| <b>750-1415/040-000</b>   |
| <b>8DI; 24 VDC; 3ms; 2-wire; XTR</b>                            |

|   |   |
|---|---|
| Technical data  |   |
| Number of digital inputs  | 8   |
| Signal type   | Digital   |
| Signal type (voltage)   | 24 VDC  |
| Voltage range for signal (0)  | -3 ... +5 VDC   |
| Voltage range for signal (1)  | 15 ... 30 VDC   |
| Input characteristic  | -   |
| Sensor connection   | 8 x (1-wire)  |
| Input characteristic  | high-side switching   |
| Input filter (digital)  | 3 ms  |
| Input current per channel for signal (1) typ.   | 2.8 mA  |
| Input current per channel for signal (0) typ.   | -   |
| Dielectric strength   | 510 VAC/775 VDC; per EN 60870-2-1   |
| Current consumption, field supply (module with no external load)  | -   |
| Supply voltage (sensor)   | -   |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed! |
| Derating  |   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |   |
| Current consumption (5 V system supply)   | 17 mA   |
| Rated surge voltage   | 1 kV  |
| Input data width (internal) max.  | 8 bits  |
| Ambient temperature (operation)   | -40 ... +70 °C  |
| Dimensions W x H x D  | (12 x 100 x 67.8) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

|   |   |
|---|---|
| Technical data  |   |
| Number of digital inputs  | 8   |
| Signal type   | Digital   |
| Signal type (voltage)   | 24 VDC  |
| Voltage range for signal (0)  | -3 ... +5 VDC   |
| Voltage range for signal (1)  | 11 ... 30 VDC   |
| Input characteristic  | Type 3  |
| Sensor connection   | 8 x (2-wire)  |
| Input characteristic  | high-side switching   |
| Input filter (digital)  | 3 ms  |
| Input current per channel for signal (1) typ.   | 4.5 mA  |
| Input current per channel for signal (0) typ.   | 1.6 mA  |
| Dielectric strength   | 510 VAC/775 VDC; per EN 60870-2-1   |
| Current consumption, field supply (module with no external load)  | 2 mA  |
| Supply voltage (sensor)   | 24 VDC  |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed! |
| Derating  |   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |   |
| Current consumption (5 V system supply)   | 6 mA  |
| Rated surge voltage   | 1 kV  |
| Input data width (internal) max.  | 8 bits  |
| Ambient temperature (operation)   | -40 ... +70 °C  |
| Dimensions W x H x D  | (12 x 100 x 69) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

|   |   |
|---|---|
| Technical data  |   |
| Number of digital inputs  | 8   |
| Signal type   | Digital   |
| Signal type (voltage)   | 24 VDC  |
| Voltage range for signal (0)  | -3 ... +5 VDC   |
| Voltage range for signal (1)  | 11 ... 30 VDC   |
| Input characteristic  | Type 3  |
| Sensor connection   | 8 x (2-wire)  |
| Input characteristic  | high-side switching   |
| Input filter (digital)  | 3 ms  |
| Input current per channel for signal (1) typ.   | 4.5 mA  |
| Input current per channel for signal (0) typ.   | 1.6 mA  |
| Dielectric strength   | 510 VAC/775 VDC; per EN 60870-2-1   |
| Current consumption, field supply (module with no external load)  | 2 mA  |
| Supply voltage (sensor)   | 24 VDC  |
| Supply voltage (field)  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed! |
| Derating  |   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |   |
| Current consumption (5 V system supply)   | 6 mA  |
| Rated surge voltage   | 1 kV  |
| Input data width (internal) max.  | 8 bits  |
| Ambient temperature (operation)   | -40 ... +70 °C  |
| Dimensions W x H x D  | (12 x 100 x 69) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

For data sheet and additional information, see:

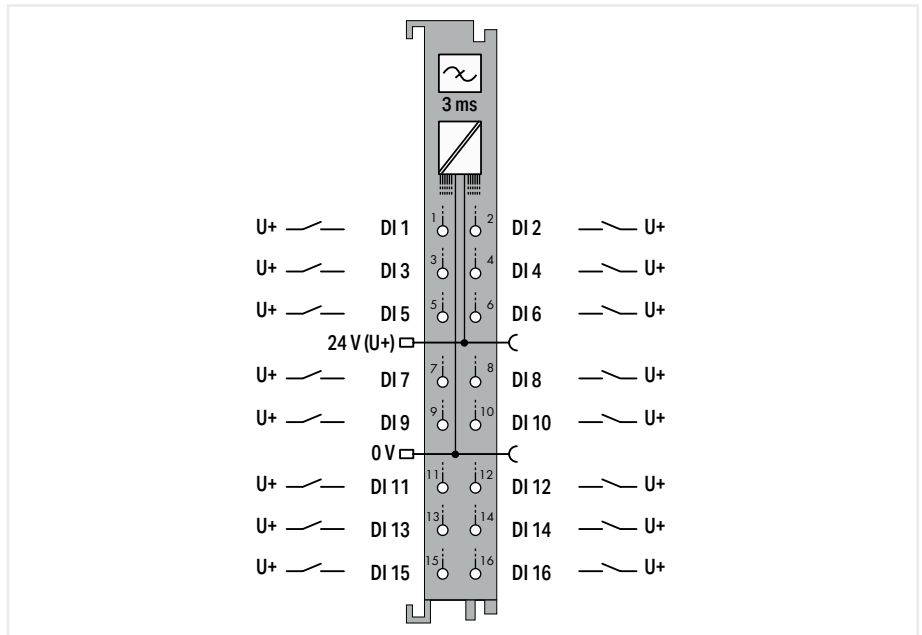
wago.com/750-430/040-000

wago.com/750-1415/040-000

Digital input ▶ 24 VDC ▶ high-side switching ▶ 3 ms



750-1405/040-000



|   |  |
|---|--|
| Item description                              | 16-Channel Digital Input; 24 VDC; 3 ms   |
| Version                                       | extreme with 16 connectors   |
| Item no.                                      | 750-1405/040-000   |
| Order Text                                    | 16DI; 24 VDC; 3ms; XTR   |
| Technical data                                |  |
| Number of digital inputs                      | 16   |
| Signal type                                   | Digital  |
| Signal type (voltage)                         | 24 VDC   |
| Voltage range for signal (0)                  | -3 ... +5 VDC  |
| Voltage range for signal (1)                  | 15 ... 30 VDC  |
| Input characteristic                          | Type 1   |
| Sensor connection                             | 16 x (1-wire)  |
| Input characteristic                          | high-side switching  |
| Input filter (digital)                        | 3 ms   |
| Delay time T <sub>off</sub> from 1 to 0       | 400 μs   |
| Delay time T <sub>on</sub> from 0 to 1        | 300 μs   |
| Input current per channel for signal (1) typ. | 2.3 mA   |
| Input current per channel for signal (0) typ. | 0.6 mA   |
| Dielectric strength                           | 510 VAC/775 VDC; per EN 60870-2-1  |
| Supply voltage (field)                        | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!  |
| Derating                                      | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 °C); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)       | 25 mA  |
| Rated surge voltage                           | 1 kV   |
| Input data width (internal) max.              | 16 bits  |
| Ambient temperature (operation)               | -40 ... +70 °C   |
| Dimensions W x H x D                          | (12 x 100 x 69) mm   |
| Approvals                                     | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |

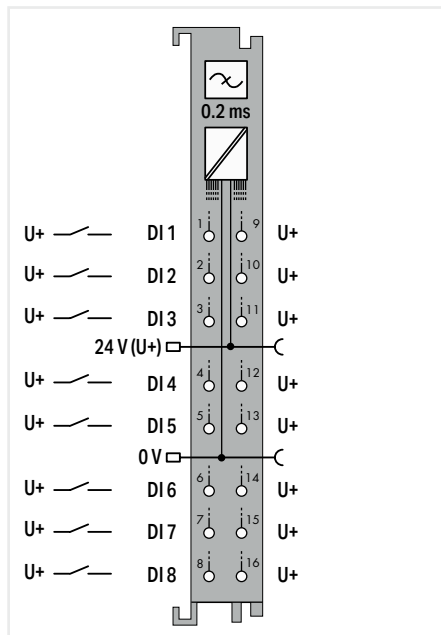
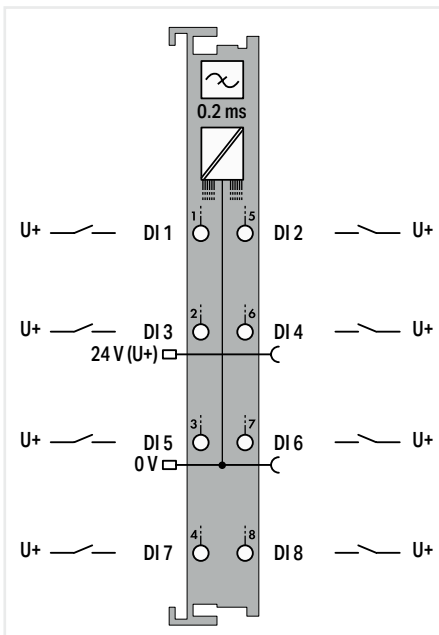
For data sheet and additional information, see:

wago.com/750-1405/040-000

## Digital input ▶ 24 VDC ▶ high-side switching ▶ 0.2 ms



750-431/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

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|--|
| <b>8-Channel Digital Input; 24 VDC; 0.2 ms</b> |
| <b>extreme</b>                                 |
| <b>750-431/040-000</b>                         |
| <b>8DI; 24 VDC; 0.2ms; XTR</b>                 |

|   |
|---|
| <b>8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection</b> |
| <b>extreme with 16 connectors</b>                                 |
| <b>750-1416/040-000</b>   |
| <b>8DI; 24 VDC; 0.2ms; 2-wire; XTR</b>                            |

|  |
|--|
| Technical data   |
| Number of digital inputs   |
| Signal type  |
| Signal type (voltage)  |
| Voltage range for signal (0)                                     |
| Voltage range for signal (1)                                     |
| Input characteristic   |
| Sensor connection  |
| Input characteristic   |
| Input filter (digital)   |
| Input current per channel for signal (1) typ.                    |
| Input current per channel for signal (0) typ.                    |
| Dielectric strength  |
| Current consumption, field supply (module with no external load) |
| Supply voltage (sensor)  |
| Supply voltage (field)   |
| Derating   |
| Current consumption (5 V system supply)                          |
| Rated surge voltage  |
| Input data width (internal) max.                                 |
| Ambient temperature (operation)                                  |
| Dimensions W x H x D   |
| Approvals  |

|   |
|---|
| 8   |
| Digital   |
| 24 VDC  |
| -3 ... +5 VDC   |
| 15 ... 30 VDC   |
| -   |
| 8 x (1-wire)  |
| high-side switching   |
| 0.2 ms  |
| 2.8 mA  |
| -   |
| 510 VAC/775 VDC; per EN 60870-2-1   |
| -   |
| -   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 17 mA   |
| 1 kV  |
| 8 bits  |
| -40 ... +70 °C  |
| (12 x 100 x 67.8) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

|   |
|---|
| 8   |
| Digital   |
| 24 VDC  |
| -3 ... +5 VDC   |
| 11 ... 30 VDC   |
| Type 3  |
| 8 x (2-wire)  |
| high-side switching   |
| 0.2 ms  |
| 4.5 mA  |
| 1.6 mA  |
| 510 VAC/775 VDC; per EN 60870-2-1   |
| 2 mA  |
| 24 VDC  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 6 mA  |
| 1 kV  |
| 8 bits  |
| -40 ... +70 °C  |
| (12 x 100 x 69) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

For data sheet and additional information, see:

wago.com/750-431/040-000

wago.com/750-1416/040-000

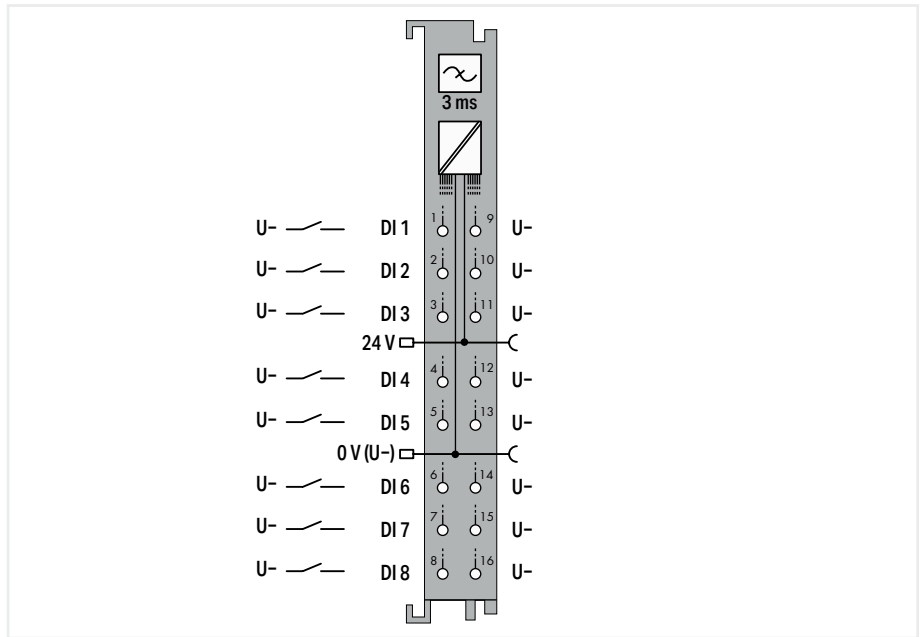
8



Digital input ▶ 24 VDC ▶ low-side switching ▶ 3 ms



750-1417/040-000



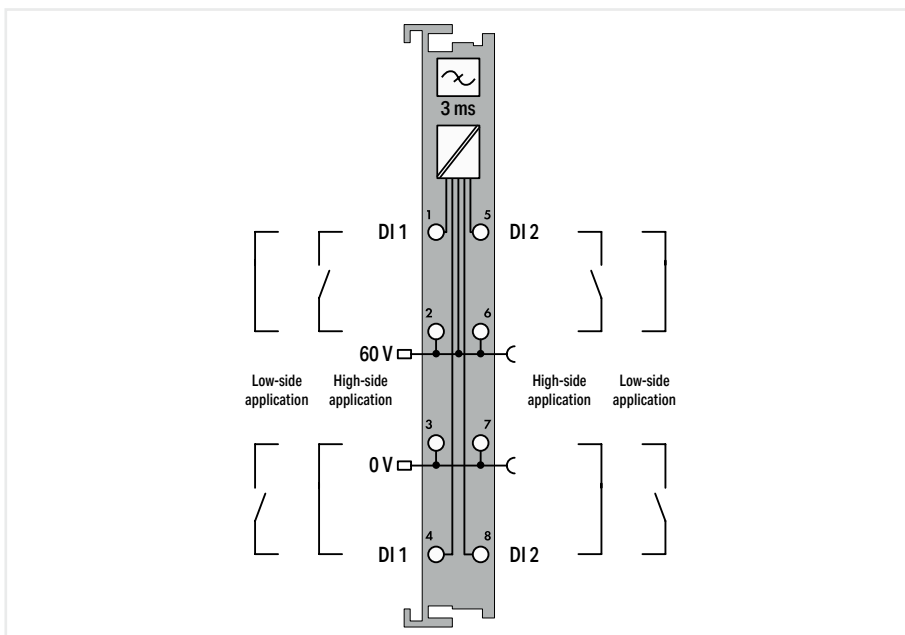
|   |   |
|---|---|
| Item description                                | <b>8-Channel Digital Input; 24 VDC; 3 ms; Low-Side Switching; 2-Wire Connection</b>   |
| Version   | <b>extreme with 16 connectors</b>   |
| Item no.  | <b>750-1417/040-000</b>   |
| Order Text                                      | <b>8DI; 24 VDC; 3ms; LSS; 2-wire; XTR</b>   |
| Technical data                                  |   |
| Number of digital inputs                        | 8   |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 24 VDC  |
| Voltage range for signal (0)                    | (U <sub>v</sub> - 5 V) ... U <sub>v</sub> DC  |
| Voltage range for signal (1)                    | -3 VDC ... (U <sub>v</sub> - 15 V)  |
| Sensor connection                               | 8 x (2-wire)  |
| Input characteristic                            | low-side switching  |
| Input filter (digital)                          | 3 ms  |
| Input current per channel for signal (0) typ.   | -2.4 mA   |
| Dielectric strength                             | 510 VAC/775 VDC; per EN 60870-2-1   |
| Supply voltage (sensor)                         | 24 VDC  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)         | 12 mA   |
| Rated surge voltage                             | 1 kV  |
| Input data width (internal) max.                | 8 bits  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 69) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/750-1417/040-000   |

8

## Digital input ▶ 60 VDC ▶ high-side/low-side switching, configurable ▶ 3 ms



750-429/040-001



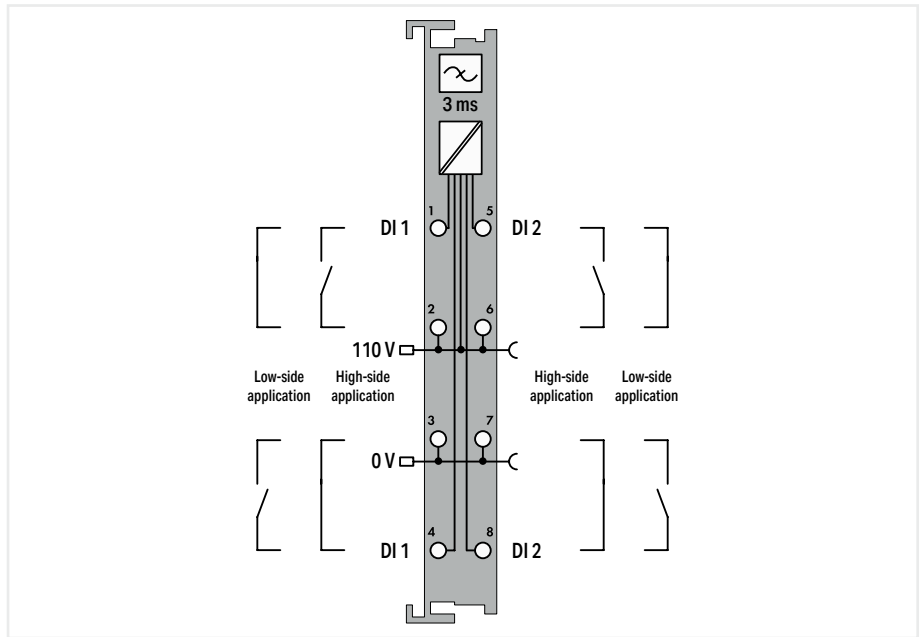
|   |   |
|---|---|
| Item description                                | 2-Channel Digital Input; 60 VDC; 3 ms   |
| Version   | extreme   |
| Item no.  | 750-429/040-001   |
| Order Text                                      | 2DI; 60 VDC; 3ms; XTR   |
| Technical data                                  |   |
| Number of digital inputs                        | 2   |
| Signal type                                     | Digital   |
| Signal type (voltage)                           | 60 VDC  |
| Voltage range for signal (0)                    | -7.5 ... +12 VDC  |
| Voltage range for signal (1)                    | 44 ... 78 VDC   |
| Sensor connection                               | 2 x (2-wire)  |
| Input characteristic                            | high-side/low-side switching, configurable  |
| Input filter (digital)                          | 3 ms  |
| Input current per channel for signal (1) typ.   | 2.9 mA  |
| Dielectric strength                             | 2.5 kV (AC)/3.5 kV (DC); per EN 60870-2-1   |
| Supply voltage (sensor)                         | 60 VDC  |
| Supply voltage (field)                          | 60 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 2.5 mA  |
| Rated surge voltage                             | 5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 61010-1 to 2000 m); 2.5 kV (EN 61010-1 to 5000 m)    |
| Overvoltage category                            | Nominal voltage 110 V: III (EN 61010-1 / up to 2.000 m); II (EN 61010-1 / up to 5.000 m)                            |
| Input data width (internal) max.                | 2 bits  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-429/040-001  |

Notice: An additional supply module must be added for 60 VDC supply!

Digital input ▶ 110 VDC ▶ high-side/low-side switching, configurable ▶ 3 ms



750-427/040-000



|                  |  |
|------------------|--|
| Item description | 2-Channel Digital Input; 110 VDC; 3 ms |
| Version          | extreme                                |
| Item no.         | 750-427/040-000                        |
| Order Text       | 2DI; 110 VDC; 3ms; XTR                 |

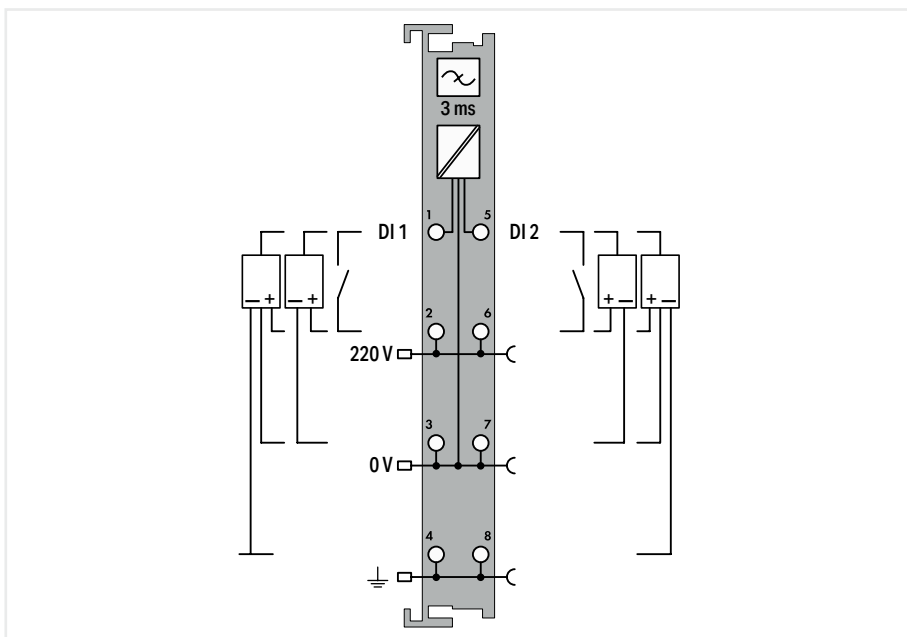
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|---|--|
| Technical data                                  |  |
| Number of digital inputs                        | 2  |
| Signal type                                     | Digital  |
| Signal type (voltage)                           | 110 VDC  |
| Voltage range for signal (0)                    | -14 ... +50 VDC  |
| Voltage range for signal (1)                    | 70 ... 143 VDC   |
| Sensor connection                               | 2 x (2-wire)   |
| Input characteristic                            | high-side/low-side switching, configurable   |
| Input filter (digital)                          | 3 ms   |
| Input current per channel for signal (1) typ.   | 2.5 mA   |
| Dielectric strength                             | 2.5 kV (AC)/3.5 kV (DC); per EN 60870-2-1  |
| Supply voltage (sensor)                         | 110 VDC  |
| Supply voltage (field)                          | 110 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption (5 V system supply)         | 2.5 mA   |
| Rated surge voltage                             | 5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 61010-1 to 2000 m); 2.5 kV (EN 61010-1 to 5000 m)     |
| Overvoltage category                            | Nominal voltage 110 V: III (EN 61010-1 / up to 2.000 m); II (EN 61010-1 / up to 5.000 m)                             |
| Input data width (internal) max.                | 2 bits   |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm   |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-427/040-000   |

Notice: An additional supply module must be added for 110 VDC supply!

## Digital input ▶ 220 VDC ▶ high-side switching ▶ 3 ms



750-407/040-000



|   |  |
|---|--|
| Item description                              | 2-Channel Digital Input; 220 VDC; 3 ms   |
| Version                                       | extreme  |
| Item no.                                      | 750-407/040-000  |
| Order Text                                    | 2DI; 220 VDC; 3ms; XTR   |
| Technical data                                |  |
| Number of digital inputs                      | 2  |
| Signal type                                   | Digital  |
| Signal type (voltage)                         | 220 VDC  |
| Voltage range for signal (0)                  | -3 ... +100 VDC  |
| Voltage range for signal (1)                  | 160 ... 286 VDC  |
| Sensor connection                             | 2 x (2-wire, 3-wire, 4-wire)   |
| Input characteristic                          | high-side switching  |
| Input filter (digital)                        | 3 ms   |
| Input current per channel for signal (1) typ. | 1.2 mA   |
| Dielectric strength                           | 2.5 kV (AC)/3.5 kV (DC); per EN 60870-2-1  |
| Supply voltage (sensor)                       | 220 VDC  |
| Supply voltage (field)                        | 220 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)   |
| Derating                                      | Current via power jumper contacts (max.): 10 mA (surrounding air (operating) temperature < 60 °C); 8 A (surrounding air (operating) temperature: 60 ... 70 °C) |
| Current consumption (5 V system supply)       | 5 mA   |
| Rated surge voltage                           | 5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / to 4,000 m ASL); 2.5 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)                       |
| Overvoltage category                          | Nominal voltage 220 V: IV (EN 60664-1 / up to 5,000 m above sea level)   |
| Input data width (internal) max.              | 2 bits   |
| Ambient temperature (operation)               | -40 ... +70 °C   |
| Dimensions W x H x D                          | (12 x 100 x 67.8) mm   |
| Approvals                                     | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |

For data sheet and additional information, see:

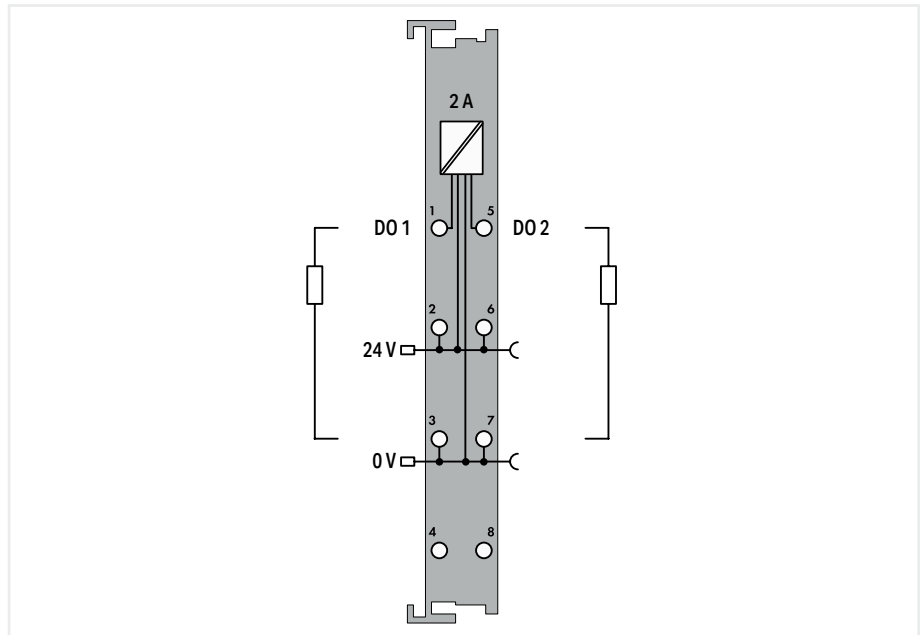
wago.com/750-407/040-000

Notice: An additional supply module must be added for 220 VDC supply!

## Digital output ► 24 VDC



750-508/040-000

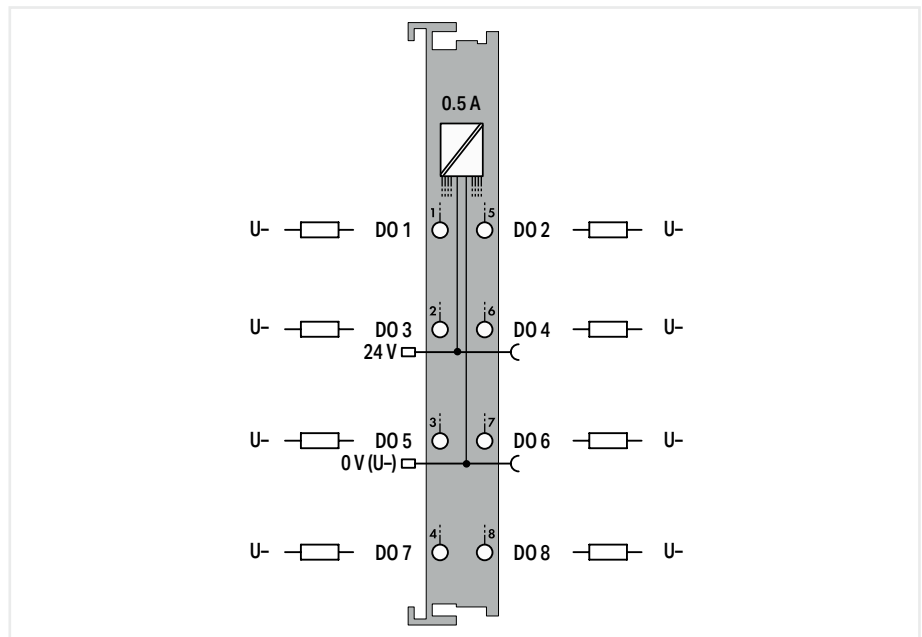


|  |  |
|--|--|
| Item description   | <b>2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics</b>  |
| Version  | <b>extreme</b>   |
| Item no.   | <b>750-508/040-000</b>   |
| Order Text   | <b>2DO; 24 VDC; 2A; Diagn; XTR</b>   |
| Technical data   |  |
| Interference-free with safety function                           | Yes  |
| Number of digital outputs  | 2  |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Output current per channel                                       | 2 A  |
| Output current   | short-circuit-protected  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 2 x (2-wire, 3-wire)   |
| Switching frequency (max.)                                       | 1 kHz  |
| Diagnostics  | Open circuit, short circuit, overload  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!  |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 °C); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption, field supply (module with no external load) | 7 mA   |
| Current consumption (5 V system supply)                          | 14 mA  |
| Input data width (internal) max.                                 | 2 bits   |
| Output data width (internal) max.                                | 2 bits   |
| Rated surge voltage  | 1 kV   |
| Ambient temperature (operation)                                  | -40 ... +70 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX   |
| For data sheet and additional information, see:                  | wago.com/750-508/040-000   |

## Digital output ► 24 VDC



750-537/040-000

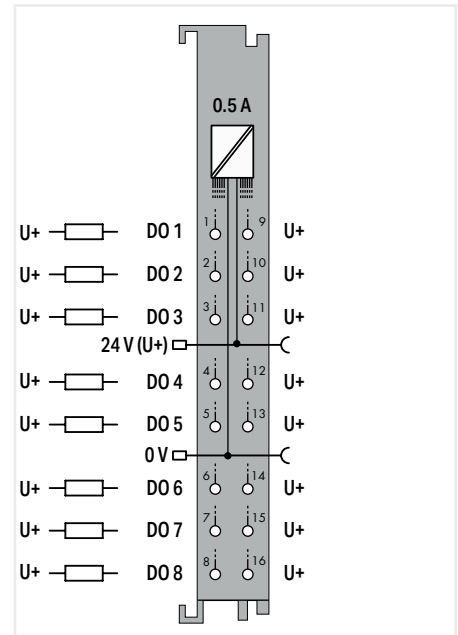
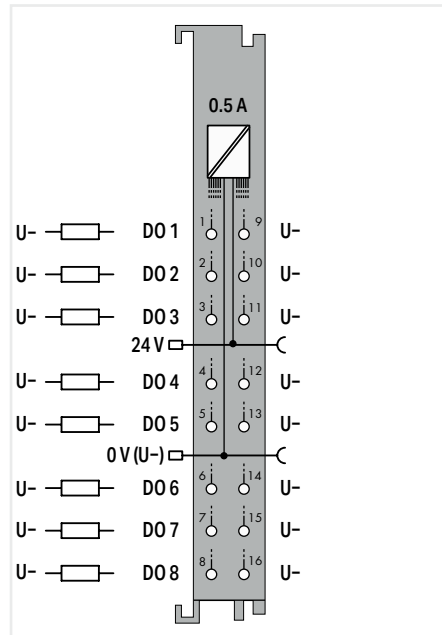


|  |   |
|--|---|
| Item description   | <b>8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics</b>   |
| Version  | <b>extreme</b>  |
| Item no.   | <b>750-537/040-000</b>  |
| Order Text   | <b>8DO; 24 VDC; 0.5A; Diagn; XTR</b>  |
| Technical data   |   |
| Interference-free with safety function                           | Yes   |
| Number of digital outputs  | 8   |
| Signal type  | Digital   |
| Signal type (voltage)  | 24 VDC  |
| Output characteristic  | high-side switching   |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Load type  | Resistive, inductive, lamp load   |
| Actuator connection  | 8 x (1-wire)  |
| Switching frequency (max.)                                       | 1 kHz   |
| Diagnostics  | Open circuit, short circuit, overload   |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption, field supply (module with no external load) | 16 mA   |
| Current consumption (5 V system supply)                          | 50 mA   |
| Input data width (internal) max.                                 | 8 bits  |
| Output data width (internal) max.                                | 8 bits  |
| Rated surge voltage  | 1 kV  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:                  | wago.com/750-537/040-000  |

# Digital output ▶ 24 VDC



750-1515/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| 8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection |
| extreme with 16 connectors                                 |
| 750-1515/040-000   |
| 8DO; 24 VDC; 0.5A; 2-wire; XTR                             |

|  |
|--|
| 8-Channel Digital Output; 24 VDC; 0.5 A; Low-Side Switching; 2-Wire Connection |
| extreme with 16 connectors   |
| 750-1516/040-000   |
| 8DO 24 VDC 0.5A LSS 2-wire XTR   |

|  |
|--|
| Technical data                         |
| Interference-free with safety function |
| Number of digital outputs              |
| Signal type                            |
| Signal type (voltage)                  |
| Output characteristic                  |
| Output current per channel             |
| Output current                         |
| Load type                              |
| Actuator connection                    |
| Switching frequency (max.)             |
| Supply voltage (field)                 |

|   |
|---|
| Yes   |
| 8   |
| Digital   |
| 24 VDC  |
| high-side switching   |
| 0.5 A   |
| short-circuit-protected   |
| Resistive, inductive, lamp load   |
| 8 x (2-wire)  |
| 1 kHz   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed! |

|   |
|---|
| -   |
| 8   |
| Digital   |
| 24 VDC  |
| low-side switching  |
| 0.5 A   |
| short-circuit-protected   |
| Resistive, inductive, lamp load   |
| 8 x (2-wire)  |
| 1 kHz   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed! |

|  |
|--|
| Derating   |
| Current consumption, field supply (module with no external load) |
| Current consumption (5 V system supply)                          |
| Output data width (internal) max.                                |
| Rated surge voltage  |
| Ambient temperature (operation)                                  |
| Dimensions W x H x D   |
| Approvals  |
| For data sheet and additional information, see:                  |

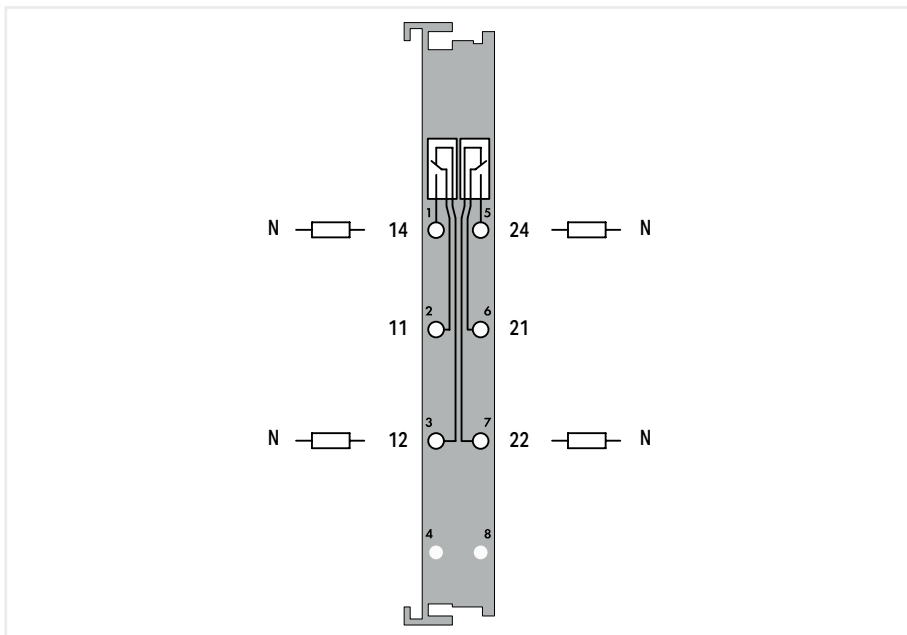
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| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 15 mA   |
| 20 mA   |
| 8 bits  |
| 1 kV  |
| -40 ... +70 °C  |
| (12 x 100 x 69) mm  |
| CE, Marine, OrdLoc/HazLoc, ATEX/IECEx   |
| wago.com/750-1515/040-000   |

|   |
|---|
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 8 mA  |
| 20 mA   |
| 8 bits  |
| 1 kV  |
| -40 ... +70 °C  |
| (12 x 100 x 69) mm  |
| CE, Marine, OrdLoc/HazLoc   |
| wago.com/750-1516/040-000   |

## Digital output; Relay output ► Switching voltage: 250 VAC; 300 VDC



750-517/040-000



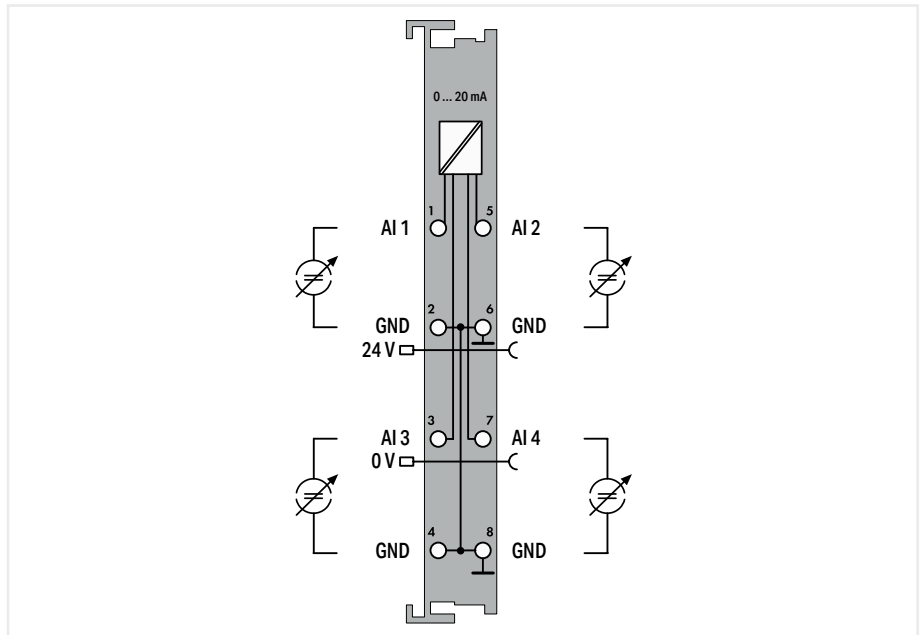
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| Item description  | 2-Channel Relay Output; 250 VAC; 1 A; Relay with 2 changeover contacts                   |
| Version   | extreme  |
| Item no.  | 750-517/040-000  |
| Order Text  | 2RO; 250 VAC; 1A; Relay2CO; XTR  |
| Technical data  |  |
| Number of digital outputs                                       | 2  |
| Signal type   | Digital  |
| Switching voltage (max.)  | 250 VAC, 300 VDC   |
| Output circuit design   | 2 changeover contacts; Relay   |
| Output characteristic   | potential-free   |
| Switching current (max.)  | 1 A  |
| Switching current (note)  | 1 A at 250 VAC and 40 VDC; 0.15 A at 300 VDC   |
| Switching current (min.)  | 100 mA   |
| Actuator connection   | 2 x (1-wire)   |
| Switching frequency (max.)                                      | 0.1 Hz; Nominal load   |
| Mechanical switching operations (min.) (at max. resistive load) | 5 x 10 <sup>6</sup> switching operations   |
| Electrical switching operations (min.) (at max. resistive load) | 1 x 10 <sup>6</sup> switching operations   |
| Current consumption (5 V system supply)                         | 90 mA  |
| Output data width (internal) max.                               | 2 bits   |
| Isolation, Field/System   | per EN 61010-2-201: 3510 VAC/1 min   |
| Rated surge voltage   | 5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 6.4 kV (EN 61010-1)                  |
| Overvoltage category  | Nominal voltage 230 V: III (EN 61010-1 / up to 2.000 m); II (EN 61010-1 / up to 5.000 m) |
| Ambient temperature (operation)                                 | -40 ... +70 °C   |
| Dimensions W x H x D  | (12 x 100 x 67.8) mm   |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx   |
| For data sheet and additional information, see:                 | wago.com/750-517/040-000   |



## Analog input ▶ 0 ... 20 mA ▶ Single-ended



750-453/040-000

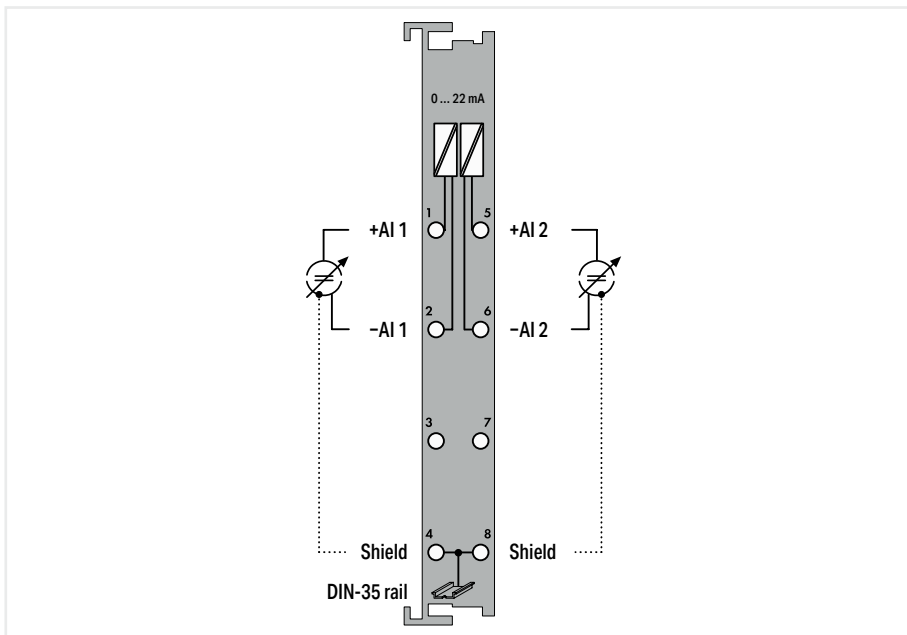


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|--|---|
| Item description   | 4-Channel Analog Input; 0 ... 20 mA; Single-ended   |
| Version  | extreme   |
| Item no.   | 750-453/040-000   |
| Order Text   | 4AI; 0-20mA; SE; XTR  |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Current   |
| Signal type (current)  | 0 ... 20 mA/DC  |
| Signal characteristics   | Single-ended  |
| Sensor connection  | 4 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 100 Ω   |
| Input voltage (max.)   | 32 V  |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                        | 65 mA   |
| Rated surge voltage  | 1 kV  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                                | -40 ... +70 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                | wago.com/750-453/040-000  |

## Analog input ▶ 4 ... 20 mA ▶ Differential



750-492/040-001



|                  |  |
|------------------|--|
| Item description | 2-Channel Analog Input; 4 ... 20 mA; Differential input; NAMUR NE 43 |
| Version          | extreme  |
| Item no.         | 750-492/040-001  |
| Order Text       | 2AI; 4-20mA; Diff; NE43; XTR   |

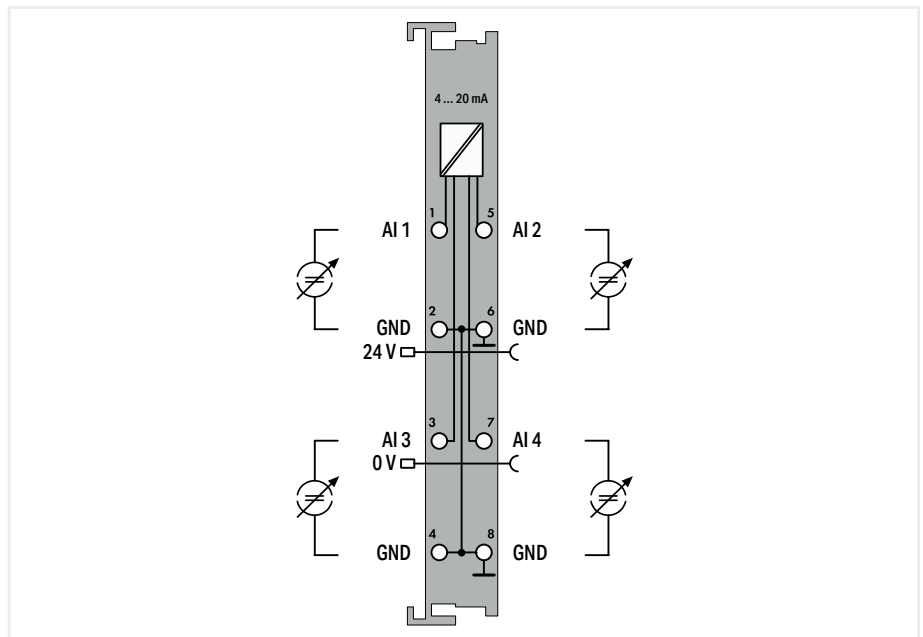
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| Technical data   |  |
| Number of analog inputs  | 2  |
| Signal type  | Current  |
| Signal type (current)  | 3.8 ... 20.5 mA DC                                   |
| Signal characteristics   | Differential   |
| Sensor connection  | 2 x (2-wire)   |
| Resolution [bit]   | 13 bits  |
| Conversion time (typ.)   | 1 ms   |
| Input resistance (max.)  | 270 Ω  |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 80 mA  |
| Rated surge voltage  | 1 kV   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional) |
| Ambient temperature (operation)                                | -40 ... +70 °C                                       |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm                                 |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                |
| For data sheet and additional information, see:                | wago.com/750-492/040-001                             |

Sampling repetition time: 1 ms  
 Sampling delay (module): ≤1 ms  
 Sampling delay (channel/channel): ≤1 μs  
 Sampling duration: ≤5 μs

## Analog input ▶ 4 ... 20 mA ▶ Single-ended



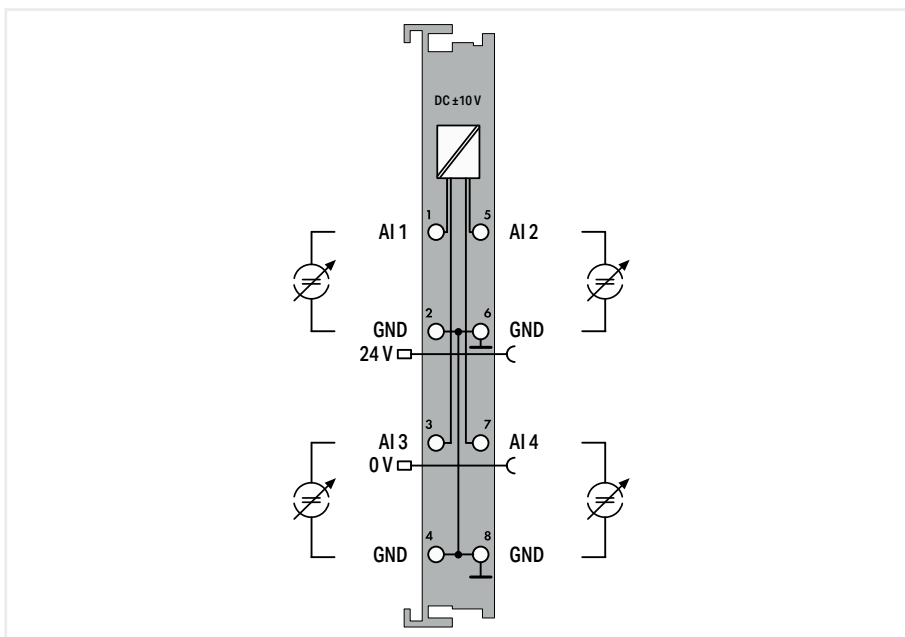
750-455/040-000



|  |   |
|--|---|
| Item description   | 4-Channel Analog Input; 4 ... 20 mA; Single-ended   |
| Version  | extreme   |
| Item no.   | 750-455/040-000   |
| Order Text   | 4AI; 4-20mA; SE; XTR  |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Current   |
| Signal type (current)  | 4 ... 20 mA DC  |
| Signal characteristics   | Single-ended  |
| Sensor connection  | 4 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 100 Ω   |
| Input voltage (max.)   | 32 V  |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                        | 65 mA   |
| Rated surge voltage  | 1 kV  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                                | -40 ... +70 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:                | wago.com/750-455/040-000  |

Analog input ▶  $\pm 10\text{ V}$  ▶ Single-ended

750-457/040-000

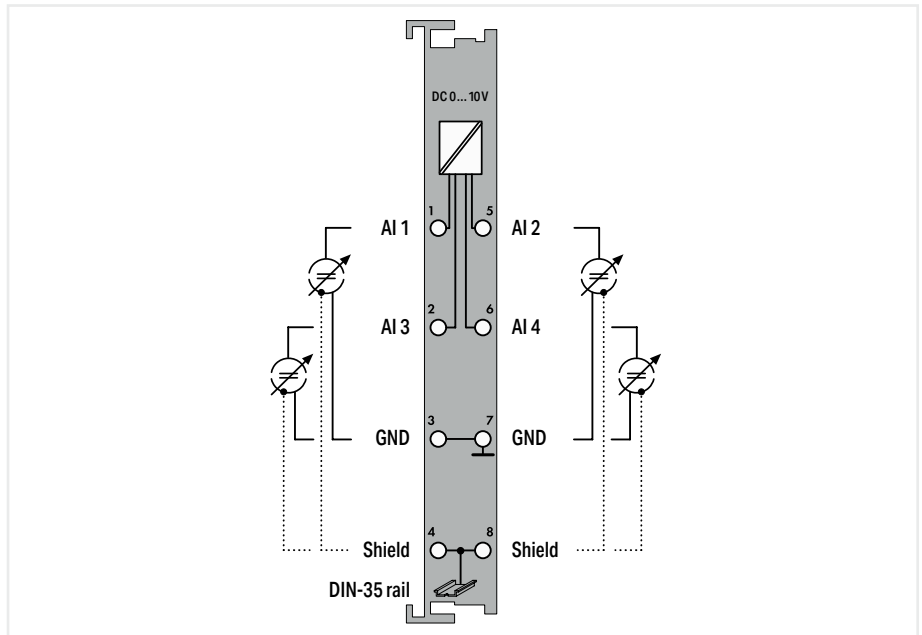


|  |   |
|--|---|
| Item description   | <b>4-Channel Analog Input; <math>\pm 10\text{ VDC}</math>; Single-ended</b>   |
| Version  | <b>extreme</b>  |
| Item no.   | <b>750-457/040-000</b>  |
| Order Text   | <b>4AI; <math>\pm 10\text{ VDC}</math>; SE; XTR</b>   |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Voltage   |
| Signal type (voltage)  | $-10 \dots +10\text{ VDC}$  |
| Signal characteristics   | Single-ended  |
| Sensor connection  | 4 x (2-wire)  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Internal resistance  | 100 k $\Omega$  |
| Input voltage (max.)   | $\pm 40\text{ V}$   |
| Measurement error (reference temperature)                      | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %   |
| Temperature error (max.) of the upper-range value              | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC ( $-25 \dots +30\%$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: ( $-25 \dots +30\%$ ); for $-40 \dots +55\text{ °C}$ : 24 V ( $-25 \dots +20\%$ ); for $+55 \dots +70\text{ °C}$ : 24 V ( $-25 \dots +10\%$ ); Lower limit in all temperature ranges: $-27.5\%$ (including 15 % residual ripple) |
| Current consumption (5 V system supply)                        | 65 mA   |
| Rated surge voltage  | 1 kV  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                                | $-40 \dots +70\text{ °C}$   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see:                | wago.com/750-457/040-000  |

## Analog input ▶ 0 ... 10 V ▶ Single-ended



750-468/040-000

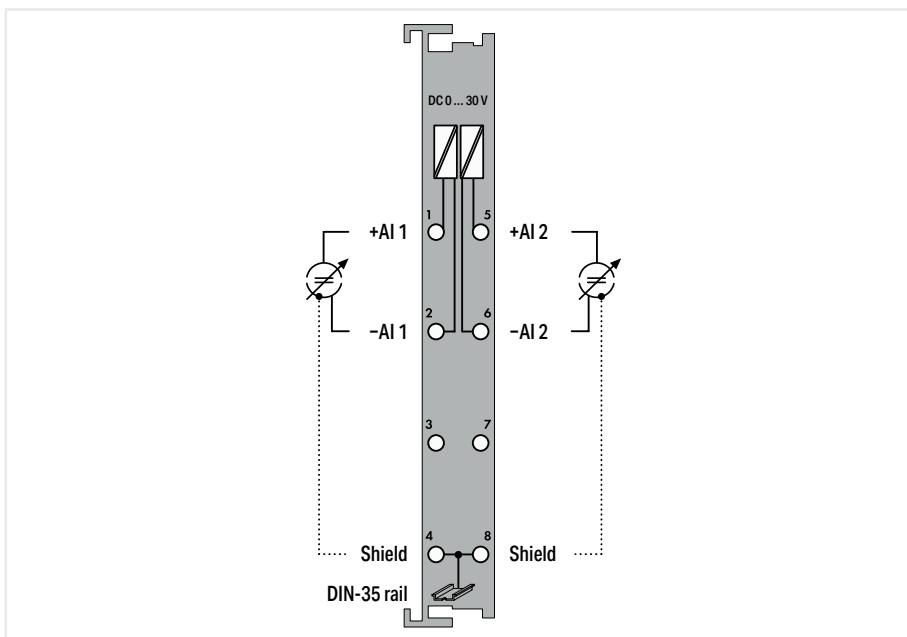


|  |  |
|--|--|
| Item description   | 4-Channel Analog Input; 0 ... 10 VDC; single-ended   |
| Version  | extreme  |
| Item no.   | 750-468/040-000                                      |
| Order Text   | 4AI; 0-10 VDC; SE; XTR                               |
| Technical data   |  |
| Number of analog inputs  | 4  |
| Signal type  | Voltage  |
| Signal type (voltage)  | 0 ... 10 VDC   |
| Signal characteristics   | Single-ended   |
| Sensor connection  | 4 x (2-wire)   |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 4 ms   |
| Internal resistance  | 133 kΩ   |
| Input voltage (max.)   | 35 V   |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.2 %  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 60 mA  |
| Rated surge voltage  | 1 kV   |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional) |
| Ambient temperature (operation)                                | -40 ... +70 °C                                       |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm                                 |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                |
| For data sheet and additional information, see:                | wago.com/750-468/040-000                             |

## Analog input ▶ 0 ... 30 V ▶ Differential



750-483/040-000

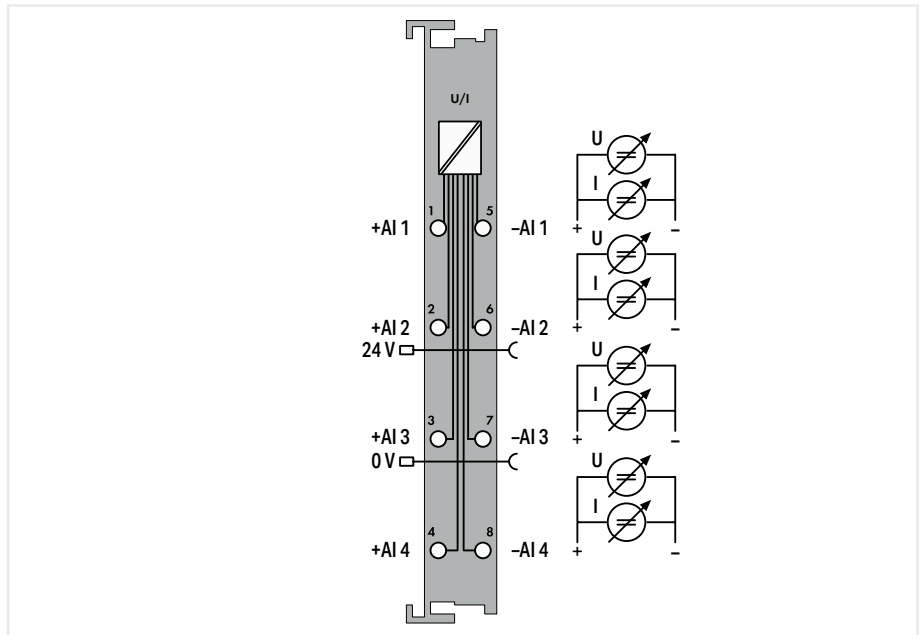


|  |  |
|--|--|
| Item description   | 2-Channel Analog Input; 0 ... 30 VDC; Differential input       |
| Version  | extreme  |
| Item no.   | 750-483/040-000  |
| Order Text   | 2AI; 0-30 VDC; Diff; XTR                                       |
| Technical data   |  |
| Extended functionality   | Time-synchronized measured value acquisition within the module |
| Number of analog inputs  | 2  |
| Signal type  | Voltage  |
| Signal type (voltage)  | 0 ... 30 VDC   |
| Signal characteristics   | Differential   |
| Sensor connection  | 2 x (2-wire)   |
| Resolution [bit]   | 14 bits  |
| Conversion time (typ.)   | 1 ms   |
| Internal resistance  | 1000 kΩ  |
| Admissible continuous overload                                 | 60 V   |
| Measurement error (reference temperature)                      | 25 °C  |
| Measurement error, deviation (max.) from the upper-range value | 0.1 %  |
| Temperature error (max.) of the upper-range value              | 0.01 %/K   |
| Current consumption (5 V system supply)                        | 80 mA  |
| Rated surge voltage  | 1 kV   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)           |
| Ambient temperature (operation)                                | -40 ... +70 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx                          |
| For data sheet and additional information, see:                | wago.com/750-483/040-000                                       |

## Analog input ► Voltages and currents (configurable channel for channel) ► Differential



750-471/040-000

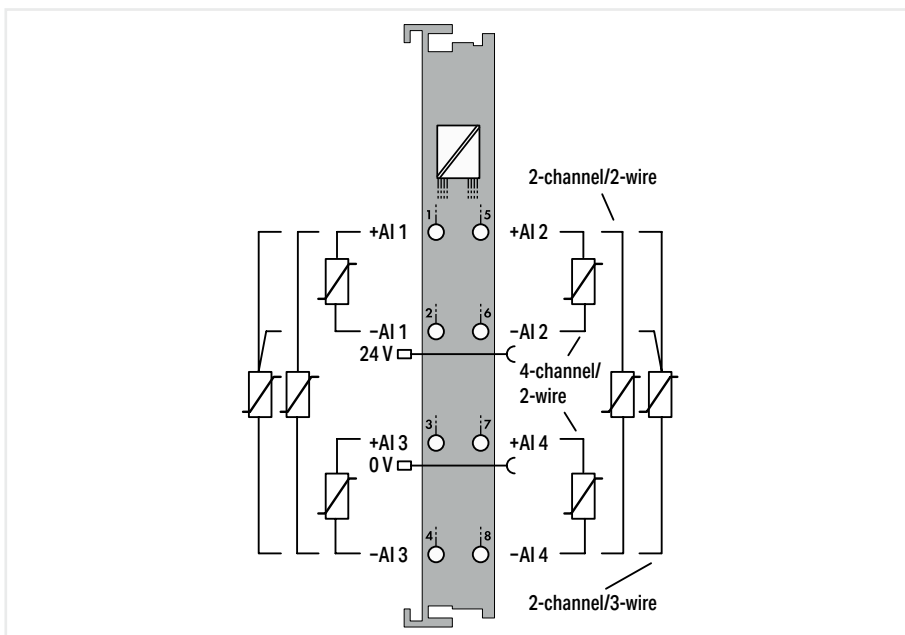


|  |   |
|--|---|
| Item description   | 4-Channel Analog Input; for Voltage/Current   |
| Version  | extreme   |
| Item no.   | 750-471/040-000   |
| Order Text   | 4AI U/I Diff Galv XTR   |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Voltage; Current  |
| Signal type (current)  | 0 ... 20 mADC; 4 ... 20 mADC; 3.6 ... 21 mADC; -20 ... +20 mADC   |
| Signal type (voltage)  | 0 ... 10 VDC; -10 ... +10 VDC; -0.2 ... +0.2 VDC  |
| Signal characteristics   | Differential  |
| Sensor connection  | 4 x (2-wire)  |
| Resolution [bit]   | 16 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 120 Ω   |
| Internal resistance  | 100 kΩ  |
| Input voltage (max.)   | 31.2 VDC  |
| Reference for measurement error                                  | Input ranges  |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.1 %   |
| Reference for measurement error (2)                              | ±200 mV   |
| Measurement error, reference temperature (2)                     | 25 °C   |
| Measurement error, deviation (max.) of the upper-range value (2) | 0.3 %   |
| Temperature error (max.) of the upper-range value                | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating   | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                          | 100 mA  |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Isolation  | Functional insulation: 2000 VDC system/channel; 2000 VDC channel/channel  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc   |
| For data sheet and additional information, see:                  | wago.com/750-471/040-000  |

## Analog input ► Resistance sensors



750-464/040-000



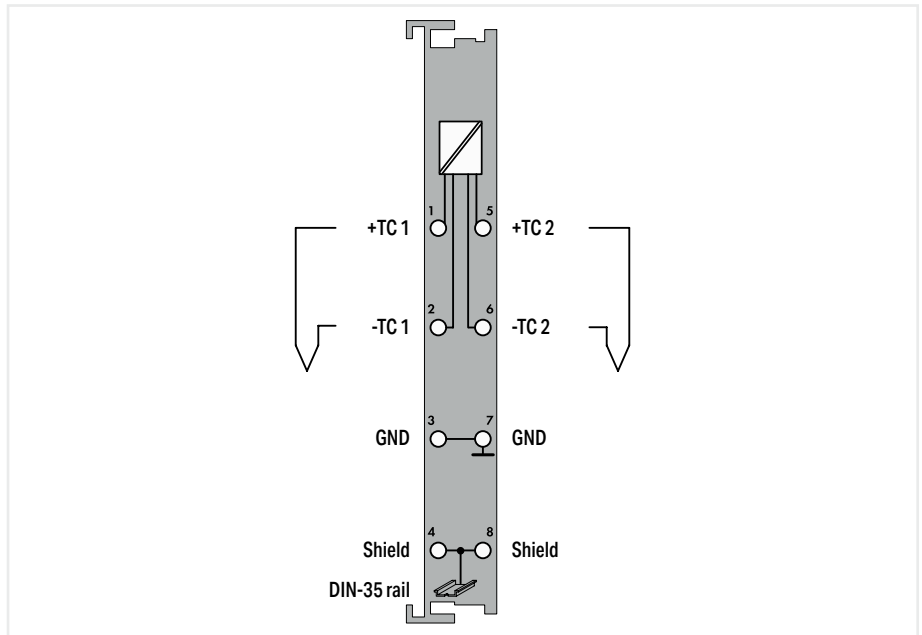
|   |   |
|---|---|
| Item description                                | <b>2/4-Channel Analog Input; Resistance measurement; Adjustable</b>   |
| Version   | <b>extreme</b>  |
| Item no.  | <b>750-464/040-000</b>  |
| Order Text                                      | <b>2/4AI; RTD; Adjust; XTR</b>  |
| Technical data                                  |   |
| Number of analog inputs                         | 4   |
| Signal type                                     | Resistance measurement; Potentiometer positions   |
| Sensor types                                    | Pt100; Configurable: Pt200, Pt500, Pt1000 (IEC 751), Ni100, Ni1000 (DIN 43760), Ni120 (Minco), Ni1000 (TK 5000), Potentiometer (2-channel operation only): 10R ... 1k $\Omega$ , 10R ... 5k $\Omega$  |
| Sensor connection                               | 4 x (2-wire); 2 x (3-wire)  |
| Temperature range                               | -200 ... +850 °C (Pt), -60 ... +300 °C (Ni 100, Ni 1000), -60 ... +250 °C (Ni 1000 TK5000), -80 ... +260 °C (Ni 120)  |
| Resolution (over entire range)                  | 0.1 °C  |
| Conversion time (typ.)                          | 320 ms  |
| Measuring current (typ.)                        | $\leq 350 \mu\text{A}$ per measurement circuit  |
| Measurement error (25 °C)                       | $\leq 1 \text{ K}$ over entire temperature range, $\leq 0.5 \text{ K}$ over limited temperature range (-30 °C ... +120 °C)  |
| Temperature coefficient                         | $\leq 20 \text{ ppm/K}$ ; typ. $\leq 15 \text{ ppm/K}$  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)         | 50 mA   |
| Rated surge voltage                             | 1 kV  |
| Data width                                      | 4 (2) x 16-bit data; 4 (2) x 8-bit control/status (optional)  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see: | wago.com/750-464/040-000  |



# Analog input ▶ Thermocouples



750-469/040-000

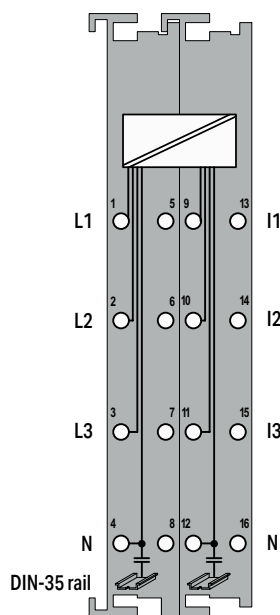


|   |   |
|---|---|
| Item description                                | <b>2-Channel Analog Input; Thermocouple; Adjustable</b>   |
| Version   | <b>extreme</b>  |
| Item no.  | <b>750-469/040-000</b>  |
| Order Text                                      | <b>2AI; TC; Adjust; XTR</b>   |
| Technical data                                  |   |
| Number of analog inputs                         | 2   |
| Signal type                                     | Thermocouple; Low voltages  |
| Sensor types                                    | Thermocouple K; Configurable: J, E, S, T, L, N, U, B, R; $\pm 30$ mV, $\pm 60$ mV, $\pm 120$ mV |
| Sensor connection                               | 2 x (2-wire)  |
| Temperature range                               | Sensor-specific   |
| Resolution (over entire range)                  | 0.1 °C  |
| Conversion time (typ.)                          | 320 ms  |
| Internal resistance                             | 1000 k $\Omega$   |
| Measurement error (25 °C)                       | < $\pm 6$ K (voltage input < $\pm 2$ K; cold junction compensation < $\pm 4$ K)                 |
| Temperature coefficient                         | < $\pm 0.2$ K/K   |
| Cold junction compensation                      | at each pair of terminal blocks   |
| Current consumption (5 V system supply)         | 65 mA   |
| Rated surge voltage                             | 1 kV  |
| Data width                                      | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-469/040-000  |

## Analog input; Power measurement ► Three-phase power measurement



750-495/040-010

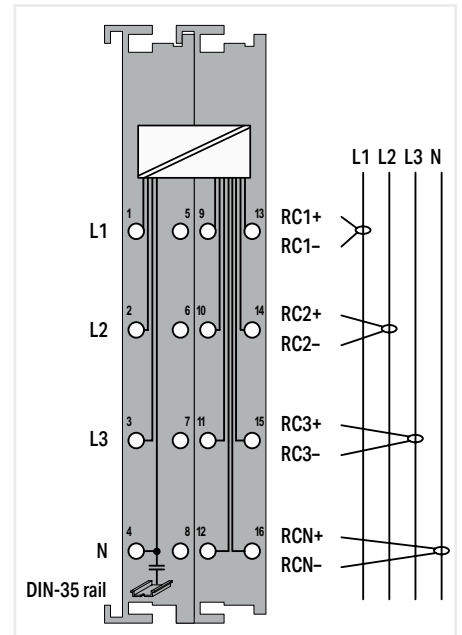
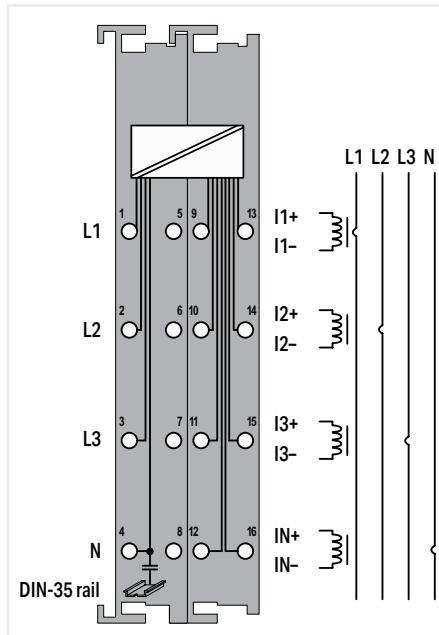


|  |  |
|--|--|
| Item description   | <b>3-Phase Power Measurement; 20 kVAC 300 A</b>  |
| Version  | <b>20 kVAC; 300 A; extreme</b>   |
| Item no.   | <b>750-495/040-010</b>   |
| Order Text   | <b>3-PHASE POM; 20KV; 300A; XTR</b>  |
| Technical data   |  |
| Signal type  | Power measurement  |
| Calculated values  | Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD |
| Number of measurement inputs                                   | 6 (3 input pairs for voltage and current measurement sensors)  |
| Input voltage (max.)   | with sensor: 20 kV / $\sqrt{3}$ (Module input: 3.25 V / $\sqrt{3}$ )   |
| Input current (max.)   | with sensor: 300 A AC; (Module input: 225 mV)  |
| Voltage path input resistance (typ.)                           | 200.3 k $\Omega$   |
| Current path input resistance (typ.)                           | 20.8 $\Omega$  |
| Resolution [bit]   | 24 bits  |
| Measurement method   | True RMS measurement   |
| Reference for measurement error                                | AC current/voltage   |
| Measurement error, deviation (max.) from the upper-range value | 0.3 %  |
| Frequency range (mains frequency)                              | 45 ... 65 Hz   |
| Frequency range (harmonics analysis)                           | 45 ... 2665 Hz   |
| Limit frequency  | 8.6 kHz  |
| Signal form  | Any periodic signals (considering the threshold frequencies)   |
| Current consumption (5 V system supply)                        | 100 mA   |
| Rated surge voltage  | 4 kV   |
| Overvoltage category   | III (EN 61010)   |
| Data width   | 2 x 128-bit data; 2 x 64-bit control/status  |
| Ambient temperature (operation)                                | -40 ... +70 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Approvals  | CE   |
| For data sheet and additional information, see:                | wago.com/750-495/040-010   |

# Analog input; Power measurement ▶ Three-phase power measurement



750-495/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |                             |
|---|-----------------------------|
| <b>3-Phase Power Measurement; 690 VAC 1 A</b> |                             |
| extreme                                       | 690 VAC 5 A; extreme        |
| 750-495/040-000                               | 750-495/040-001             |
| 3-PHASE POM; 690VAC 1A; XTR                   | 3-PHASE POM; 690VAC 5A; XTR |

|  |  |
|--|--|
| <b>3-Phase Power Measurement; 690 VAC Rogowski coils</b> |  |
| 690 VAC Rogowski coils; extreme                          |  |
| 750-495/040-002  |  |
| 3-PHASE POM; 690VAC R.C.; XTR                            |  |

|  |
|--|
| Technical data   |
| Signal type  |
| Calculated values  |
| Number of measurement inputs                                   |
| Rated voltage  |
| Voltage path input resistance (typ.)                           |
| Measurement current (max.)                                     |
| Current path input resistance (typ.)                           |
| Resolution [bit]   |
| Measurement method   |
| Reference for measurement error                                |
| Measurement error (reference temperature)                      |
| Measurement error, deviation (max.) from the upper-range value |
| Frequency range (mains frequency)                              |
| Frequency range (harmonics analysis)                           |
| Limit frequency  |
| Signal form  |
| Current consumption (5 V system supply)                        |
| Rated surge voltage  |
| Oversoltage category   |
| Data width   |
| Ambient temperature (operation)                                |
| Dimensions W x H x D   |
| Approvals  |
| For data sheet and additional information, see:                |

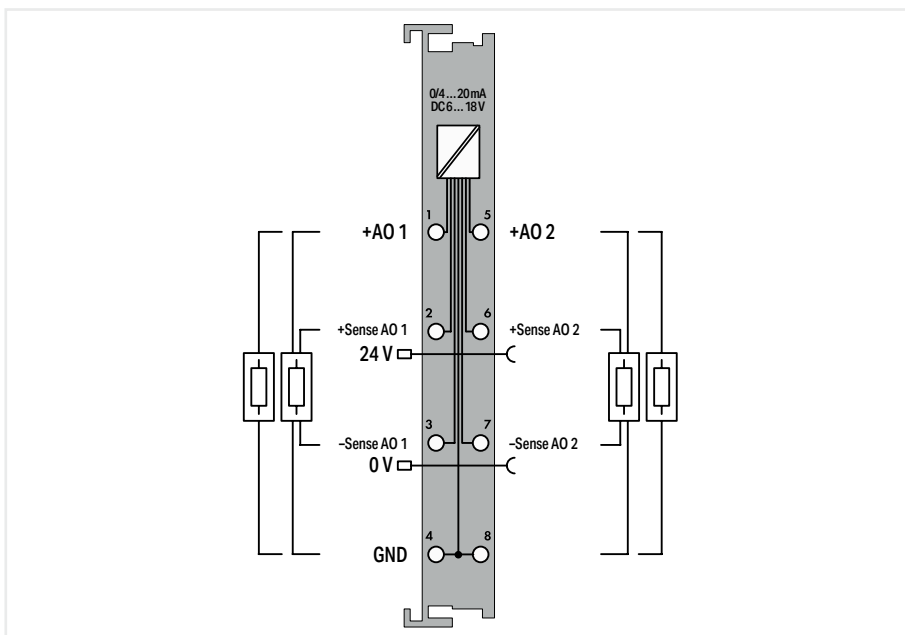
|  |
|--|
| Power measurement  |
| Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD             |
| 7 (3 voltage measurement inputs, 4 differential current measurement inputs)  |
| $U_{LN} = 400 \text{ VAC}; U_{LL} = 690 \text{ VAC}$   |
| 1429 k $\Omega$  |
| 1 A   5 A  |
| 0.022 $\Omega$   0.005 $\Omega$  |
| 24 bits  |
| True RMS measurement   |
| AC current/voltage   |
| 25 $^{\circ}\text{C}$  |
| 0.5 %  |
| 45 ... 65 Hz   |
| 0 ... 3300 Hz  |
| 15.9 kHz   |
| Any periodic signals (considering the threshold frequencies)   |
| 100 mA   |
| 5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL) |
| Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / to 4,000 m ASL); II (EN 60664-1 / > 4,000 m up to 5,000 m ASL)        |
| 2 x 128-bit data; 2 x 64-bit control/status  |
| -40 ... +70 $^{\circ}\text{C}$   |
| (24 x 100 x 67.8) mm   |
| CE; Marine; ATEX/IECEx   |
| wago.com/750-495/040-000   |

|  |
|--|
| Power measurement  |
| Line-to-line voltage, power output, energy, power factors, mains frequency, harmonic analysis (up to the 41st harmonic), THD             |
| 7 (3 voltage measurement inputs, 4 differential current measurement inputs)  |
| $U_{LN} = 400 \text{ VAC}; U_{LL} = 690 \text{ VAC}$   |
| 1429 k $\Omega$  |
| Rogowski coils RT500/RT2000  |
| 44000 $\Omega$   |
| 24 bits  |
| True RMS measurement   |
| AC current/voltage   |
| 25 $^{\circ}\text{C}$  |
| 0.5 %  |
| 45 ... 65 Hz   |
| 0 ... 3300 Hz  |
| 15.9 kHz   |
| Any periodic signals (considering the threshold frequencies)   |
| 100 mA   |
| 5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL) |
| Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / to 4,000 m ASL); II (EN 60664-1 / > 4,000 m up to 5,000 m ASL)        |
| 2 x 128-bit data; 2 x 64-bit control/status  |
| -40 ... +70 $^{\circ}\text{C}$   |
| (24 x 100 x 67.8) mm   |
| CE; Marine; ATEX/IECEx   |
| wago.com/750-495/040-000   |

## Analog output ► Configurable: current/voltage



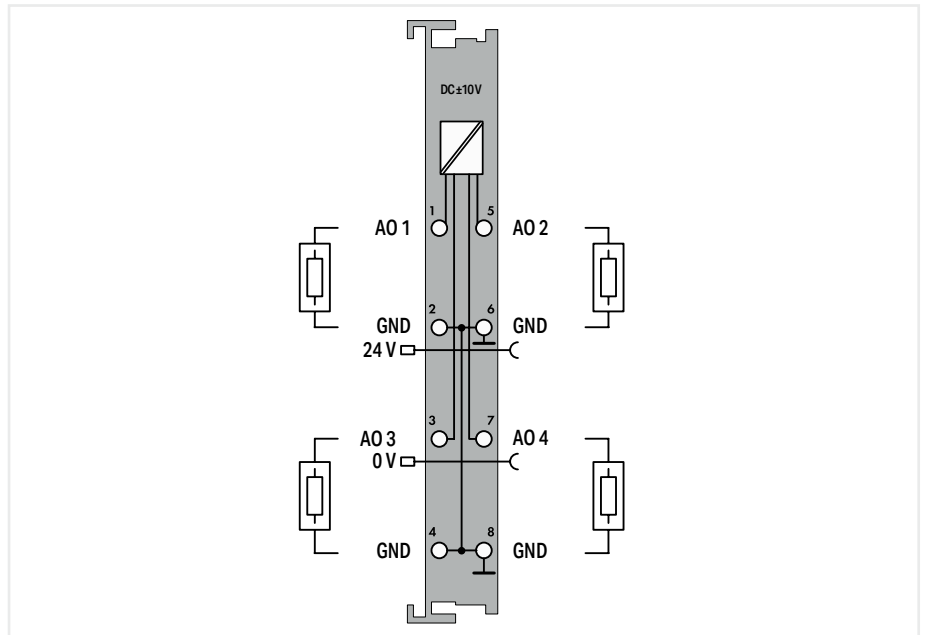
750-563/040-000



|   |   |
|---|---|
| Item description  | 2-Channel Analog Output; 0/4 ... 20 mA; 16 bits; 6 ... 18 VDC   |
| Version   | extreme   |
| Item no.  | 750-563/040-000   |
| Order Text  | 2AO; 0/4-20mA; 16bits; 6-18 VDC; XTR  |
| Technical data  |   |
| Number of analog outputs                                | 2   |
| Signal type   | Voltage; Current  |
| Signal type (current)                                   | 0 ... 20 mADC; 4 ... 20 mADC  |
| Signal type (voltage)                                   | 6 ... 18 VDC  |
| Actuator connection                                     | 2 x (2-wire, 4-wire)  |
| Load impedance (current output)                         | $\leq 500 \Omega$   |
| Load impedance (voltage output)                         | $\geq 1.8 \text{ k}\Omega$  |
| Resolution [bit]  | 16 bits   |
| Conversion time (typ.)                                  | 5 ms  |
| Output error, reference temperature                     | 25 °C   |
| Output error, deviation (max.) of the upper-range value | 0.05 %  |
| Temperature coefficient                                 | $< \pm 100 \text{ ppm}$   |
| Supply voltage (field)                                  | 24 VDC (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (min. ... +20 %); for +55 ... +70 °C: 24 V (min. ... +10 %); Voltage range (min.): 21.6 V; Current range (min.): 20.4 V; Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                 | 95 mA   |
| Rated surge voltage                                     | 1 kV  |
| Data width  | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                         | -40 ... +70 °C  |
| Dimensions W x H x D                                    | (12 x 100 x 67.8) mm  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see:         | wago.com/750-563/040-000  |

Analog output ►  $\pm 10$  V

750-557/040-000

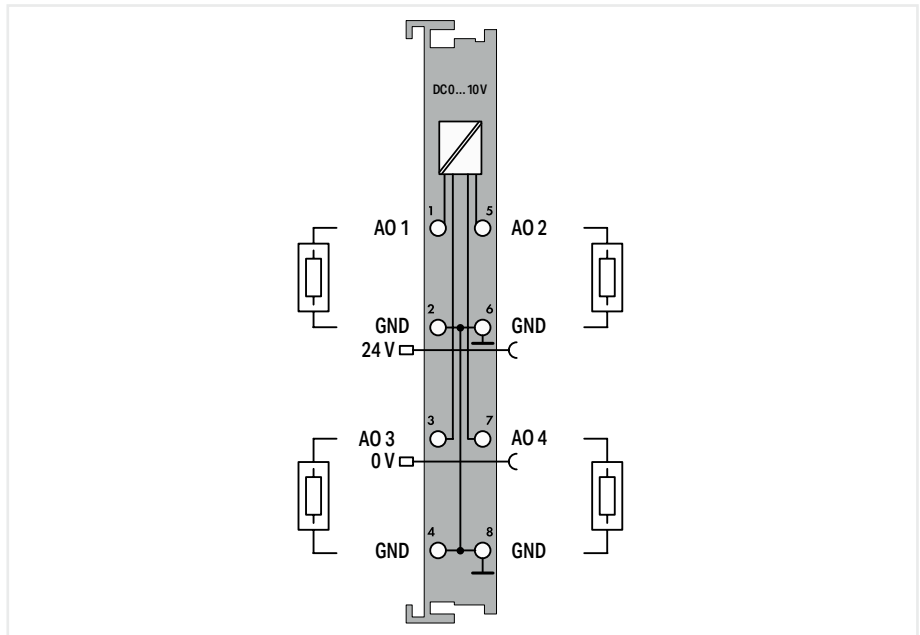


|   |  |
|---|--|
| Item description  | 4-Channel Analog Output; $\pm 10$ VDC  |
| Version   | extreme  |
| Item no.  | 750-557/040-000  |
| Order Text  | 4AO; $\pm 10$ VDC; XTR   |
| Technical data  |  |
| Number of analog outputs                                | 4  |
| Signal type   | Voltage  |
| Signal type (voltage)                                   | -10 ... +10 VDC  |
| Actuator connection                                     | 4 x (2-wire)   |
| Load impedance (voltage output)                         | $\geq 5$ k $\Omega$  |
| Resolution [bit]  | 12 bits  |
| Conversion time (typ.)                                  | 10 ms  |
| Output error, reference temperature                     | 25 °C  |
| Output error, deviation (max.) of the upper-range value | 0.1 %  |
| Temperature error (max.) of the output range value      | 0.01 %/K   |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!  |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 °C); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                 | 125 mA   |
| Rated surge voltage                                     | 1 kV   |
| Data width  | 4 x 16-bit data; 4 x 8-bit control/status (optional)   |
| Ambient temperature (operation)                         | -40 ... +70 °C   |
| Dimensions W x H x D                                    | (12 x 100 x 67.8) mm   |
| Approvals   |  |
| For data sheet and additional information, see:         | wago.com/750-557/040-000   |

## Analog output ► 0 ... 10 V



750-559/040-000

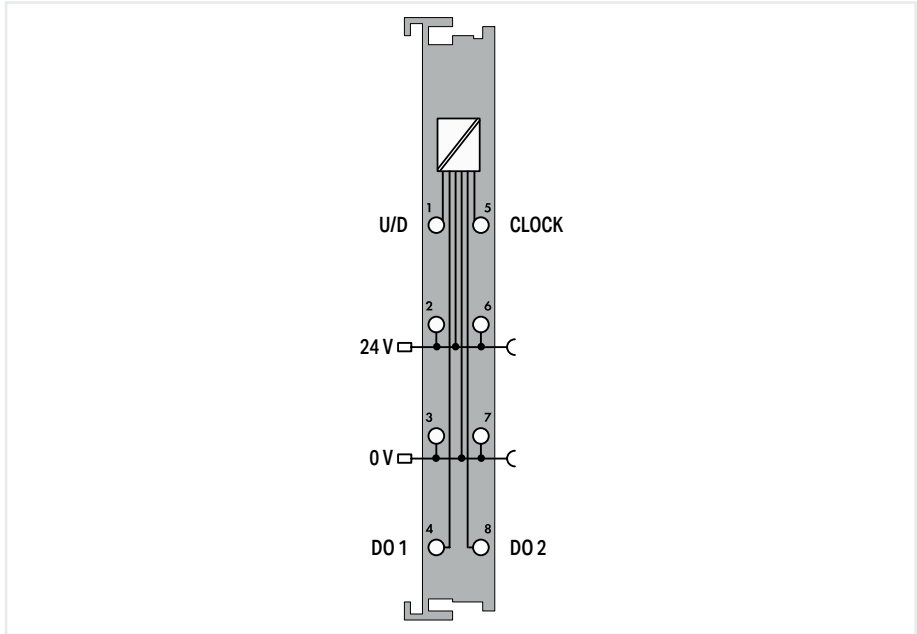


|   |   |
|---|---|
| Item description  | 4-Channel Analog Output; 0 ... 10 VDC   |
| Version   | extreme   |
| Item no.  | 750-559/040-000   |
| Order Text  | 4AO; 0-10 VDC; XTR  |
| Technical data  |   |
| Number of analog outputs                                | 4   |
| Signal type   | Voltage   |
| Signal type (voltage)                                   | 0 ... 10 VDC  |
| Actuator connection                                     | 4 x (2-wire)  |
| Load impedance (voltage output)                         | ≥ 5 kΩ  |
| Resolution [bit]  | 12 bits   |
| Conversion time (typ.)                                  | 10 ms   |
| Output error, reference temperature                     | 25 °C   |
| Output error, deviation (max.) of the upper-range value | 0.1 %   |
| Temperature error (max.) of the output range value      | 0.01 %/K  |
| Supply voltage (field)                                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)                 | 125 mA  |
| Rated surge voltage                                     | 1 kV  |
| Data width  | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Ambient temperature (operation)                         | -40 ... +70 °C  |
| Dimensions W x H x D                                    | (12 x 100 x 67.8) mm  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |
| For data sheet and additional information, see:         | wago.com/750-559/040-000  |

# Counter



750-404/040-003



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                      |
|----------------------|
| Counter; adjustable  |
| extreme              |
| 750-404/040-003      |
| Counter; Adjust; XTR |

|   |
|---|
| Technical data                          |
| Number of digital outputs               |
| Number of counters                      |
| Output current per channel              |
| Output current                          |
| Voltage range for signal (0)            |
| Voltage range for signal (1)            |
| Input current (typ.)                    |
| Switching frequency (max.)              |
| Counter depth                           |
| Supply voltage (field)                  |
| Derating                                |
| Current consumption (5 V system supply) |
| Rated surge voltage                     |
| Data width                              |
| Operating mode                          |
| Ambient temperature (operation)         |
| Dimensions W x H x D                    |
| Approvals                               |

|   |
|---|
| 2   |
| 1   |
| 0.5 A   |
| short-circuit-protected   |
| -3 ... +5 VDC   |
| 15 ... 30 VDC   |
| 7 mA  |
| 100 kHz   |
| 32 bits   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 70 mA   |
| 1 kV  |
| 32-bit data; 8-bit control/status   |
| Up/down counter/100 kHz; Up counter/enable input; Peak-time counter; Frequency measurement: 0.1 Hz ... 100 kHz (default setting); Up/down counter/signal outputs (DO); Two up counters/16 bits/5 kHz  |
| -40 ... +70 °C  |
| (12 x 100 x 67.8) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

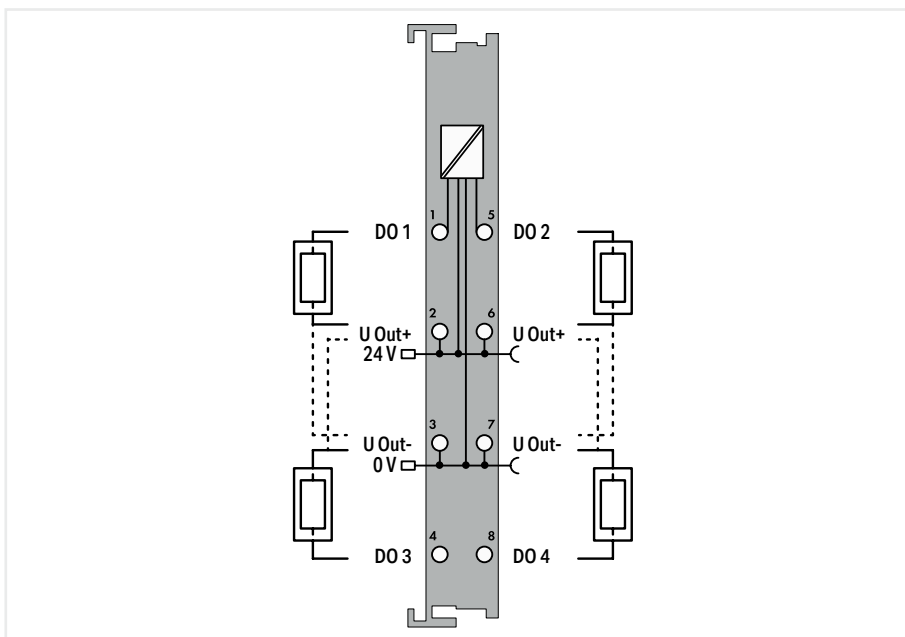
For data sheet and additional information, see:

wago.com/750-404/040-003

## Pulse width modulation



750-677/040-000



|   |   |
|---|---|
| Item description                                | 4-Channel Pulse Width Outputs; 24 VDC; 0.2 A; 20 kHz  |
| Version   | extreme   |
| Item no.  | 750-677/040-000   |
| Order Text                                      | 4PWM; 24 VDC; 0.2A; 20kHz; XTR  |
| Technical data                                  |   |
| Number of digital outputs                       | 4   |
| Pulse frequency                                 | 0 ... 20,000 Hz; integer  |
| Duty cycle                                      | 0 ... 100 %; 11-bit resolution  |
| Output current per channel                      | 0.2 A   |
| Output current                                  | short-circuit-protected; 0.4 A, short-circuit-protected in bridge mode  |
| Switching frequency (max.)                      | 20 kHz  |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)         | 85 mA   |
| Rated surge voltage                             | 1 kV  |
| Data width                                      | 4 x 16-bit data; 4 x 8-bit control/status   |
| Operating mode                                  | 1: PWM DC (variable duty cycle); 2: PWM Frq (variable frequency); 3: PWM Frq - Cnt; 4: Pulse Frq - Cnt; 5: PWM Pulse - Dir  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE  |
| Approvals (pending)                             | Marine; OrdLoc/HazLoc   |
| For data sheet and additional information, see: | wago.com/750-677/040-000  |

This module outputs separately adjustable PWM signals at four channels. The channels can be individually configured as LSS (low-side switching) or HSS (high-side switching) and are short-circuit protected. The PWM signals are each 16 bits wide.

The module supports five operating modes. In both "PWM DC" and "PWM Frq" operating modes, all four channels may be used independently. The bridge mode can also be activated if the same operating mode is set on each channel pair (1 and 2 or 3 and 4). Both channels work synchronously and can be connected in parallel. In the other three complex operating modes, two channels functionally correlate with each other.

The first channel outputs the PWM signal and the second channel a static signal ("0" or "1").

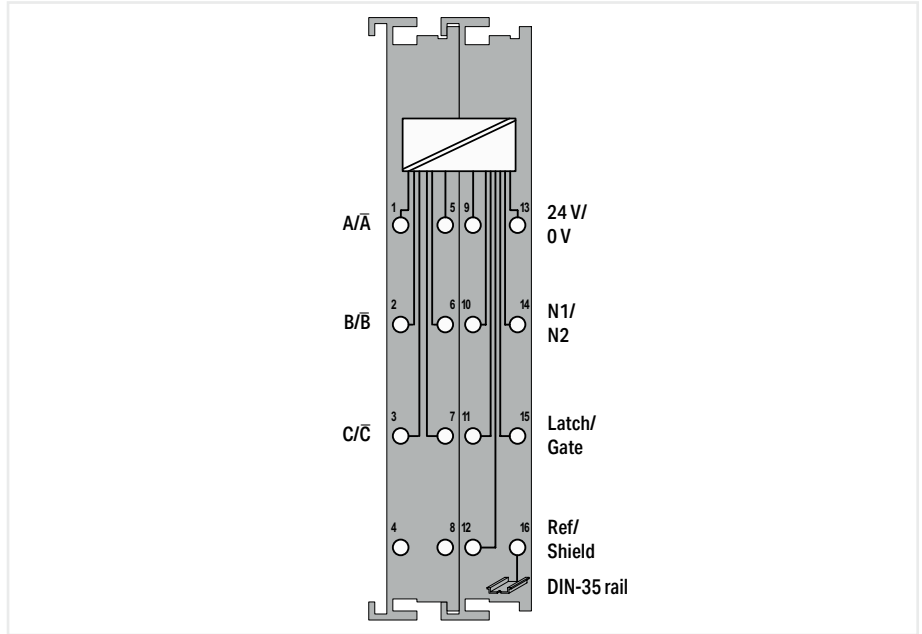
Refer to the manual ("Operating Modes" section) for all setting options and the bit signification in the process image. The "PWM DC" operating mode is set by default.



# Distance and angle measurement



750-637/040-001



|                  |  |
|------------------|--|
| Item description | Incremental Encoder Interface; 24 VDC; Differential input; 32 bits |
| Version          | extreme  |
| Item no.         | 750-637/040-001  |
| Order Text       | Inc. Encoder; 24 VDC; Diff; 32bits; XTR                            |

| Technical data   |   |
|--|---|
| Encoder connection   | A, A/, B, B/, C, C/   |
| Counter depth  | 32 bits   |
| Limit frequency  | 250 kHz   |
| Quadrature decoder   | 4x evaluation   |
| Zero impulse (latch)   | 32 bits   |
| Commands   | Reading, setting, activating  |
| Supply voltage (encoder)   | 24 VDC  |
| Output voltage   | 24 VDC  |
| Output current per channel                                       | 0.5 A   |
| Output current   | short-circuit-protected   |
| Voltage range for signal (0)                                     | $(U_{ABC} - U_{ABC})$ : -30 ... +15 VDC; Latch, gate, ref.: -3 ... +5 VDC |
| Voltage range for signal (1)                                     | $(U_{ABC} - U_{ABC})$ : 15 ... 30 VDC; Latch, gate, ref.: 15 ... 30 VDC   |
| Input current (typ.)   | Latch 7 mA, Gate 7 mA, Ref. 7 mA  |
| Current consumption, field supply (module with no external load) | 35 mA   |
| Current consumption (5 V system supply)                          | 110 mA  |
| Rated surge voltage  | 1 kV  |
| Data width   | 1 x 32-bit data 2 x 8-bit control/status                                  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX                                     |

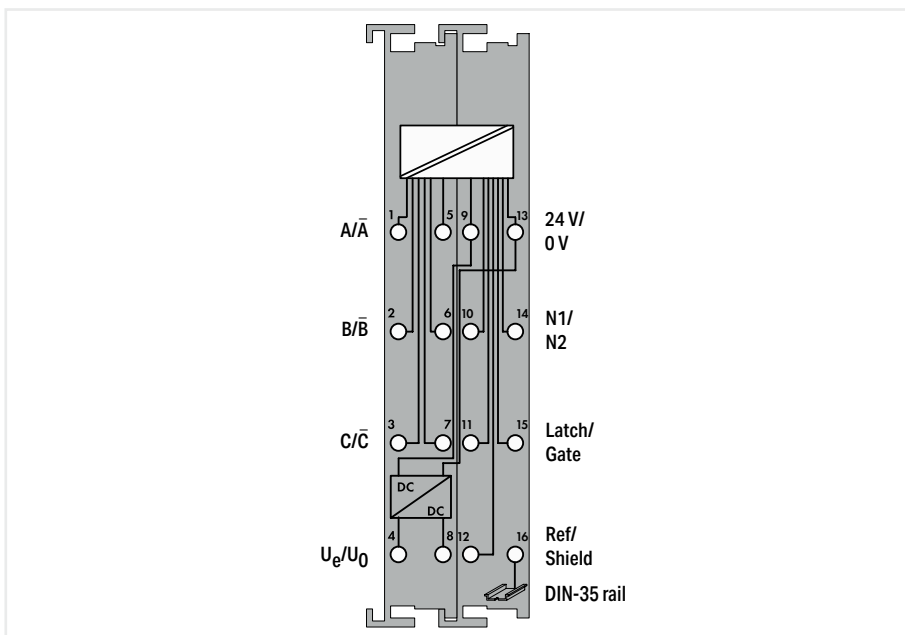
For data sheet and additional information, see:

wago.com/750-637/040-001

## Distance and angle measurement



750-637/040-000



## Item description

Version

## Item no.

## Order Text

## Incremental Encoder Interface; RS-422; 32 Bits

extreme

750-637/040-000

Inc. Encoder; RS422; 32Bit; XTR

## Technical data

|  |  |
|--|--|
| Encoder connection   | A; /A; B; /B; C; /C (RS-422 inputs)                                    |
| Counter depth  | 32 bits  |
| Limit frequency  | 250 kHz  |
| Quadrature decoder   | 4x evaluation  |
| Zero impulse (latch)   | 32 bits  |
| Commands   | Reading, setting, activating   |
| Supply voltage (encoder)   | 5 VDC  |
| Output voltage   | 24 VDC   |
| Output current per channel                                       | 0.5 A  |
| Output current   | short-circuit-protected  |
| Voltage range for signal (0)                                     | $U_{ABC} = \text{RS-422; Latch, gate, ref.: } -3 \dots +5 \text{ VDC}$ |
| Voltage range for signal (1)                                     | $U_{ABC} = \text{RS-422; Latch, gate, ref.: } 15 \dots 30 \text{ VDC}$ |
| Input current (typ.)   | Latch 7 mA, Gate 7 mA, Ref. 7 mA                                       |
| Current consumption, field supply (module with no external load) | 35 mA  |
| Current consumption (5 V system supply)                          | 110 mA   |
| Rated surge voltage  | 1 kV   |
| Data width   | 1 x 32-bit data 2 x 8-bit control/status                               |
| Ambient temperature (operation)                                  | -40 ... +70 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Approvals  | CE; Marine; OrdLoc/HazLoc  |

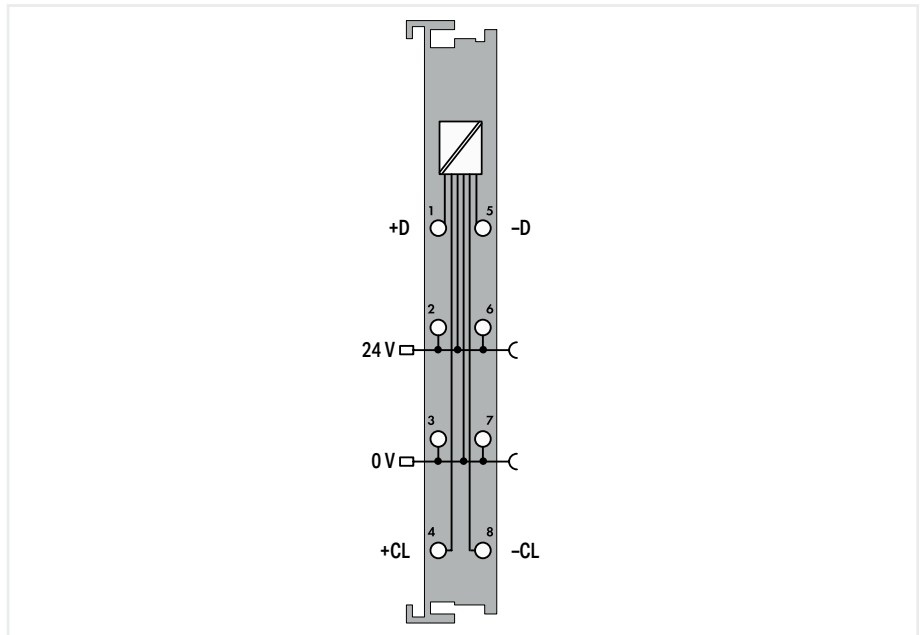
For data sheet and additional information, see:

wago.com/750-637/040-000

## Distance and angle measurement



750-630/040-001

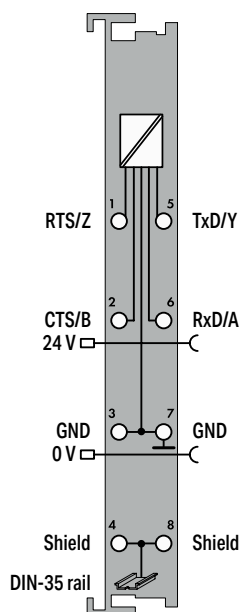


|   |   |
|---|---|
| Item description                                | SSI Transmitter Interface; adjustable   |
| Version   | extreme   |
| Item no.  | 750-630/040-001   |
| Order Text                                      | SSI Interface; Adjust; XTR  |
| Technical data                                  |   |
| Encoder connection                              | On + D, -D / Off + CL, - CL   |
| Supply voltage (encoder)                        | 24 VDC; via power jumper contacts   |
| Data transmission rate                          | 125 kHz   |
| Serial input                                    | Data width: 1 ... 32 bits   |
| Code  | Gray code/binary code   |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)         | 20 mA   |
| Rated surge voltage                             | 1 kV  |
| Data width                                      | 1 x 32 bits; 1 x 8-bit control/status (optional) (24-bit data, 8 bits reserved)   |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-630/040-001  |

## Serial interface



750-652/040-000



|   |   |
|---|---|
| Item description                        | <b>Serial Interface RS-232/485</b>  |
| Version                                 | <b>extreme</b>  |
| Item no.                                | <b>750-652/040-000</b>  |
| Order Text                              | <b>RS232/485 Interface; XTR</b>   |
| Technical data                          |   |
| Signal type                             | RS-232; RS-422 / RS-485   |
| Transmission channels                   | 1 TxD / 1 Rx/D, full duplex, half duplex, 7- or 8-bit data, 1 or 2 stop bits  |
| Baud rate                               | 300 Bd ... 115.2 kBd  |
| Number of data bits                     | 7/8, adjustable   |
| Number of stop bits                     | 1/2, adjustable   |
| Buffer                                  | 2560 bytes for reception / 512 bytes for transmission   |
| Supply voltage (field)                  | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating                                | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply) | 85 mA   |
| Rated surge voltage                     | 1 kV  |
| Data width                              | 8, 24 or 48 bytes (parameterizable)   |
| Ambient temperature (operation)         | -40 ... +70 °C  |
| Dimensions W x H x D                    | (12 x 100 x 67.8) mm  |
| Approvals                               | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX  |

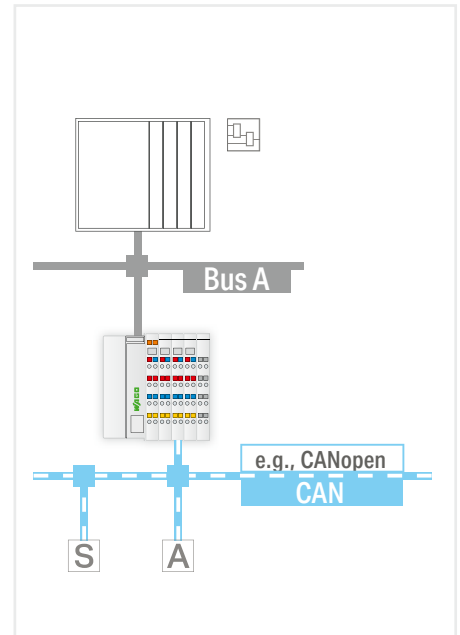
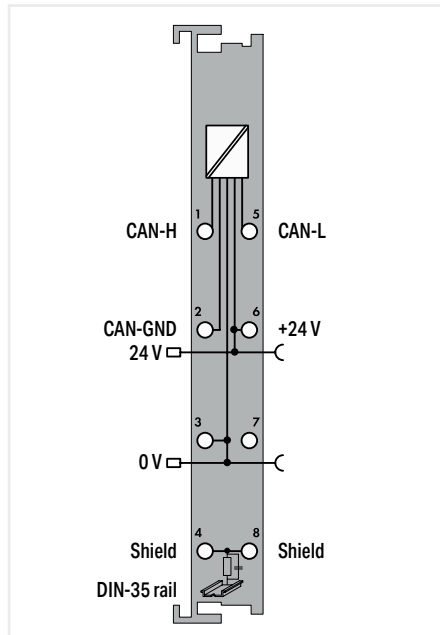
For data sheet and additional information, see:

[wago.com/750-652/040-000](http://wago.com/750-652/040-000)

# CAN gateway



750-658/040-000



|   |   |
|---|---|
| Item description                                | CAN Gateway   |
| Version   | extreme   |
| Item no.  | 750-658/040-000   |
| Order Text                                      | CAN Gateway; XTR  |
| Technical data                                  |   |
| Device-specific                                 | Operating modes: Sniffer mode, transparent mode, mapped mode  |
| Number of inputs                                | 1 (CAN interface)   |
| Transmission modes                              | 10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s (auto-baudrate); Data formats: per 2.0 A standard (11-bit ID); per 2.0 B extended (29-bit ID)   |
| Supply voltage (field)                          | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)         | 50 mA   |
| Rated surge voltage                             | 1 kV  |
| Data width                                      | Configurable to 8, 12, 16, 20, 24, 32, 40, 48 bytes; incl. control/status byte  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (12 x 100 x 67.8) mm  |
| Approvals                                       | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see: | wago.com/750-658/040-000  |

|   |
|---|
| Operating modes: Sniffer mode, transparent mode, mapped mode  |
| 1 (CAN interface)   |
| 10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s (auto-baudrate); Data formats: per 2.0 A standard (11-bit ID); per 2.0 B extended (29-bit ID)   |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 50 mA   |
| 1 kV  |
| Configurable to 8, 12, 16, 20, 24, 32, 40, 48 bytes; incl. control/status byte  |
| -40 ... +70 °C  |
| (12 x 100 x 67.8) mm  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| wago.com/750-658/040-000  |

The CAN Gateway allows a CAN bus to be installed as a sub-bus beneath a fieldbus coupler or controller. It enables special sensors/actuators that are only available with the widely used CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol telegrams, e.g., CANopen.

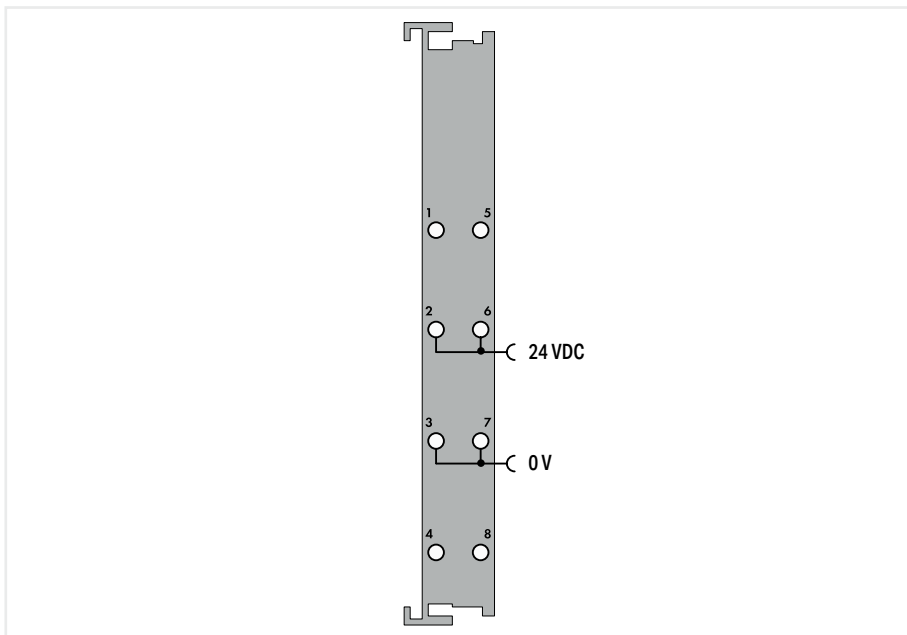
The module offers three different operating modes:

- Sniffer mode: Detailed analysis of the CAN bus through passive "snooping"
- Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
- Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received CAN telegrams into the input process image (cyclic or event-based).

## Supply module ▶ 24 VDC



750-602/040-000



## Item description

Version

## Item no.

## Order Text

Power Supply; 24 VDC

extreme

750-602/040-000

Power Supply; 24 VDC; XTR

## Technical data

Supply voltage (system)

Supply voltage (field)

## Derating

Current carrying capacity (power jumper contacts)

Rated surge voltage

Ambient temperature (operation)

Dimensions W x H x D

Approvals

For data sheet and additional information, see:

5 VDC; via data contacts

24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!

Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

10 A

1 kV

-40 ... +70 °C

(12 x 100 x 67.8) mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

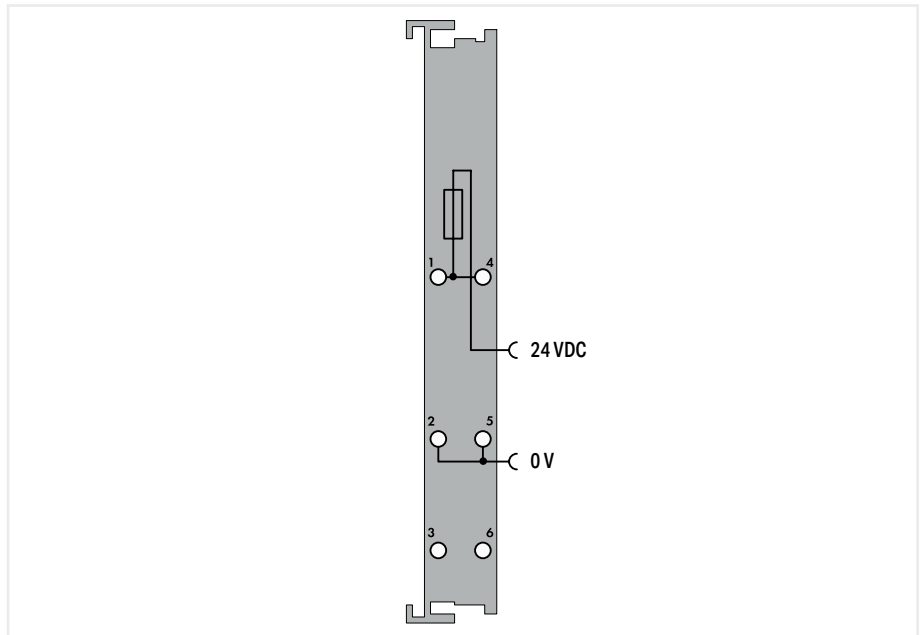
wago.com/750-602/040-000

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

## Supply module ▶ 24 VDC; fuse holder



750-601/040-000



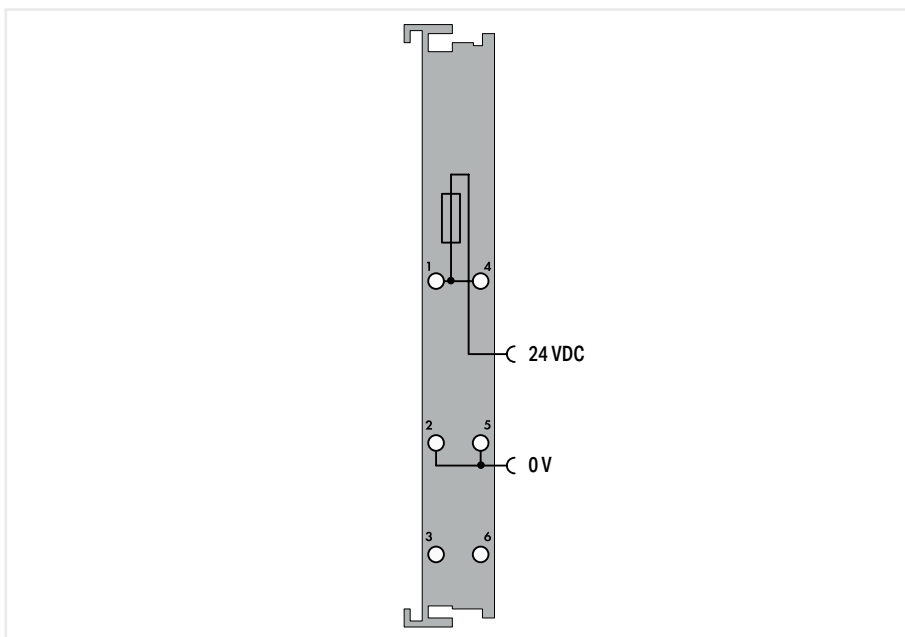
|   |   |
|---|---|
| Item description                                  | Power Supply; 24 VDC; Fuse holder   |
| Version   | extreme   |
| Item no.  | 750-601/040-000   |
| Order Text  | Power Supply; 24 VDC; Fuse; XTR   |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!  |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current carrying capacity (power jumper contacts) | 6.3 A   |
| Rated surge voltage                               | 1 kV  |
| Fuse  | 5 x 20; T 6.3 A (not included)  |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-601/040-000  |

This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

## Supply module ► 24 VDC; fuse holder; diagnostics



750-610/040-000



|   |   |
|---|---|
| Item description                                  | Power Supply; 24 VDC; Fuse holder; Diagnostics  |
| Version   | extreme   |
| Item no.  | 750-610/040-000   |
| Order Text  | Power Supply; 24 VDC; Fuse; Diagn; XTR  |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!  |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current consumption (5 V system supply)           | 5 mA  |
| Current carrying capacity (power jumper contacts) | 6.3 A   |
| Rated surge voltage                               | 1 kV  |
| Fuse  | 5 x 20; T 6.3 A (not included)  |
| Diagnostics                                       | Supply voltage (field): Detection "on" at > 15 VDC; Detection "off" at < 5 VDC  |
| Data width  | 2 bits (1 bit current monitoring, 1 bit fuse fault)   |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |

For data sheet and additional information, see:

wago.com/750-610/040-000

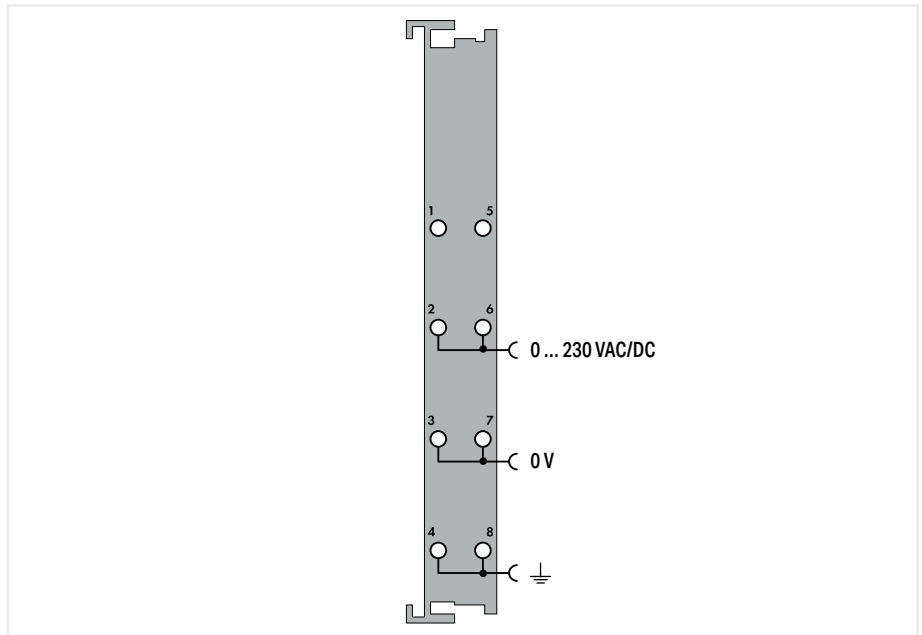
This I/O module provides the applied supply voltage, protected by a fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.



## Supply module ▶ 0 ... 230 VAC/DC



750-612/040-000



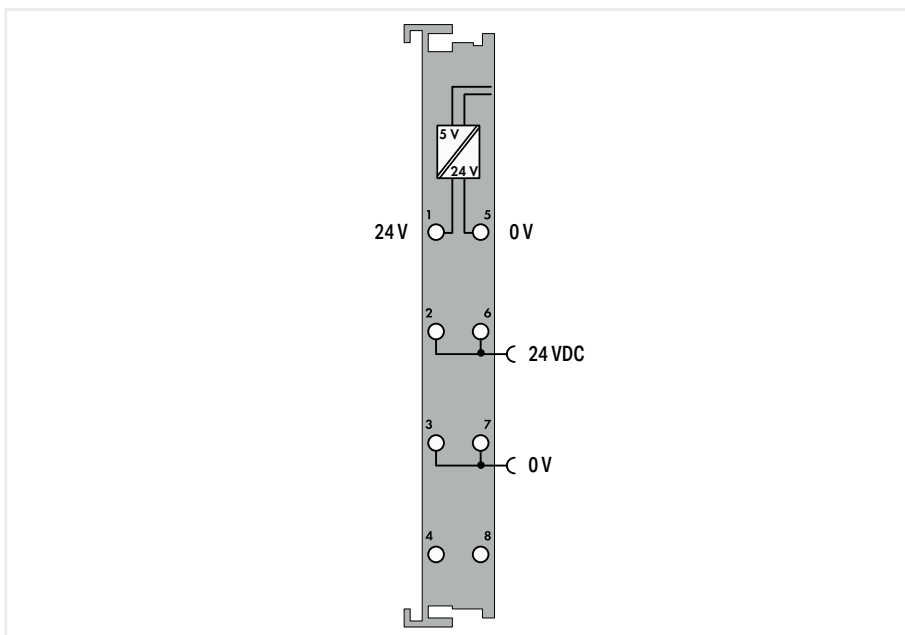
|   |  |
|---|--|
| Item description                                  | Power Supply; 0 ... 230 VAC/DC   |
| Version   | extreme  |
| Item no.  | 750-612/040-000  |
| Order Text  | Power Supply; 0-230 VAC/VDC; XTR   |
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 230 VAC/DC (-20 ... +25 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) |
| Current carrying capacity (power jumper contacts) | 6.3 A  |
| Rated surge voltage                               | 5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 6.4 kV (EN 61010-1 to 2000 m); 4.0 kV (EN 61010-1 to 5000 m)                 |
| Overvoltage category                              | Nominal voltage 230 V: III (EN 61010-1 / up to 2.000 m); II (EN 61010-1 / up to 5.000 m)   |
| Ambient temperature (operation)                   | -40 ... +70 °C   |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm   |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see:   | wago.com/750-612/040-000   |

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

## System power supply ▶ 24 VDC; system power supply



750-613/040-000



## Item description

Version

## Item no.

## Order Text

## System Power Supply; 24 VDC

extreme

750-613/040-000

System Power Supply; 24 VDC; XTR

## Technical data

Supply voltage (system)

24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)

Input current (typ.) at nominal load (24 V)

500 mA

Power supply efficiency (typ.) at nominal load (24 V)

90 %

Supply voltage (field)

24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!

Derating

Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

Total current (system supply)

2000 mA

Current carrying capacity (power jumper contacts)

10 A

Rated surge voltage

1 kV

Ambient temperature (operation)

-40 ... +70 °C

Dimensions W x H x D

(12 x 100 x 67.8) mm

Approvals

wago.com/750-613/040-000

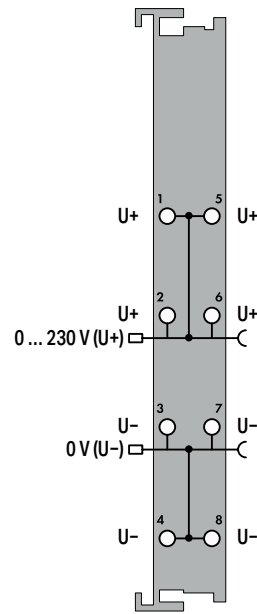
For data sheet and additional information, see:

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules. It also serves as an additional system supply for large nodes, covering the I/O modules' power demands.

## Potential distribution module ▶ 0 ... 230 VAC/DC



750-614/040-000

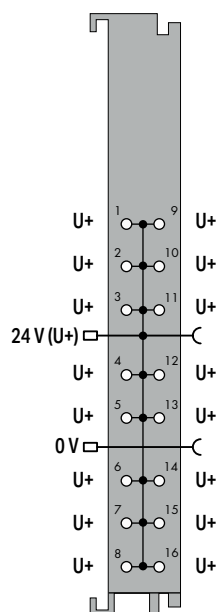


|   |  |
|---|--|
| Item description                                  | Potential Multiplication; 0 ... 230 VAC/DC   |
| Version   | extreme  |
| Item no.  | 750-614/040-000  |
| Order Text  | Potential Distribution; 0-230 VAC/VDC; XTR   |
| Technical data                                    |  |
| Supply voltage (system)                           | 5 VDC; via data contacts   |
| Supply voltage (field)                            | 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)                                    |
| Current carrying capacity (power jumper contacts) | 10 A   |
| Rated surge voltage                               | 5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 61010); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL) |
| Ambient temperature (operation)                   | -40 ... +70 °C   |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm   |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| For data sheet and additional information, see:   | wago.com/750-614/040-000   |

## Potential distribution module ▶ 16x 24 V



750-1605/040-000

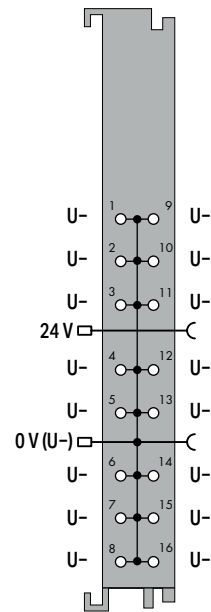


|   |   |
|---|---|
| Item description                                  | Potential Distribution; 16x 24 V  |
| Version   | extreme   |
| Item no.  | 750-1605/040-000  |
| Order Text  | Potential Distribution; 16*24V; XTR   |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Rated surge voltage                               | 1 kV  |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| For data sheet and additional information, see:   | wago.com/750-1605/040-000   |

## Potential distribution module ▶ 16x 0 V



750-1606/040-000

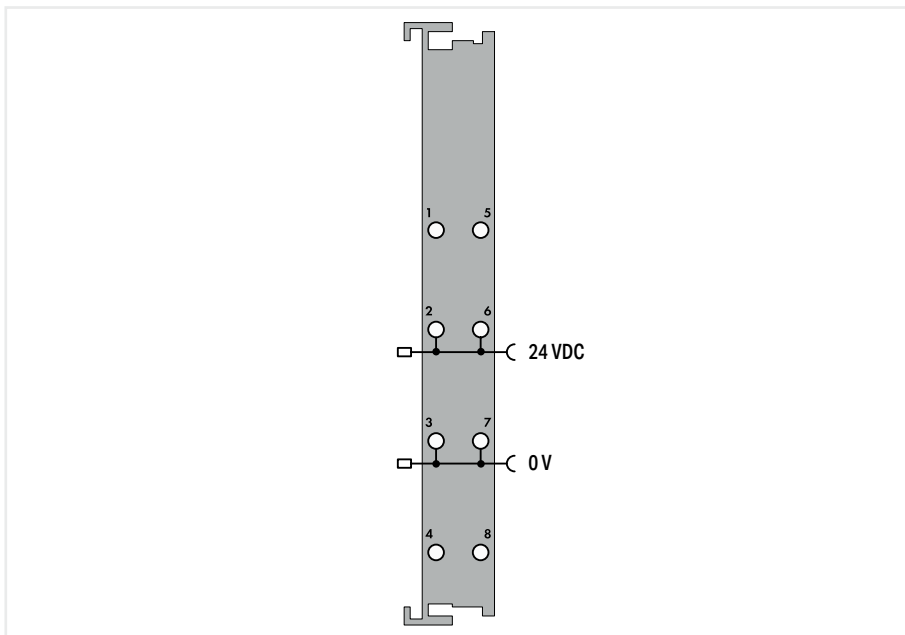


|   |   |
|---|---|
| Item description                                  | Potential Distribution; 16x 0 V   |
| Version   | extreme   |
| Item no.  | 750-1606/040-000  |
| Order Text  | Potential Distribution; 16*0V; XTR  |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Rated surge voltage                               | 1 kV  |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 69) mm  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see:   | wago.com/750-1606/040-000   |

## Filter module ► Field supply filter



750-624/040-000

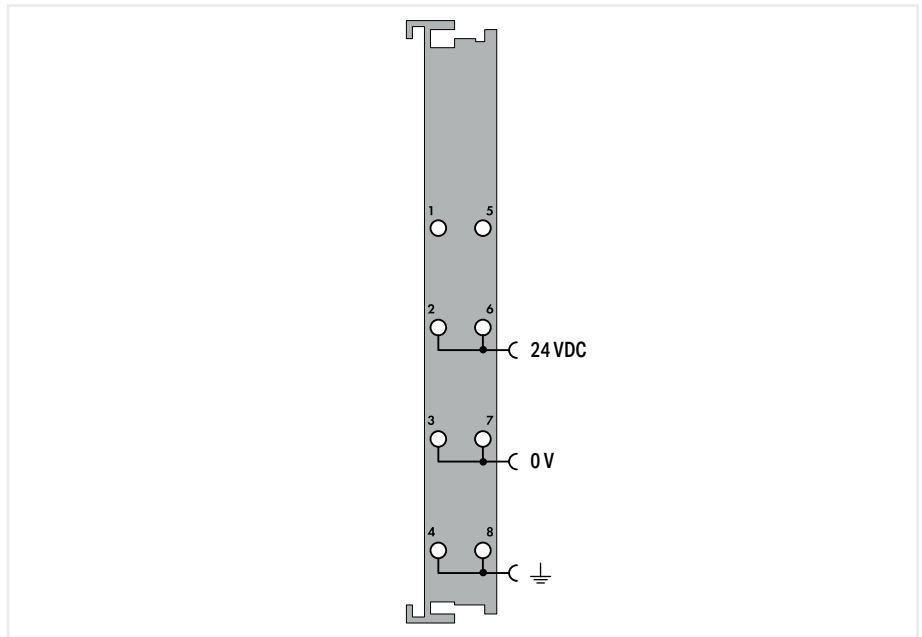


|   |   |
|---|---|
| Item description                                  | Field Supply Filter (Surge); 24 VDC; Higher isolation   |
| Version   | extreme   |
| Item no.  | 750-624/040-000   |
| Order Text  | Field Supply Filter; 24 VDC; HI; XTR  |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Derating must be observed!   |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Rated surge voltage                               | 1 kV  |
| Application                                       | in marine and onshore/offshore applications, as well as in telecontrol and rail technology  |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm  |
| Approvals   | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| For data sheet and additional information, see:   | wago.com/750-624/040-000  |

Filter module ▶ Field supply filter; without power jumper contacts



750-624/040-001

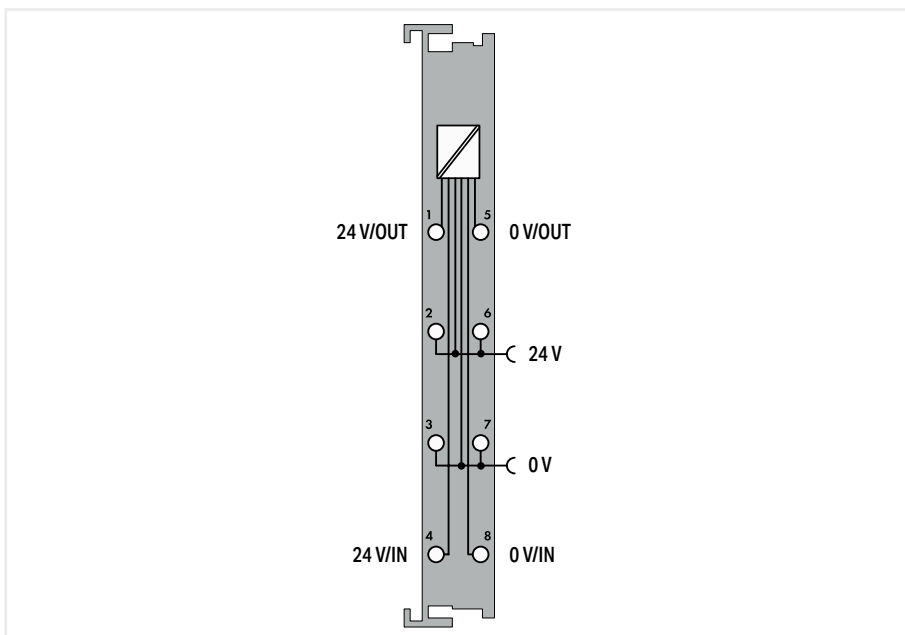


|   |   |
|---|---|
| Item description                                  | Field Supply Filter (Surge); 24 VDC; Higher isolation; without power jumper contacts  |
| Version   | extreme   |
| Item no.  | 750-624/040-001   |
| Order Text  | Field Supply Filter; 24 VDC; HI; NC; XTR  |
| Technical data                                    |   |
| Supply voltage (system)                           | 5 VDC; via data contacts  |
| Supply voltage (field)                            | 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!  |
| Derating  | Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Current carrying capacity (power jumper contacts) | 10 A  |
| Rated surge voltage                               | 1 kV  |
| Application                                       | in marine and onshore/offshore applications, as well as in telecontrol and rail technology  |
| Ambient temperature (operation)                   | -40 ... +70 °C  |
| Dimensions W x H x D                              | (12 x 100 x 67.8) mm  |
| Approvals   | CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx  |
| For data sheet and additional information, see:   | wago.com/750-624/040-001  |

## Filter module ► Power supply filter



750-626/040-000



## Item description

Version

## Item no.

## Order Text

## Technical data

Supply voltage (system)

Supply voltage (field)

## Derating

Current via system voltage (max.)

Current carrying capacity (power jumper contacts)

Rated surge voltage

Application

Ambient temperature (operation)

Dimensions W x H x D

Approvals

For data sheet and additional information, see:

## Supply Filter; 24 VDC; Higher isolation

extreme

750-626/040-000

Supply Filter; 24 VDC; HI; XTR

24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)

24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!

Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

1.5 A

10 A

1 kV

in marine and onshore/offshore applications, as well as in telecontrol and rail technology

-40 ... +70 °C

(12 x 100 x 67.8) mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

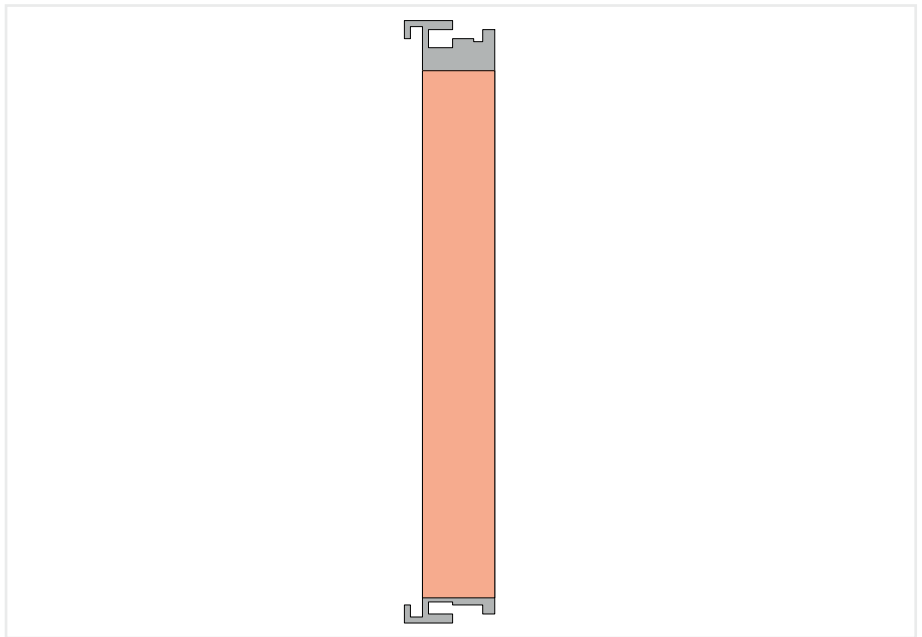
wago.com/750-626/040-000



# Distance module



750-616/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                      |
|----------------------|
| Distance Module      |
| extreme              |
| 750-616/040-000      |
| Distance Module; XTR |

|                                 |
|---------------------------------|
| Technical data                  |
| Supply voltage (system)         |
| Ambient temperature (operation) |
| Dimensions W x H x D            |
| Approvals                       |

|  |
|--|
| 5 VDC; via data contacts                 |
| -40 ... +70 °C                           |
| (12 x 100 x 69.8) mm                     |
| CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx |

For data sheet and additional information, see:

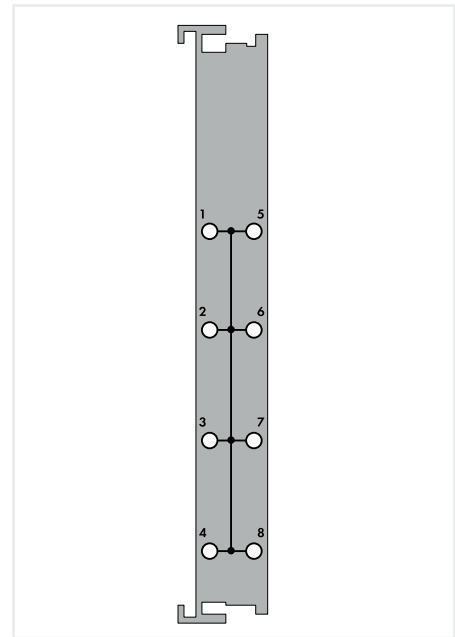
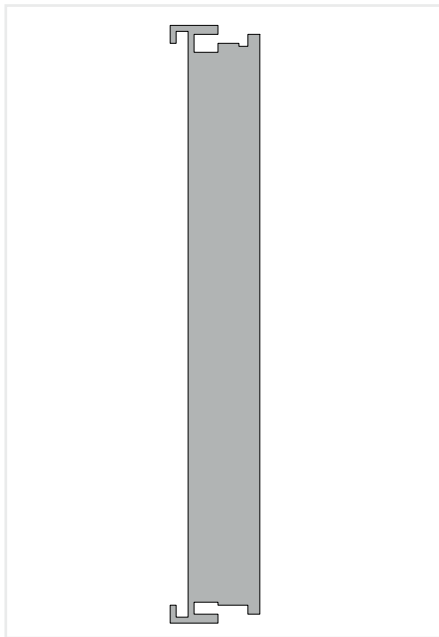
[wago.com/750-616/040-000](http://wago.com/750-616/040-000)

This distance module visually divides a fieldbus node into sections.  
 Notice:  
 Power supply to the adjacent I/O modules is performed via the power jumper contacts and requires an appropriate supply module.

# Bus end module



750-600/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|                 |
|-----------------|
| End Module      |
| extreme         |
| 750-600/040-000 |
| End Module; XTR |

|                                       |
|---------------------------------------|
| End Module; with Potential Group      |
| extreme                               |
| 750-600/040-001                       |
| End Module; with Potential Group; XTR |

|                                 |
|---------------------------------|
| Technical data                  |
| Supply voltage (system)         |
| Voltage (potential group)       |
| Rated surge voltage             |
| Ambient temperature (operation) |
| Dimensions W x H x D            |
| Approvals                       |

|                                       |
|---------------------------------------|
| -                                     |
| -                                     |
| -                                     |
| -40 ... +70 °C                        |
| (12 x 100 x 67.8) mm                  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEx |

|   |
|---|
| 5 VDC; via data contacts                                    |
| 0 ... 230 VAC/DC; Supply via CAGE CLAMP® contacts           |
| 5 kV per EN 60870-2-1 / Class VW3, or 6.4 kV per EN 61010-1 |
| -40 ... +70 °C  |
| (12 x 100 x 67.8) mm  |
| CE; Marine; OrdLoc/HazLoc                                   |

For data sheet and additional information, see:

[wago.com/750-600/040-000](http://wago.com/750-600/040-000)

An end module must be snapped onto the assembly at the end of a fieldbus node. The end module completes the internal data bus, ensuring flawless data transmission.

[wago.com/750-600/040-000](http://wago.com/750-600/040-000)

An end module must be snapped onto the assembly at the end of a fieldbus node. In addition, the eight CAGE CLAMP® connections form a potential group. The end module completes the internal local data bus, ensuring flawless data transmission.

8

8

## Intrinsically Safe XTR Modules



### Specialty Housing

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 48 x 100 x 70.9 mm                           |
| Depth from upper edge of DIN-rail | 63.7 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.25 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG |
| Strip length                      | 5 ... 6 mm / 0.22 inch                       |

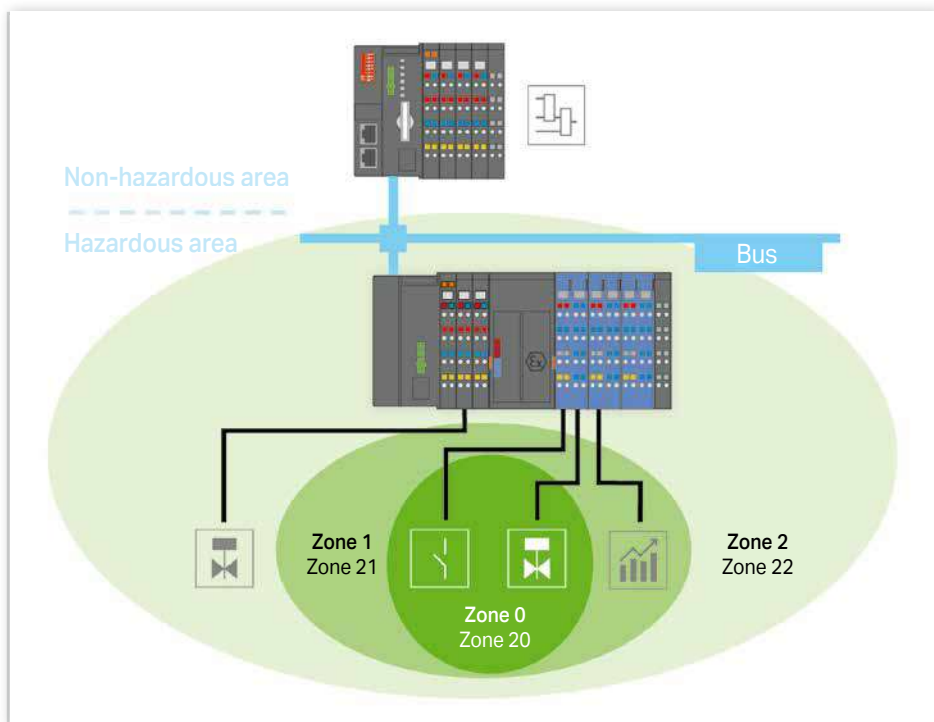
### Housing Design (750 Series)

|                                   |  |
|-----------------------------------|--|
| Dimensions W x H x D              | 12 or 24 x 100 x 67.8 mm                     |
| Depth from upper edge of DIN-rail | 60.6 mm                                      |
| Connection technology             | CAGE CLAMP®                                  |
| Conductor cross-section           | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG |
| Strip length                      | 8 ... 9 mm / 0.33 inch                       |



### Use in Hazardous Locations in eXTReme Environments

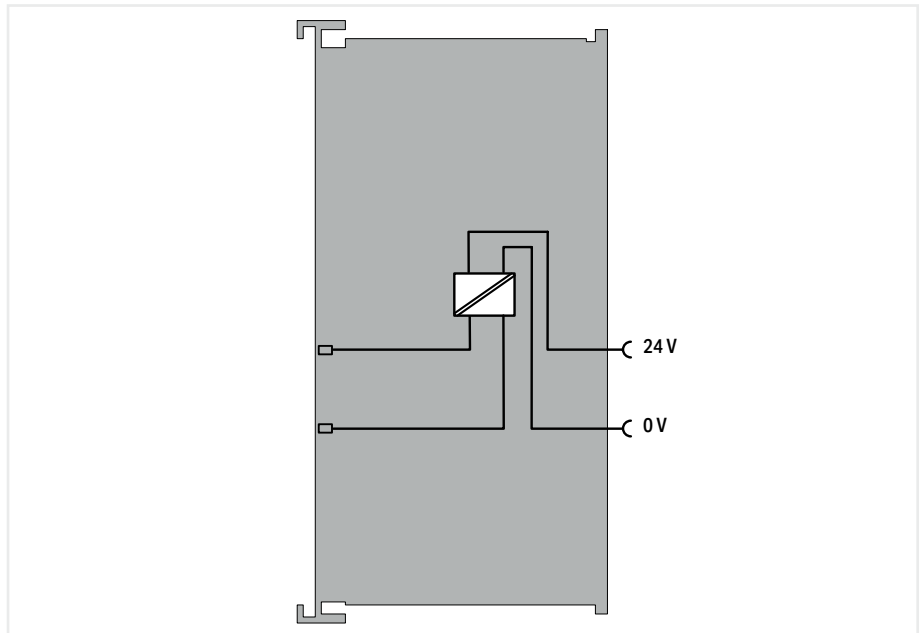
In many plants across the oil and gas industry, along with those in the chemical and petrochemical industries and the process automation sector, installations are operated that process explosive gas- or dust-air mixtures under extreme conditions. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to facilities. When used in hazardous areas of Zone 2/22, the I/O System 750 XTR offers a safe, easy and economical connection to the sensors/actuators of Zones 0/20 and 1/21. Surrounding air temperatures from -40 to +70°C are permissible, as well as increased vibration loads up to 5g. The "blue" Ex i XTR I/O Modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard 750 XTR Series node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO I/O System 750 XTR is also approved for mining applications.



## Intrinsically safe modules (Ex i) ▶ Supply module



750-606/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|   |
|---|
| Power Supply; 24 VDC; Diagnostics; Intrinsically safe |
| extreme   |
| 750-606/040-000                                       |
| Power Supply; 24 VDC; Ex i; XTR                       |

|   |
|---|
| Technical data                                    |
| Current consumption (5 V system supply)           |
| Supply voltage (field)                            |
| Derating  |
| Current carrying capacity (power jumper contacts) |
| Fuse  |
| Data width  |
| Ambient temperature (operation)                   |
| Dimensions W x H x D                              |
| Explosion protection                              |
| Power supply (input)                              |
| Power supply (output)                             |
| Ex standard                                       |
| Approvals   |
| Marking   |

|   |
|---|
| 7.5 mA  |
| 24 VDC (-25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Derating must be observed!  |
| Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| 1 A   |
| electronic  |
| 2 bits (input voltage failure, fuse triggered)  |
| -40 ... +70 °C  |
| (48 x 100 x 70.9) mm  |
| $U_n = 24 \text{ VDC}; P_{\text{max.}} = 29 \text{ W}; U_m = 253 \text{ V}$   |
| $U_o = 26.8 \text{ V}$ (intrinsically safe output voltage per protection level ia); $I_n = 1 \text{ A}$   |
| EN/IEC 60079-0, -7, -11   |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| ATEX/IECEX: II 3G Ex ec IIC T4 Gc   |
| wago.com/750-606/040-000  |

For data sheet and additional information, see:

This supply module monitors the power supply to the downstream Ex i segment and separates the intrinsically safe from the non-intrinsically safe section of the I/O system. The input and output sides are electrically isolated from each other.

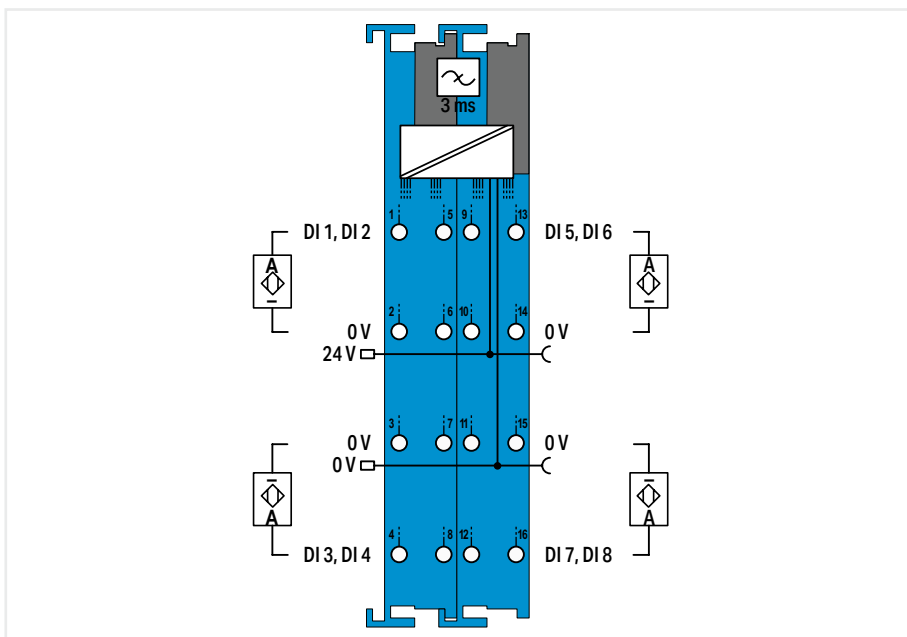
Note: If, due to load conditions, more than one supply module is required per station, four distance modules (750-616/040-000) must be placed between the intrinsically safe sections.

General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 XTR manuals!

## Intrinsically safe modules (Ex i) ▶ Digital input



750-439/040-000

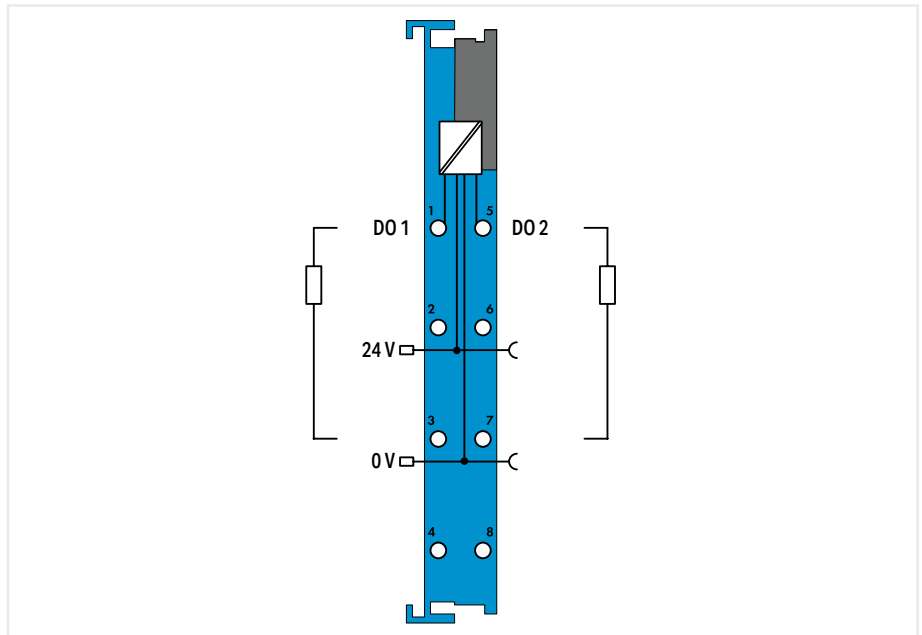


|  |   |
|--|---|
| Item description   | <b>8-Channel Digital Input; NAMUR; Intrinsically safe</b>   |
| Version  | <b>extreme</b>  |
| Item no.   | <b>750-439/040-000</b>  |
| Order Text   | <b>8DI; NAMUR; Ex i; XTR</b>  |
| Technical data   |   |
| Number of digital inputs   | 8   |
| Signal type  | NAMUR   |
| Sensor connection  | 4 x (2-wire)  |
| Input characteristic   | high-side switching   |
| Input filter (digital)   | 3 ms  |
| Open-circuit voltage   | 8.2 V   |
| Diagnostics  | Short circuit, wire break   |
| Supply voltage (sensor)  | 8.2 VDC; short-circuit-protected, each channel supplied separately  |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_o = \max. 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 11 mA   |
| Current consumption (5 V system supply)                          | 56 mA   |
| Input data width (internal) max.                                 | 16 bits   |
| Output data width (internal) max.                                | 16 bits   |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_o = 11.76 \text{ V}$ ; $I_o = 12.48 \text{ mA}$ ; $P_o = 36.67 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_o = 100 \text{ mH}$ ; $C_o = 1.5 \mu\text{F}$  |
| Reactances Ex ia IIB   | $L_o = 100 \text{ mH}$ ; $C_o = 9.9 \mu\text{F}$  |
| Reactances Ex ia IIA   | $L_o = 100 \text{ mH}$ ; $C_o = 39 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 100 \text{ mH}$ ; $C_o = 38 \mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )   |
| Ex standard  | EN/IEC 60079-0, -7, -11   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-439/040-000  |

# Intrinsically safe modules (Ex i) ▶ Digital output



750-535/040-000

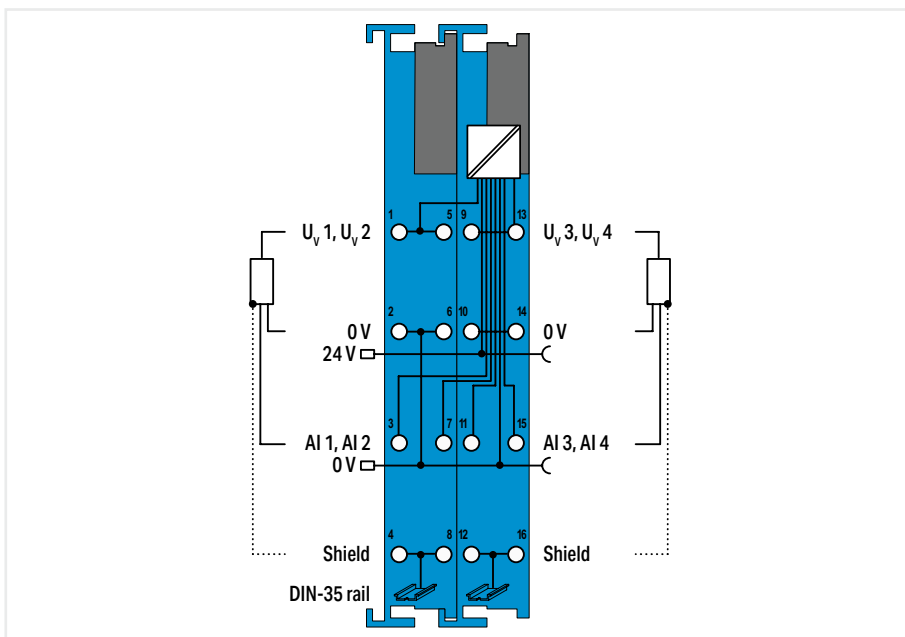


|  |  |
|--|--|
| Item description   | <b>2-Channel Digital Output; 24 VDC; Intrinsically safe</b>  |
| Version  | <b>extreme</b>   |
| Item no.   | <b>750-535/040-000</b>   |
| Order Text   | <b>2DO; 24 VDC; Ex i; XTR</b>  |
| Technical data   |  |
| Number of digital outputs  | 2  |
| Signal type  | Digital  |
| Signal type (voltage)  | 24 VDC   |
| Output characteristic  | high-side switching  |
| Load type  | Resistive, inductive, lamp load  |
| Actuator connection  | 2 x (2-wire)   |
| Switching frequency (max.)                                       | 1 kHz  |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_o = \text{max. } 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 8.5 mA   |
| Current consumption (5 V system supply)                          | 7 mA   |
| Output data width (internal) max.                                | 2 bits   |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | -40 ... +70 °C   |
| Dimensions W x H x D   | (12 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 26.8 \text{ V}$ ; $I_o = 99.91 \text{ mA}$ ; $P_o = 669.43 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 1.1 \text{ mH}$ ; $C_o = 0.092 \mu\text{F}$   |
| Reactances Ex ia IIB   | $L_o = 12 \text{ mH}$ ; $C_o = 0.72 \mu\text{F}$   |
| Reactances Ex ia IIA   | $L_o = 21 \text{ mH}$ ; $C_o = 2.37 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 30 \text{ mH}$ ; $C_o = 3.85 \mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN/IEC 60079-0, -7, -11  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-535/040-000   |

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ 0/4 ... 20 mA; NAMUR NE43



750-486/040-000



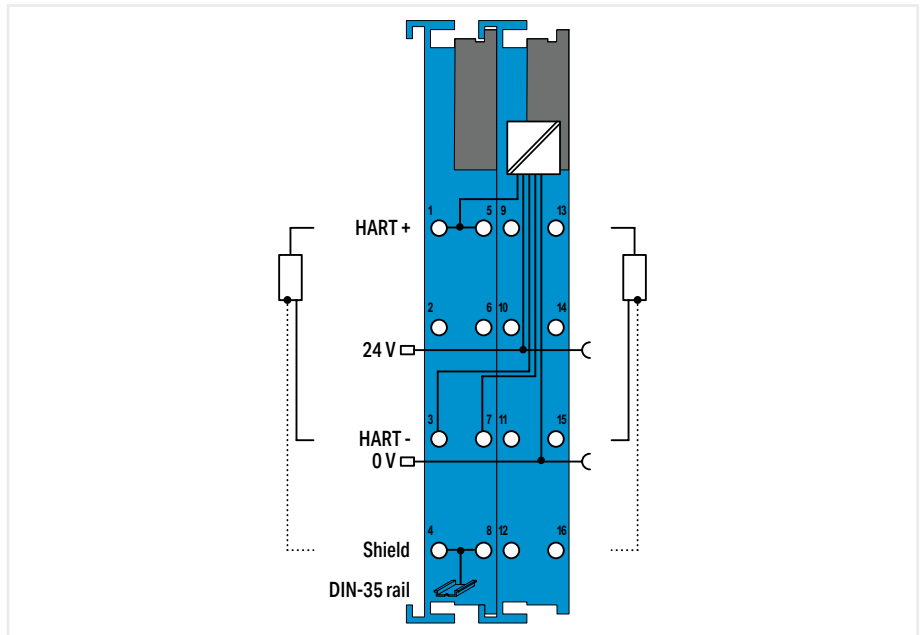
|  |   |
|--|---|
| Item description   | 4-Channel Analog Input; 0/4 ... 20 mA; NAMUR NE43; Intrinsically safe   |
| Version  | extreme   |
| Item no.   | 750-486/040-000   |
| Order Text   | 4AI; 0/4-20mA; Ex i; XTR  |
| Technical data   |   |
| Number of analog inputs  | 4   |
| Signal type  | Current   |
| Signal type (current)  | 0 ... 20 mA; 4 ... 20 mA; 3.6 ... 21 mA   |
| Sensor connection  | 2 x (3-wire)  |
| Signal characteristics   | Single-ended  |
| Resolution [bit]   | 12 bits   |
| Conversion time (typ.)   | 10 ms   |
| Input resistance (max.)  | 200 Ω   |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.1 %   |
| Temperature error (max.) of the upper-range value                | 0.01 %/K  |
| Supply voltage (sensor)  | 15 VDC; Transmitter supply $U_v$ at 20 mA   |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_0 = \max. 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 19 mA   |
| Current consumption (5 V system supply)                          | 45 mA   |
| Data width   | 4 x 16-bit data; 4 x 8-bit control/status (optional)  |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_0 = 26.8 \text{ V}$ ; $I_0 = 92.72 \text{ mA}$ ; $P_0 = 621.27 \text{ mW}$ ; linear characteristic curve   |
| Reactances Ex ia IIC   | $L_0 = 1.6 \text{ mH}$ ; $C_0 = 0.082 \mu\text{F}$  |
| Reactances Ex ia IIB   | $L_0 = 15 \text{ mH}$ ; $C_0 = 0.71 \mu\text{F}$  |
| Reactances Ex ia IIA   | $L_0 = 25 \text{ mH}$ ; $C_0 = 2.36 \mu\text{F}$  |
| Reactances Ex ia I   | $L_0 = 36 \text{ mH}$ ; $C_0 = 3.84 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_0$ ) and inductance ( $L_0$ )   |
| Ex standard  | EN/IEC 60079-0, -7, -11   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx   |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I   |
| For data sheet and additional information, see:                  | wago.com/750-486/040-000  |



Intrinsically safe modules (Ex i) ▶ Analog input ▶ 4 ... 20 mA HART



750-484/040-000



|                  |
|------------------|
| Item description |
| Version          |
| Item no.         |
| Order Text       |

|  |
|--|
| 2-Channel Analog Input; 4 ... 20 mA HART; Intrinsically safe |
| extreme  |
| 750-484/040-000  |
| 2AI; 4-20mA HART; Ex i; XTR                                  |

|  |
|--|
| Technical data   |
| Number of analog inputs  |
| Signal type  |
| Signal type (current)  |
| Sensor connection  |
| Input filter   |
| Signal characteristics   |
| Resolution [bit]   |
| Conversion time (typ.)   |
| Measurement error (reference temperature)                        |
| Measurement error, deviation (max.) from the upper-range value   |
| Temperature error (max.) of the upper-range value                |
| Overvoltage protection   |
| Diagnostics  |
| Supply voltage (sensor)  |
| Supply voltage (field)   |
| Current consumption, field supply (module with no external load) |
| Current consumption (5 V system supply)                          |
| Data width   |
| Isolation  |
| Ambient temperature (operation)                                  |
| Dimensions W x H x D   |
| Explosion protection   |
| Safety-relevant data (circuit)                                   |
| Reactances Ex ia IIC   |
| Reactances Ex ia IIB   |
| Reactances Ex ia IIA   |
| Reactances Ex ia I   |
| Reactances (note)  |
| Ex standard  |
| Approvals  |
| Marking  |
| For data sheet and additional information, see:                  |

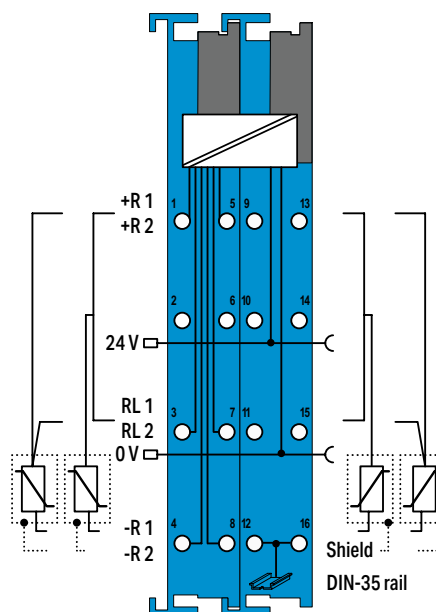
|  |
|--|
| 2  |
| Current  |
| 4 ... 20 mA DC   |
| 2 x (2-wire)   |
| parameterizable  |
| Single-ended   |
| 12 bits  |
| 10 ms  |
| 25 °C  |
| 0.2 %  |
| 0.01 %/K   |
| 30 V, reverse polarity protected   |
| Wire break, measurement range overflow   |
| 16.5 VDC; Transmitter supply U <sub>0</sub> at 20 mA   |
| 24 VDC; (Ex i XTR power supply: U <sub>0</sub> = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| 26 mA  |
| 25 mA  |
| 2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox                                    |
| 300 VAC system/field   |
| -40 ... +70 °C   |
| (24 x 100 x 67.8) mm   |
| U <sub>0</sub> = 26.8 V; I <sub>0</sub> = 90.07 mA; P <sub>0</sub> = 603.5 mW; linear characteristic curve   |
| L <sub>0</sub> = 1.8 mH; C <sub>0</sub> = 0.092 µF   |
| L <sub>0</sub> = 16 mH; C <sub>0</sub> = 0.72 µF   |
| L <sub>0</sub> = 27 mH; C <sub>0</sub> = 2.37 µF   |
| L <sub>0</sub> = 38 mH; C <sub>0</sub> = 3.85 µF   |
| Reactances without accounting for the concurrence of capacitance (C <sub>0</sub> ) and inductance (L <sub>0</sub> )  |
| EN/IEC 60079-0, -7, -11  |
| CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I   |
| wago.com/750-484/040-000   |

In addition to analog signal processing, this module offers optional HART communication for parameterizing or recording dynamic variables.

## Intrinsically safe modules (Ex i) ▶ Analog input ▶ Resistance sensors



750-481/040-000

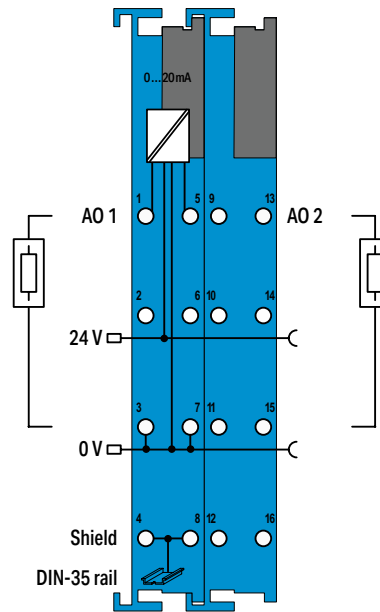


|  |   |
|--|---|
| Item description   | 2-Channel Analog Input; RTD; Intrinsically safe   |
| Version  | extreme   |
| Item no.   | 750-481/040-000   |
| Order Text   | 2AI; RTD; Ex i; XTR   |
| Technical data   |   |
| Number of analog inputs  | 2   |
| Signal type  | Resistance measurement; Potentiometer positions   |
| Temperature range  | -200 ... +850 °C (Pt), -60 ... +250 °C (Ni), -80 ... +320 °C (Ni120)  |
| Sensor connection  | 2 x (2-wire, 3-wire)  |
| Resolution (over entire range)                                   | 0.1 °C, 0.1 Ω, 0.0049 %   |
| Conversion time (typ.)   | 325 ms  |
| Conversion time  | 150 ... 500 ms (per channel)  |
| Measurement error (reference temperature)                        | 25 °C   |
| Measurement error, deviation (max.) from the upper-range value   | 0.2 %   |
| Temperature error (max.) of the upper-range value                | 0.01 %/K  |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_o = \max. 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 12 mA   |
| Current consumption (5 V system supply)                          | 25 mA   |
| Data width   | 2 x 16-bit data; 2 x 8-bit control/status (optional)  |
| Isolation  | 300 VAC system/field  |
| Ambient temperature (operation)                                  | -40 ... +70 °C  |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm  |
| Explosion protection   |   |
| Safety-relevant data (circuit)                                   | $U_o = 7.2 \text{ V}$ ; $I_o = 5.8 \text{ mA}$ ; $P_o = 10.5 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 100 \text{ mH}$ ; $C_o = 13.5 \mu\text{F}$   |
| Reactances Ex ia IIB   | $L_o = 100 \text{ mH}$ ; $C_o = 240 \mu\text{F}$  |
| Reactances Ex ia IIA   | $L_o = 100 \text{ mH}$ ; $C_o = 1000 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 100 \text{ mH}$ ; $C_o = 1000 \mu\text{F}$   |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )   |
| Ex standard  | EN/IEC 60079-0, -7, -11   |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX   |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ja Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-481/040-000  |

## Intrinsically safe modules (Ex i) ▶ Analog output



750-585/040-000

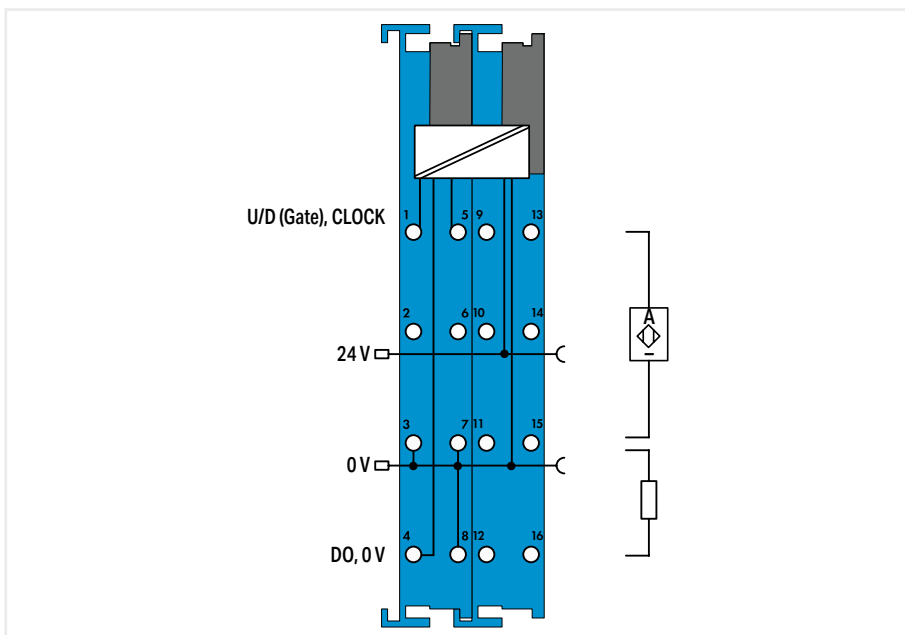


|  |  |
|--|--|
| Item description   | 2-Channel Analog Output; 0 ... 20 mA; Intrinsically safe   |
| Version  | extreme  |
| Item no.   | 750-585/040-000  |
| Order Text   | 2AO; 0-20mA; Ex i; XTR   |
| Technical data   |  |
| Number of analog outputs   | 2  |
| Signal type  | Current  |
| Signal type (current)  | 0 ... 20 mADC  |
| Signal characteristics   | Single-ended   |
| Load impedance (current output) max.                             | 500 Ω  |
| Resolution [bit]   | 12 bits  |
| Conversion time (typ.)   | 2 ms   |
| Output error, reference temperature                              | 25 °C  |
| Output error, deviation (max.) of the upper-range value          | 0.2 %  |
| Temperature error (max.) of the output range value               | 0.01 %/K   |
| Actuator connection  | 2 x (2-wire)   |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_o = \text{max. } 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 19 mA  |
| Current consumption (5 V system supply)                          | 21 mA  |
| Data width   | 2 x 16-bit data  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | -40 ... +70 °C   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety-relevant data (circuit)                                   | $U_o = 26.8 \text{ V}$ ; $I_o = 56.4 \text{ mA}$ ; $P_o = 378 \text{ mW}$ ; linear characteristic curve  |
| Reactances Ex ia IIC   | $L_o = 8.2 \text{ mH}$ ; $C_o = 0.092 \mu\text{F}$   |
| Reactances Ex ia IIB   | $L_o = 46 \text{ mH}$ ; $C_o = 0.72 \mu\text{F}$   |
| Reactances Ex ia IIA   | $L_o = 76 \text{ mH}$ ; $C_o = 2.37 \mu\text{F}$   |
| Reactances Ex ia I   | $L_o = 100 \text{ mH}$ ; $C_o = 3.85 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN/IEC 60079-0, -7, -11  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEX  |
| Marking  | ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-585/040-000   |

## Intrinsically safe modules (Ex i) ► Counter



750-633/040-000



|  |  |
|--|--|
| Item description   | Up/Down Counter; Intrinsically safe  |
| Version  | extreme  |
| Item no.   | 750-633/040-000  |
| Order Text   | Up/Down Counter; Ex i; XTR   |
| Technical data   |  |
| Number of counters   | 1  |
| Number of digital outputs  | 1  |
| Sensor supply $U_v$  | 8.2 V  |
| Switching frequency  | 20 Hz ... 50 kHz   |
| Counter depth  | 32 bits  |
| Output voltage   | 24 VDC   |
| Input filter   | 10 $\mu$ s   |
| Input resistance (max.)  | 1000 $\Omega$  |
| Open-circuit voltage   | 8.2 V  |
| Supply voltage (field)   | 24 VDC; (Ex i XTR power supply: $U_o = \text{max. } 26.8 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact) |
| Current consumption, field supply (module with no external load) | 31 mA  |
| Current consumption (5 V system supply)                          | 25 mA  |
| Data width   | 1 x 32-bit data, 1 x 8-bit status/diagnostics  |
| Isolation  | 300 VAC system/field   |
| Ambient temperature (operation)                                  | -40 ... +70 $^{\circ}\text{C}$   |
| Dimensions W x H x D   | (24 x 100 x 67.8) mm   |
| Explosion protection   |  |
| Safety data (input)  | $U_o = 12 \text{ V}$ ; $I_o = 13.3 \text{ mA}$ ; $P_o = 40.4 \text{ mW}$ ; linear characteristic curve   |
| Reactances of Ex ia IIC inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 1.41 \mu\text{F}$  |
| Reactances of Ex ia IIB inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 9 \mu\text{F}$   |
| Reactances of Ex ia IIA inputs                                   | $L_o = 100 \text{ mH}$ ; $C_o = 36 \mu\text{F}$  |
| Reactances of Ex ia I inputs                                     | $L_o = 100 \text{ mH}$ ; $C_o = 35 \mu\text{F}$  |
| Safety data (output)   | $U_o = 26.8 \text{ V}$ ; $I_o = 96.69 \text{ mA}$ ; $P_o = 674.83 \text{ mW}$ ; linear characteristic curve  |
| Reactances of Ex ia IIC output                                   | $L_o = 1.3 \text{ mH}$ ; $C_o = 0.091 \mu\text{F}$   |
| Reactances of Ex ia IIB output                                   | $L_o = 13 \text{ mH}$ ; $C_o = 0.719 \mu\text{F}$  |
| Reactances of Ex ia IIA output                                   | $L_o = 23 \text{ mH}$ ; $C_o = 2.369 \mu\text{F}$  |
| Reactances of Ex ia I output                                     | $L_o = 33 \text{ mH}$ ; $C_o = 3.849 \mu\text{F}$  |
| Reactances (note)  | Reactances without accounting for the concurrence of capacitance ( $C_o$ ) and inductance ( $L_o$ )  |
| Ex standard  | EN/IEC 60079-0, -7, -11  |
| Approvals  | CE; Marine; OrdLoc/HazLoc; ATEX/IECEx  |
| Marking  | ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I  |
| For data sheet and additional information, see:                  | wago.com/750-633/040-000   |

8

# IP67



## I/O System Field

### I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

◀ Section 7

### I/O System – 750 XTR Series

For demanding applications in which the following are critical:

- Extreme temperature resistance
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

◀ Section 8






### I/O System Field

Automate and Network Modular Machines for the Future

- Ethernet-based fieldbus standards (EtherCAT®, EtherNet/IP™, PROFINET)
- Integrated Bluetooth® interface (Android/iOS App), OPC UA Server, Webserver
- IO-Link Master and Devices

# I/O System Field Contents

|                                | Page |
|--------------------------------|------|
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| Functional Variants            | 551  |
| Interfaces and Types           | 552  |
| Item Number Key                | 553  |
| Standards and Rated Conditions | 553  |
| Approvals                      | 553  |
| Configuration Guide            | 554  |

|   | PROFINET  | EtherCAT® | EtherNet/IP™     | IO-Link Master   | IO-Link Devices  | Description   | Item No.   |                  |     |
|---|---|-----------|------------------|--|--|---|--|------------------|-----|
| <b>Fieldbus Modules</b><br>    | x   |           |                  |  |  | 16-Channel Digital Input; 24 VDC; 8 x M12 Connector | 765-1101/100-000   | 556              |     |
|   |   | x         |                  |  |  |   | 765-1201/100-000   |                  |     |
|   |   |           | x                |  |  |   | 765-1501/100-000   |                  |     |
|   |   | x         |                  |  |  |   | 16-Channel Digital Output; 24 VDC; 8 x M12 Connector       | 765-1103/100-000 | 557 |
|   |   |           | x                |  |  | 765-1203/100-000                                    |  |                  |     |
|   |   |           |                  |  |  | 765-1503/100-000                                    |  |                  |     |
|   |   | x         |                  |  |  |   | 16-Channel Digital Input/Output; 24 VDC; 8 x M12 Connector | 765-1102/100-000 | 558 |
|   |   |           | x                |  |  | 765-1202/100-000                                    |  |                  |     |
|   |   |           |                  |  |  | 765-1502/100-000                                    |  |                  |     |
|   |   | x         |                  |  |  |   | 8-Channel Digital Input/Output; 24 VDC; 4 x M12 Connector  | 765-1104/100-000 | 559 |
|   |   |           | x                |  |  | 765-1204/100-000                                    |  |                  |     |
|   |   |           |                  |  |  | 765-1504/100-000                                    |  |                  |     |
|   | x   |           |                  | 8-Channel Digital Input/Output; 24 VDC; 8 x M8 Connector | 765-1105/100-000   | 560   |  |                  |     |
|   |   | x         | 765-1205/100-000 |  |  |   |  |                  |     |
|   |   |           | 765-1505/100-000 |  |  |   |  |                  |     |
| <b>IO-Link Masters</b><br>   | x   |           |                  | Class A  | 8-Port IO-Link Master; 24 VDC 2.0 A; 8 x M12 Connector           | 765-4101/100-000                                    | 562  |                  |     |
|   |   | x         |                  |  |  | 765-4201/100-000                                    |  |                  |     |
|   |   |           | x                | Class B  |  | 765-4501/100-000                                    |  |                  |     |
|   | x   |           |                  |  |  | 765-4102/100-000                                    | 563  |                  |     |
|   |   | x         |                  | 765-4202/100-000   |  |   |  |                  |     |
|   |   |           | x                | 765-4502/100-000   |  |   |  |                  |     |
|   |   | x         |                  | Class A  | 4-Port IO-Link Master; 24 VDC 2.0 A; 4 x M12 Connector           | 765-4103/100-000                                    | 564  |                  |     |
|   |   |           | x                |  |  | 765-4203/100-000                                    |  |                  |     |
|   | x   |           |                  | Class B  |  | 765-4503/100-000                                    | 565  |                  |     |
|   |   | x         |                  |  |  | 765-4104/100-000                                    |  |                  |     |
|   |   | x         | 765-4204/100-000 |  |  |   |  |                  |     |
|   |   |           | 765-4504/100-000 |  |  |   |  |                  |     |
| <b>IO-Link Hubs</b><br>      |   |           |                  | Class A  | 8-Channel Digital Input/Output; 24 VDC 2.0 A; 4 x M12 Connector  | 765-1701/200-000                                    | 566  |                  |     |
|   |   |           |                  |  |  | Class B   | 765-1704/200-000   | 567              |     |
|   |   |           |                  | Class A  | 8-Channel Digital Input/Output; 24 VDC 2.0 A; 8 x M8 Connector   | 765-1702/200-000                                    | 568  |                  |     |
|   |   |           |                  |  |  | Class B   | 765-1705/200-000   | 569              |     |
|   |   |           |                  | Class A  | 16-Channel Digital Input/Output; 24 VDC 2.0 A; 8 x M12 Connector | 765-1703/200-000                                    | 570  |                  |     |
|   |   |           |                  |  |  | Class B   | 765-1706/200-000   | 571              |     |
| <b>IO-Link Converter</b><br> |   |           |                  | Class A  | 1-Channel Analog Input; IO-Link Converter; 4 ... 20 mA           | 765-2701/200-000                                    | 572  |                  |     |
|   |   |           |                  | Class A/B  | 2-Channel Analog Input; IO-Link Converter; 0 ... 10 V            | 765-2702/200-000                                    | 573  |                  |     |
|   |   |           |                  | Class A/B  | 2-Channel Analog Output; IO-Link Converter; 4 ... 20 mA          | 765-2703/200-000                                    | 574  |                  |     |
|   |   |           |                  | Class A/B  | 2-Channel Analog Output; IO-Link Converter; 0 ... 10 V           | 765-2704/200-000                                    | 575  |                  |     |
|                              | <b>Accessories</b><br>Power Cable; L-Coded; 5-Pole<br>ETHERNET/PROFINET Cable; D-Coded; 4-Pole<br>Pre-Assembled Connectors; 5-Pole; IDC Technology<br>Mounting Clip |           |                  |  |  |   |  | 576              |     |

## I/O System Field

### General Product Information

#### Automate and Network Modular Machines for the Future

High performance, designed for time-sensitive networking (TSN) and unshakeable even in the harshest environmental conditions: The WAGO I/O System Field for cabinet-free automation combines an impressive variety of functions with robust IP67 housings.

#### Extended Network Connectivity

Modern, decentralized production facilities require automation solutions that ensure the highest level of connectivity, while providing maximum performance outside of the control cabinet.

WAGO developed its upgradable I/O System Field with IP67 protection to meet these needs today and tomorrow: It combines fast ETHERNET-based fieldbuses (e.g., PROFINET), technologies such as OPC UA, *Bluetooth*® and Webserver, and MQTT for cloud connectivity.

#### Functionality and Aesthetics in One System

The IP67 I/O System Field offers no-compromise protection with pressure cast zinc housings for extremely harsh environments, or robust yet lightweight plastic housings for mobile applications. The modules operate reliably at temperatures from -25 to +70°C (-13 ... +158°F) and, thanks to internal shielding, are immune to electromagnetic interference. Slim housing variants and lateral mounting options open up more space.



Industrial Ethernet and PROFINET on the field level provide the basis for digitalization with WAGO I/O System Field, which supports Ethernet-based standards (EtherNet/IP™ and EtherCAT®) and is #made for TSN (Time-Sensitive Networking).



WAGO I/O System Field supports MQTT as an open message protocol for data transmission.



The system is equipped with an OPC UA server, allowing OPC UA clients to access the widest range of device data (e.g., parameter data, status information, identification/diagnostics data, containers).



Fieldbus modules equipped with IO-Link masters and IO-Link hubs as devices facilitate effective, versatile connection of intelligent sensors/actuators to the automation system.



An app for direct access to a WAGO Field Device via DMC (Data Matrix Code) identification and BLE (*Bluetooth*® Low Energy) communication is available for wireless access with a mobile device.



An integrated Webserver enables HTTP and HTTPS communication. With this capability, a wide range of system information can be accessed using standard browsers.

#### Integrated Load Management

Innovative load management ensures that the system's power is fully utilized via supply and output current load management. Current and voltage can be recorded and evaluated for each channel. Overload limits can be set for individual channels. As a result, errors can be detected faster and more clearly differentiated in the event of faults – it is also easier to predict errors, which is essential for future-oriented trends such as predictive maintenance.

#### All-in-One Solution via IO-Link

In combination with IO-Link, the I/O System Field fully demonstrates its strengths as a flexible "IO distributor" for both data collection and distribution. The prominent communication standard enables seamless data flow from the control to the sensor and actuator level. This considerably simplifies configuration and cabling. Furthermore, completely new possibilities arise for diagnostics, parameterization and device identification.

#### Advantages:

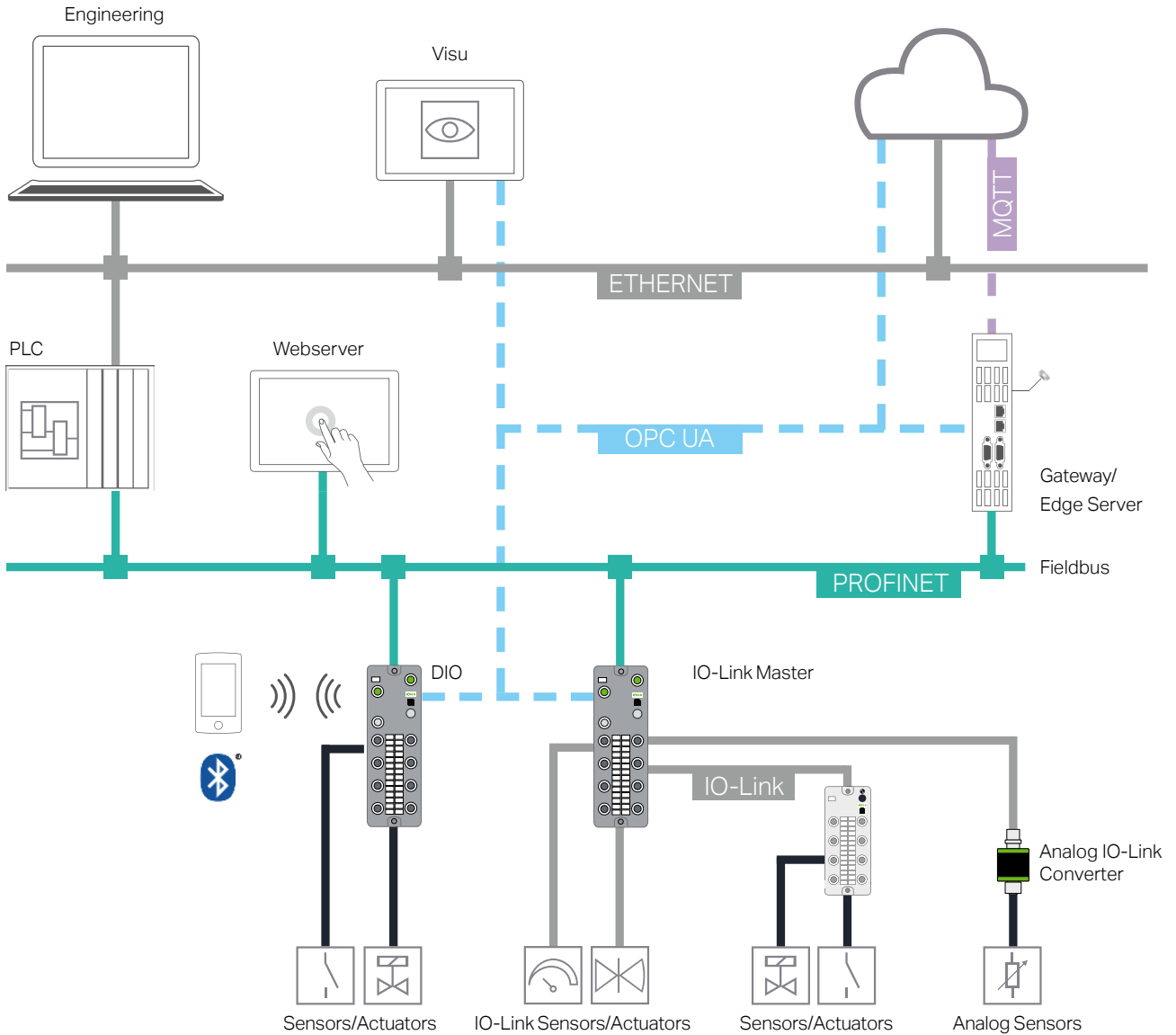
- Platform-independent data exchange through OPC UA
- System information provided via MQTT
- Fast on-site access to data through *Bluetooth*®
- Status information of the system via integrated Webserver
- Ready for future TSN implementation
- Fully encapsulated IP67 metal housings for extreme environments
- Non-encapsulated, lightweight IP67 plastic housings for mobile applications
- WAGO standard marking (WMB Inline markers and marking strips)



# I/O System Field Functional Variants

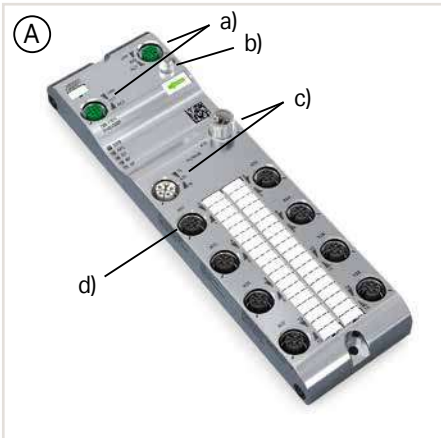


Fieldbus Module and IO-Link Master as PROFINET, EtherCAT® or EtherNet/IP™ Slave



9

## I/O System Field Interfaces and Types



### Fieldbus Module

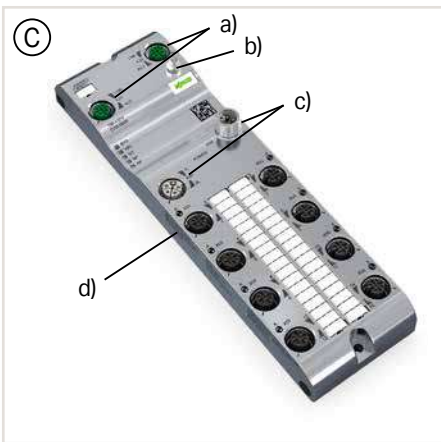
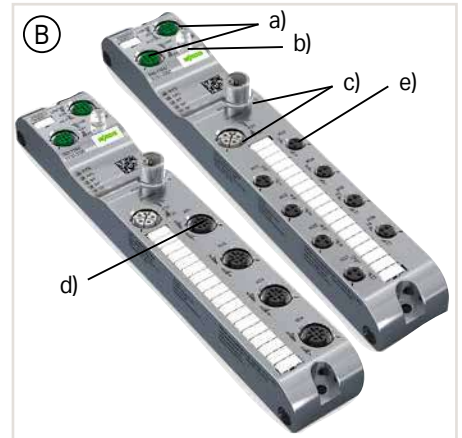
- Fieldbus: 2 x D-coded M12; 5-pole (a)
- *Bluetooth*<sup>®</sup> (b)
- Supply: L-coded M12; 5-pole (c)

### Housing Design (A): 16 DI, 16 DO or 16 DIO

- Inputs/Outputs: A-coded M12; 5-pole (d)
- W x H x D (mm): 60 x 30 x 210

### Housing Design (B): 8 DIO

- Inputs/Outputs: A-coded M12; 5-pole (d) or M8; 3-pole (e)
- W x H x D (mm): 35 x 30 x 210



### IO-Link Master

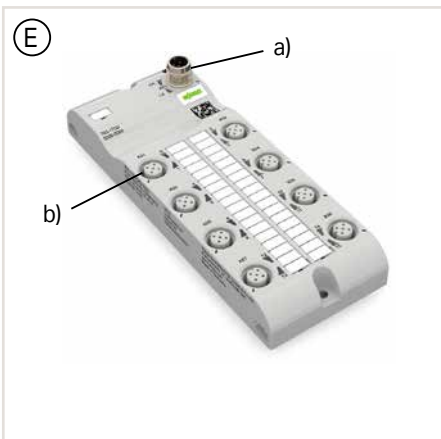
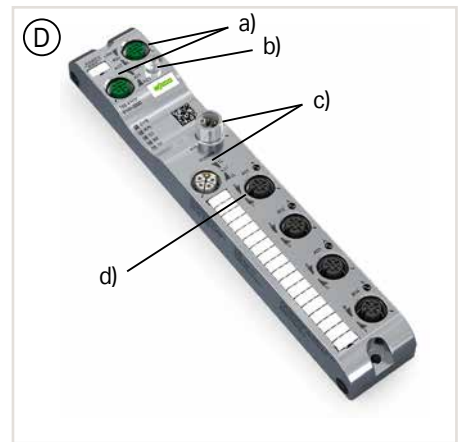
- Fieldbus: 2 x D-coded M12; 5-pole (a)
- *Bluetooth*<sup>®</sup> (b)
- Supply: L-coded M12; 5-pole (c)
- IO-Link Ports: A-coded M12; 5-pole (d)

### Housing Design (C): 8 IO-Link ports, class A or B

- W x H x D (mm): 60 x 30 x 210

### Housing Design (D): 4 IO-Link ports, class A or B

- W x H x D (mm): 35 x 30 x 210



### IO-Link Hub

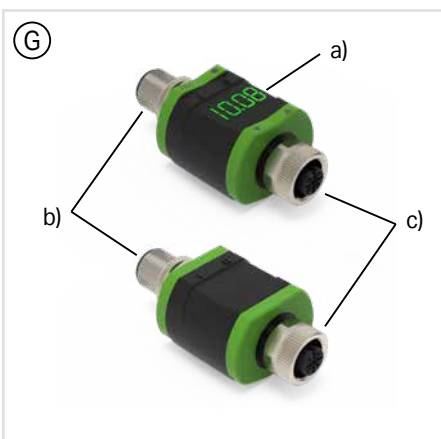
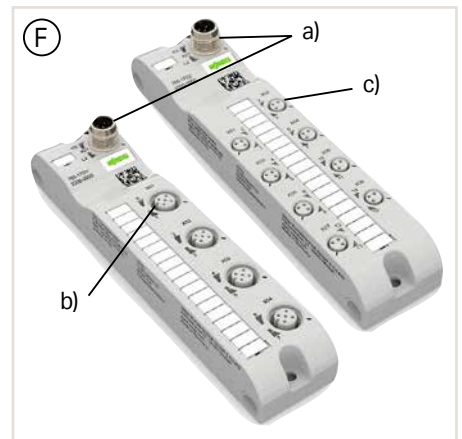
- IO-Link Hub: A-coded M12; 5-pole (a)

### Housing Design (E): 16 DIO

- Inputs/Outputs: A-coded M12; 5-pole (b)
- W x H x D (mm): 60 x 30 x 158.5

### Housing Design (F): 8 DIO

- Inputs/Outputs: A-coded M12; 5-pole (b) or M8; 3-pole (c)
- W x H x D (mm): 35 x 30 x 158.5



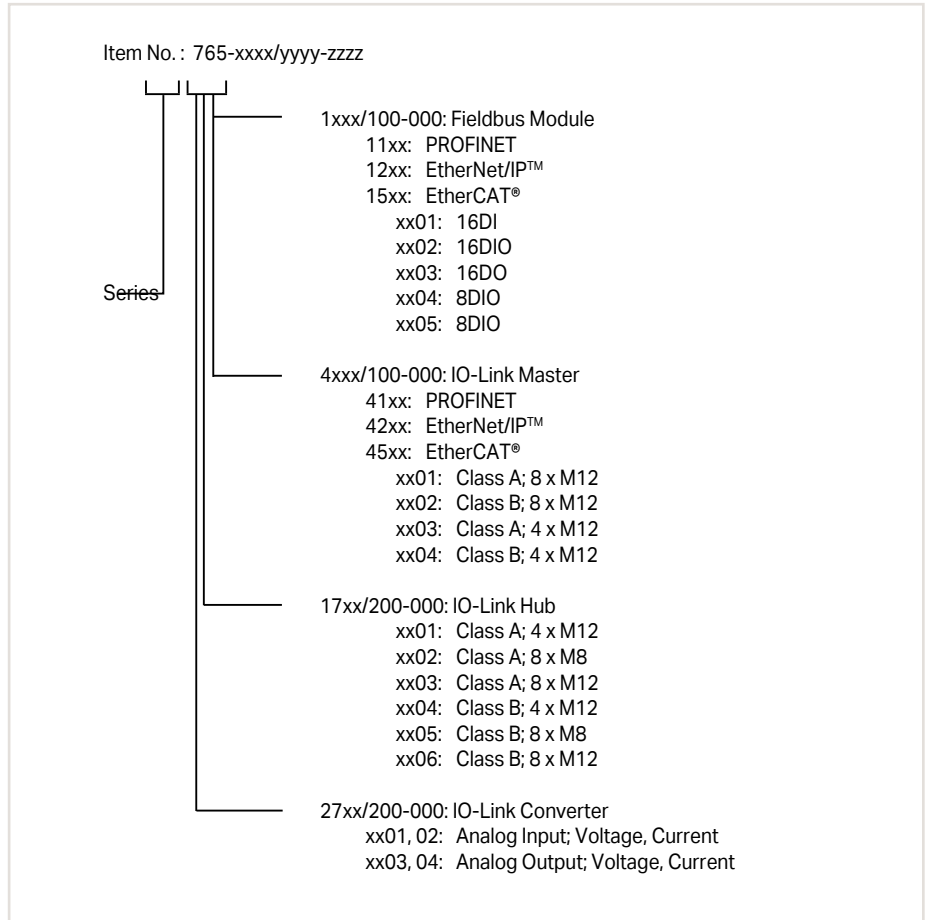
### Analog IO-Link Converter

### Housing Design (G)

- configurable via IO-Link; with display (a) also directly on the device
- IO-Link side: M12-A plug; 4-pole (b)
- Sensor/Actuator side: M12-A socket; 5-pole (c)

## I/O System Field Item Number Key

Explanation of an item number key's components



## Standards and Rated Conditions

| General Specifications                  |                                    |
|---|------------------------------------|
| Supply voltage (system)                 | 24 VDC (-25 ... +30 %)             |
| Surrounding air temperature (operation) | -25 ... +70 °C                     |
| Surrounding air temperature (storage)   | -40 ... +80 °C                     |
| Maximum temperature change              | 3 K/min                            |
| Relative humidity (operation)           | 5 ... 95 % (with condensation)     |
| Pollution degree                        | 3 (EN 60664-1)                     |
| Operating altitude                      | 0 ... 2000 m / 0 ... 6562 ft       |
| Overvoltage category                    | II (EN 60664-1)                    |
| Protection type                         | IP67 (EN 60529)                    |
| Protection class                        | III (EN 61140)                     |
| Vibration resistance                    | 5g (IEC 60068-2-6)                 |
| Shock resistance                        | 50g (IEC 60068-2-27)               |
| EMC immunity to interference            | Per EN 61000-6-2                   |
| EMC emission of interference            | Per EN 61000-6-4                   |
| Mounting type                           | Screw mount, 2xM4 (front and side) |
| Connection technology                   | M8 and M12 connectors              |
| Housing material                        | Metal, plastic (PA, PBT)           |

For approvals overview (item comparison), see Section 14 (Technical Section) or visit [www.wago.com](http://www.wago.com).



FCC/ISED

# I/O System Field Configuration Guide

## IP67

756-1203/..., 756-1204/...

756-1203/..., 756-1204/...



756-3505/...,  
756-3506/...

756-3505/...,  
756-3506/...

765-4102/100-000  
IO-Link Master

765-4104/100-000  
IO-Link Master

756-5401/0050-XXXX

756-5404/0050-XXXX

756-5401/0050-XXXX

756-5404/0050-XXXX

756-5401/0050-XXXX

756-5404/0050-XXXX

765-1706/200-000

765-1704/200-000

765-1705/200-000

IO-Link Hub

IO-Link Hub

756-5311/0040-xxxx

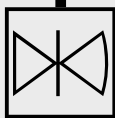
756-5312/0040-xxxx

756-5111/0030-xxxx

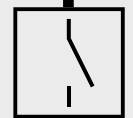
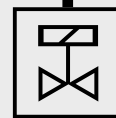
756-5112/0030-xxxx

756-5111/0030-xxxx

756-5112/0030-xxxx

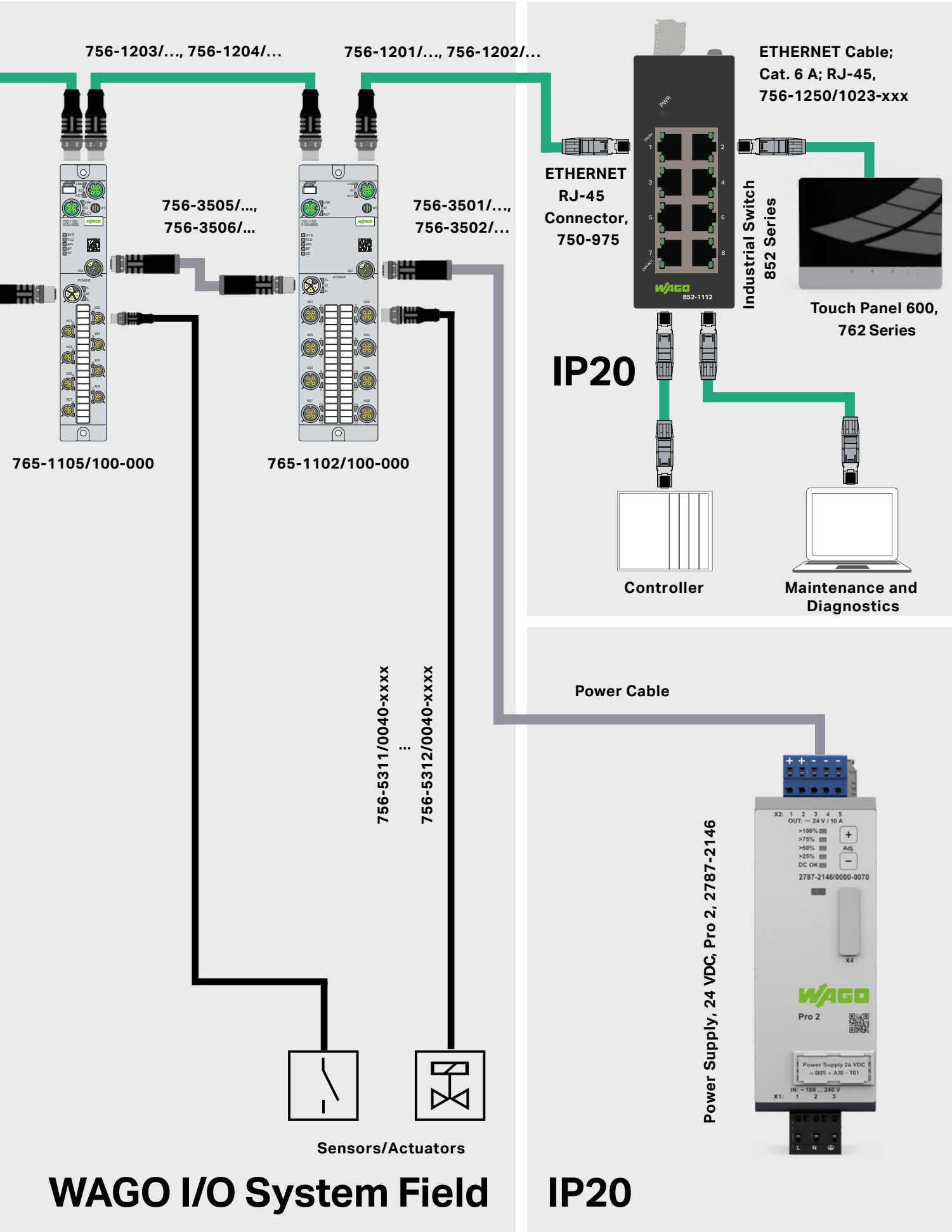


IO-Link Sensors/Actuators



Sensors/Actuators

9



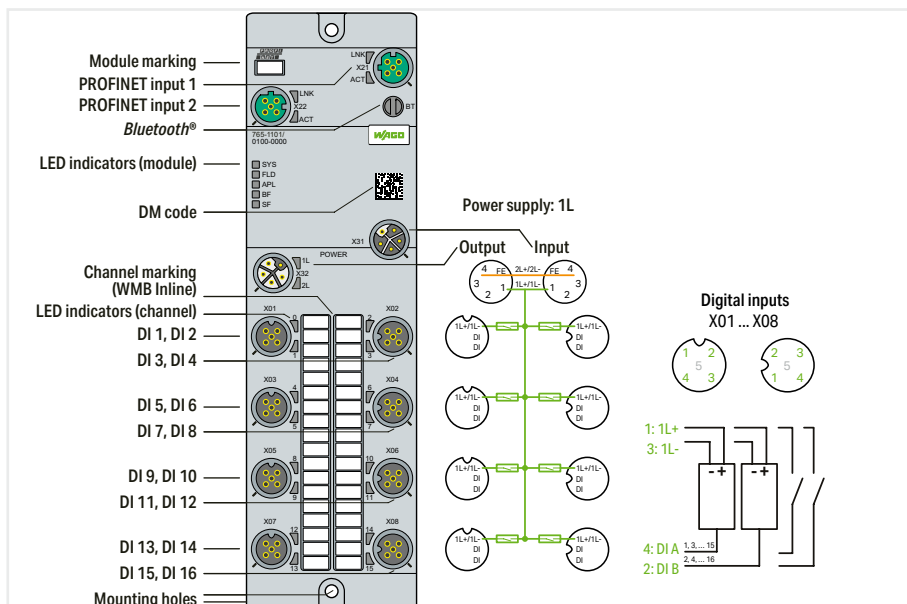
# WAGO I/O System Field

# IP20

# Fieldbus module ► 16-Channel Digital Input; I/O System Field; 24 VDC; 8 x M12 connector



765-1101/100-000



| Item description | 16-Channel Digital Input; I/O System Field; 24 VDC; 8 x M12 connector |                    |                    |
|------------------|---|--------------------|--------------------|
| Version          | PROFINET slave  | EtherCAT® slave    | EtherNet/IP™ slave |
| Item no.         | 765-1101/100-000  | 765-1201/100-000   | 765-1501/100-000   |
| Order Text       | 16DI FLD PN DC 24V  | 16DI FLD EC DC 24V | 16DI FLD EI DC 24V |

| Technical data                                |  |                          |                                |
|---|--|--------------------------|--------------------------------|
| Fieldbus                                      |  |                          |                                |
| Communication                                 | PROFINET; PROFINET IO device; 2-port switch, LLDP, MRP, SNMP | EtherCAT®; AoE, EoE, FoE | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus | 2 x D-coded M12; 4-pole                                      |                          |                                |
| Interface standard                            | 10BASE-T/100BASE-TX; potential-free                          |                          |                                |
| Autonegotiation; autocrossover                | Yes  |                          |                                |
| Device functions                              | Input filter; Temperature                                    |                          |                                |
| Parameter                                     | Undervoltage; overcurrent; overload; overtemperature         |                          |                                |
| Diagnostics                                   | Bluetooth®; OPC UA server                                    |                          |                                |
| Device functions                              | Android/iOS app; Web server                                  |                          |                                |
| Visualization                                 |  |                          |                                |
| Digital inputs/outputs                        |  |                          |                                |
| Number of digital inputs                      | 16   |                          |                                |
| Connection technology: inputs/outputs         | 8 x A-coded M12; 5-pole                                      |                          |                                |
| Signal type (voltage)                         | 24 VDC   |                          |                                |
| Sensor current (per channel) max.             | 2 A  |                          |                                |
| Input characteristic                          | high-side switching  |                          |                                |
| Input filter                                  | 0.2 ... 20 ms  |                          |                                |
| Input characteristic                          | Type 3, per IEC 61131-2                                      |                          |                                |
| Supply (module)                               |  |                          |                                |
| Connection technology: supply                 | 2 x L-coded M12; 5-pole                                      |                          |                                |
| Supply voltage                                | 24 VDC (18 ... 31.2 V); 1L/2L                                |                          |                                |
| Current consumption (max.)                    | 16000 mA   |                          |                                |
| Current consumption (note)                    | per supply line; overload- and short-circuit-protected       |                          |                                |
| Reverse voltage protection                    | Yes  |                          |                                |
| Ambient temperature (operation)               | -25 ... +70 °C   |                          |                                |
| Approvals                                     | CE; FCC/ISED   |                          |                                |
| Approvals (pending)                           | OrdLoc   |                          |                                |

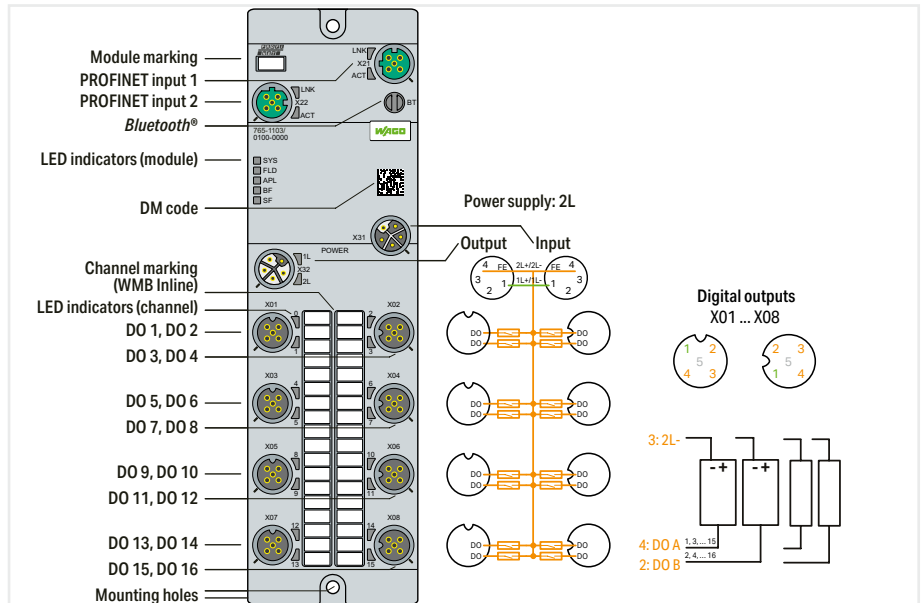
For data sheet and additional information, see: [wago.com/765-1101/100-000](http://wago.com/765-1101/100-000) | [wago.com/765-1201/100-000](http://wago.com/765-1201/100-000) | [wago.com/765-1501/100-000](http://wago.com/765-1501/100-000)

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

# Fieldbus module



765-1103/100-000



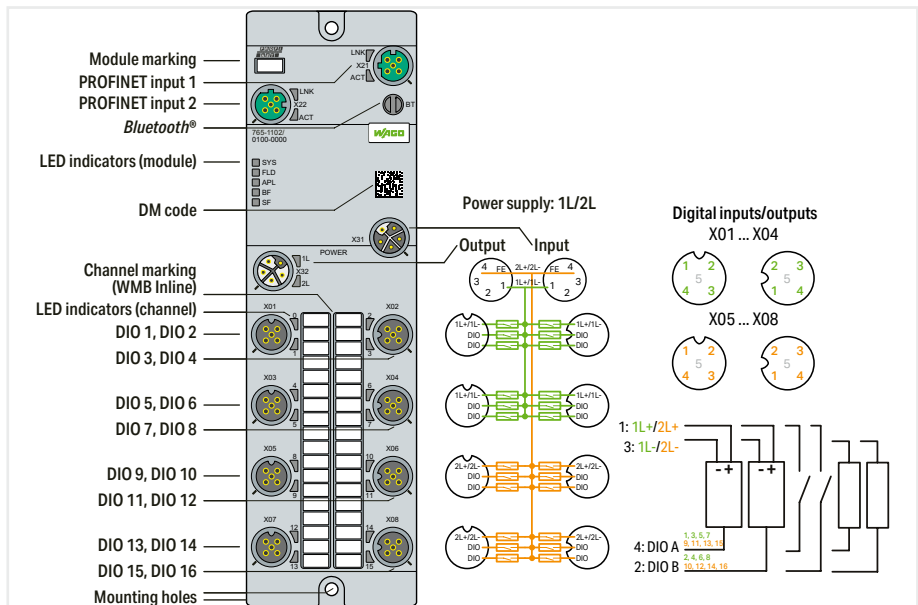
|                  |  |                    |                    |
|------------------|--|--------------------|--------------------|
| Item description | 16-Channel Digital Output; I/O System Field; 24 VDC; 8 x M12 connector |                    |                    |
| Version          | PROFINET slave   | EtherCAT® slave    | EtherNet/IP™ slave |
| Item no.         | 765-1103/100-000   | 765-1203/100-000   | 765-1503/100-000   |
| Order Text       | 16DO FLD PN DC 24V   | 16DO FLD EC DC 24V | 16DO FLD EI DC 24V |

|  |  |                           |                                |
|--|--|---------------------------|--------------------------------|
| Technical data   |  |                           |                                |
| Fieldbus   |  |                           |                                |
| Communication  | PROFINET; PROFINET IO device; 2-port switch, LLDP, MRP, SNMP | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus  | 2 x D-coded M12; 4-pole                                      |                           |                                |
| Interface standard   | 10BASE-T/100BASE-TX; potential-free                          |                           |                                |
| Autonegotiation; autocrossover   | Yes  |                           |                                |
| Device functions   |  |                           |                                |
| Parameter  | Output current; Temperature                                  |                           |                                |
| Diagnostics  | Undervoltage; overcurrent; overload; overtemperature         |                           |                                |
| Device functions   | Bluetooth®; OPC UA server                                    |                           |                                |
| Visualization  | Android/iOS app; Web server                                  |                           |                                |
| Digital inputs/outputs   |  |                           |                                |
| Number of digital outputs  | 16   |                           |                                |
| Connection technology: inputs/outputs  | 8 x A-coded M12; 5-pole                                      |                           |                                |
| Signal type (voltage)  | 24 VDC   |                           |                                |
| Output current (per channel)   | 2 A (typ.) for DO  |                           |                                |
| Supply current per port  | 2L: 4 A (max.)   | 1L/2L: 4 A (max.)         |                                |
| Supply (module)  |  |                           |                                |
| Connection technology: supply  | 2 x L-coded M12; 5-pole                                      |                           |                                |
| Supply voltage   | 24 VDC (18 ... 31.2 V); 1L/2L                                |                           |                                |
| Current consumption (max.)   | 16000 mA   |                           |                                |
| Current consumption (note)   | per supply line; overload- and short-circuit-protected       |                           |                                |
| Reverse voltage protection   | Yes  |                           |                                |
| Ambient temperature (operation)  | -25 ... +70 °C   |                           |                                |
| Approvals  |  |                           |                                |
| Approvals (pending)  | CE; FCC/ISED   |                           |                                |
|  | OrdLoc   |                           |                                |
| For data sheet and additional information, see:  | wago.com/765-1103/100-000                                    | wago.com/765-1203/100-000 | wago.com/765-1503/100-000      |
| Accessories  |  |                           |                                |
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701                   | 206-701                        |
| M12 protective cap; for unused sockets   | 756-8102   | 756-8102                  | 756-8102                       |
| M12 protective cap; for unused plugs   | 756-8103   | 756-8103                  | 756-8103                       |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110   | 2009-110                  | 2009-110                       |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115   | 2009-115                  | 2009-115                       |

# Fieldbus module ► 16-Channel Digital Input/Output; I/O System Field; 24 VDC; 8 x M12 connector



765-1102/100-000



|                  |  |                     |                     |
|------------------|--|---------------------|---------------------|
| Item description | 16-Channel Digital Input/Output; I/O System Field; 24 VDC; 8 x M12 connector |                     |                     |
| Version          | PROFINET slave   | EtherCAT® slave     | EtherNet/IP™ slave  |
| Item no.         | 765-1102/100-000   | 765-1202/100-000    | 765-1502/100-000    |
| Order Text       | 16DIO FLD PN DC 24V  | 16DIO FLD EC DC 24V | 16DIO FLD EI DC 24V |

|   |  |                           |                                |
|---|--|---------------------------|--------------------------------|
| Technical data                                  |  |                           |                                |
| Fieldbus  |  |                           |                                |
| Communication                                   | PROFINET; PROFINET IO device; 2-port switch, LLDP, MRP, SNMP | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus   | 2 x D-coded M12; 4-pole                                      |                           |                                |
| Interface standard                              | 10BASE-T/100BASE-TX; potential-free                          |                           |                                |
| Autonegotiation; autocrossover                  | Yes  |                           |                                |
| Device functions                                | Input filter; Output current; Temperature                    |                           |                                |
| Parameter                                       | Undervoltage; overcurrent; overload; overtemperature         |                           |                                |
| Diagnostics                                     | Bluetooth®; OPC UA server                                    |                           |                                |
| Device functions                                | Android/iOS app; Web server                                  |                           |                                |
| Visualization                                   |  |                           |                                |
| Digital inputs/outputs                          |  |                           |                                |
| Number of digital inputs                        | 16   |                           |                                |
| Number of digital outputs                       | 16   |                           |                                |
| Connection technology: inputs/outputs           | 8 x A-coded M12; 5-pole                                      |                           |                                |
| Signal type (voltage)                           | 24 VDC   |                           |                                |
| Input characteristic                            | high-side switching  |                           |                                |
| Input filter                                    | 0.2 ... 20 ms  |                           |                                |
| Input characteristic                            | Type 3, per IEC 61131-2                                      |                           |                                |
| Output current (per channel)                    | 2 A (typ.) for DO  |                           |                                |
| Supply current per port                         | 1L/2L: 4 A (max.)  |                           |                                |
| Supply (module)                                 |  |                           |                                |
| Connection technology: supply                   | 2 x L-coded M12; 5-pole                                      |                           |                                |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L/2L                                |                           |                                |
| Current consumption (max.)                      | 16000 mA   |                           |                                |
| Current consumption (note)                      | per supply line; overload- and short-circuit-protected       |                           |                                |
| Reverse voltage protection                      | Yes  |                           |                                |
| Ambient temperature (operation)                 | -25 ... +70 °C   |                           |                                |
| Approvals                                       | CE; FCC/ ISED  |                           |                                |
| Approvals (pending)                             | OrdLoc   |                           |                                |
| For data sheet and additional information, see: | wago.com/765-1102/100-000                                    | wago.com/765-1202/100-000 | wago.com/765-1502/100-000      |

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

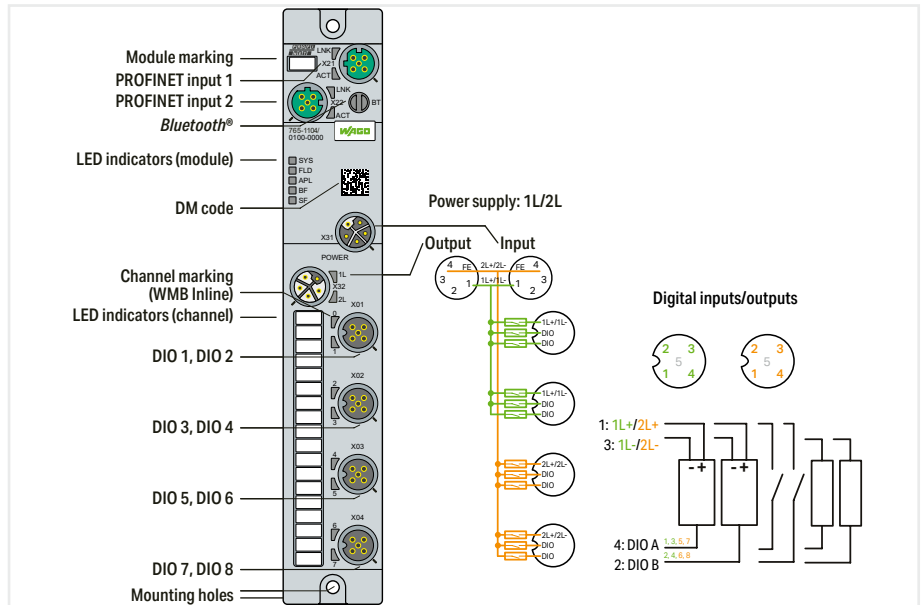
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# Fieldbus module ▶ 8-Channel Digital Input/Output; I/O System Field; 24 VDC; 4 x M12 connector



765-1104/100-000



|                  |   |                    |                    |
|------------------|---|--------------------|--------------------|
| Item description | 8-Channel Digital Input/Output; I/O System Field; 24 VDC; 4 x M12 connector |                    |                    |
| Version          | PROFINET slave  | EtherCAT® slave    | EtherNet/IP™ slave |
| Item no.         | 765-1104/100-000  | 765-1204/100-000   | 765-1504/100-000   |
| Order Text       | 8DIO FLD PN DC 24V  | 8DIO FLD EC DC 24V | 8DIO FLD EI DC 24V |

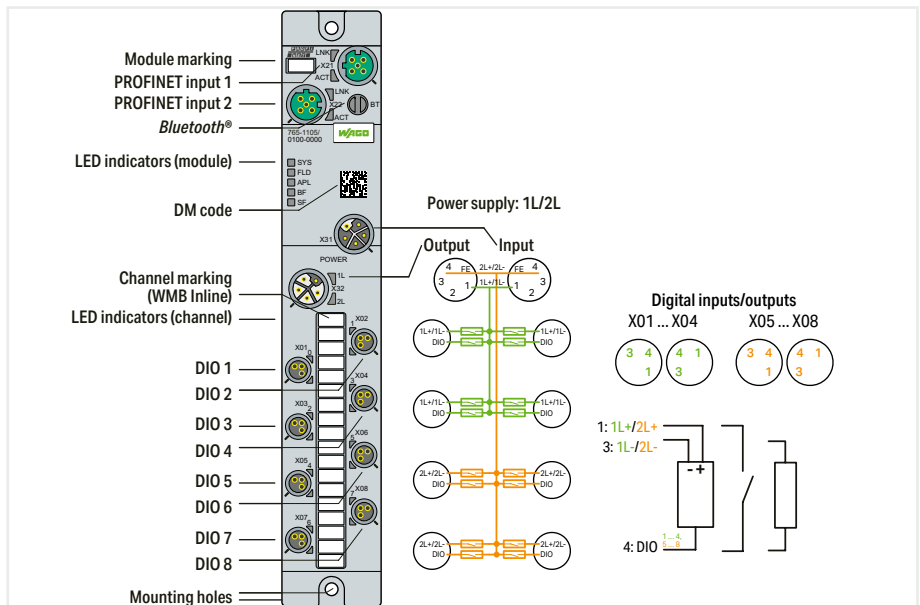
| Technical data                                  |   |                           |                                |
|---|---|---------------------------|--------------------------------|
| Fieldbus  |   |                           |                                |
| Communication                                   | PROFINET; PROFINET IO device; 2-port switch, LLD, MRP, SNMP | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus   | 2 x D-coded M12; 4-pole                                     |                           |                                |
| Interface standard                              | 10BASE-T/100BASE-TX; potential-free                         |                           |                                |
| Autonegotiation; autocrossover                  | Yes   |                           |                                |
| Device functions                                | Input filter; Output current; Temperature                   |                           |                                |
| Parameter                                       | Undervoltage; overcurrent; overload; overtemperature        |                           |                                |
| Diagnostics                                     | Bluetooth®; OPC UA server                                   |                           |                                |
| Device functions                                | Android/iOS app; Web server                                 |                           |                                |
| Visualization                                   |   |                           |                                |
| Digital inputs/outputs                          |   |                           |                                |
| Number of digital inputs                        | 8   |                           |                                |
| Number of digital outputs                       | 8   |                           |                                |
| Connection technology: inputs/outputs           | 4 x A-coded M12; 5-pole                                     |                           |                                |
| Signal type (voltage)                           | 24 VDC  |                           |                                |
| Input characteristic                            | high-side switching   |                           |                                |
| Input filter                                    | 0.2 ... 20 ms   |                           |                                |
| Input characteristic                            | Type 3, per IEC 61131-2                                     |                           |                                |
| Output current (per channel)                    | 2 A (typ.) for DO   |                           |                                |
| Supply current per port                         | 1L/2L: 4 A (max.)   |                           |                                |
| Supply (module)                                 |   |                           |                                |
| Connection technology: supply                   | 2 x L-coded M12; 5-pole                                     |                           |                                |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L/2L                               |                           |                                |
| Current consumption (max.)                      | 16000 mA  |                           |                                |
| Current consumption (note)                      | per supply line; overload- and short-circuit-protected      |                           |                                |
| Reverse voltage protection                      | Yes   |                           |                                |
| Ambient temperature (operation)                 | -25 ... +70 °C  |                           |                                |
| Approvals                                       | CE; FCC/ ISED   |                           |                                |
| Approvals (pending)                             | OrdLoc  |                           |                                |
| For data sheet and additional information, see: | wago.com/765-1104/100-000                                   | wago.com/765-1204/100-000 | wago.com/765-1504/100-000      |

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

# Fieldbus module ► 8-Channel Digital Input/Output; I/O System Field; 24 VDC; 8 x M8 connector



765-1105/100-000



|                  |  |                    |                    |
|------------------|--|--------------------|--------------------|
| Item description | 8-Channel Digital Input/Output; I/O System Field; 24 VDC; 8 x M8 connector |                    |                    |
| Version          | PROFINET slave   | EtherCAT® slave    | EtherNet/IP™ slave |
| Item no.         | 765-1105/100-000   | 765-1205/100-000   | 765-1505/100-000   |
| Order Text       | 8DIO FLD PN DC 24V   | 8DIO FLD EC DC 24V | 8DIO FLD EI DC 24V |

|   |  |                           |                                |
|---|--|---------------------------|--------------------------------|
| Technical data                                  |  |                           |                                |
| Fieldbus  |  |                           |                                |
| Communication                                   | PROFINET; PROFINET IO device; 2-port switch, LLDP, MRP, SNMP | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus   | 2 x D-coded M12; 4-pole                                      |                           |                                |
| Interface standard                              | 10BASE-T/100BASE-TX; potential-free                          |                           |                                |
| Autonegotiation; autocrossover                  | Yes  |                           |                                |
| Device functions                                |  |                           |                                |
| Parameter                                       | Input filter; Output current; Temperature                    |                           |                                |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature         |                           |                                |
| Device functions                                | Bluetooth®; OPC UA server                                    |                           |                                |
| Visualization                                   | Android/iOS app; Web server                                  |                           |                                |
| Digital inputs/outputs                          |  |                           |                                |
| Number of digital inputs                        | 8  |                           |                                |
| Number of digital outputs                       | 8  |                           |                                |
| Connection technology: inputs/outputs           | 8 x M8; 3-pole   |                           |                                |
| Signal type (voltage)                           | 24 VDC   |                           |                                |
| Input characteristic                            | high-side switching  |                           |                                |
| Input filter                                    | 0.2 ... 20 ms  |                           |                                |
| Input characteristic                            | Type 3, per IEC 61131-2                                      |                           |                                |
| Output current (per channel)                    | 2 A (typ.) for DO  |                           |                                |
| Supply current per port                         | 1L/2L: 4 A (max.)  |                           |                                |
| Supply (module)                                 |  |                           |                                |
| Connection technology: supply                   | 2 x L-coded M12; 5-pole                                      |                           |                                |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L/2L                                |                           |                                |
| Current consumption (max.)                      | 16000 mA   |                           |                                |
| Current consumption (note)                      | per supply line; overload- and short-circuit-protected       |                           |                                |
| Reverse voltage protection                      | Yes  |                           |                                |
| Ambient temperature (operation)                 | -25 ... +70 °C   |                           |                                |
| Approvals                                       | CE; FCC/ISED   |                           |                                |
| Approvals (pending)                             | Ⓢ- OrdLoc  |                           |                                |
| For data sheet and additional information, see: | wago.com/765-1105/100-000                                    | wago.com/765-1205/100-000 | wago.com/765-1505/100-000      |

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M8 protective cap; for unused sockets  | 756-8101 | 756-8101 | 756-8101 |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

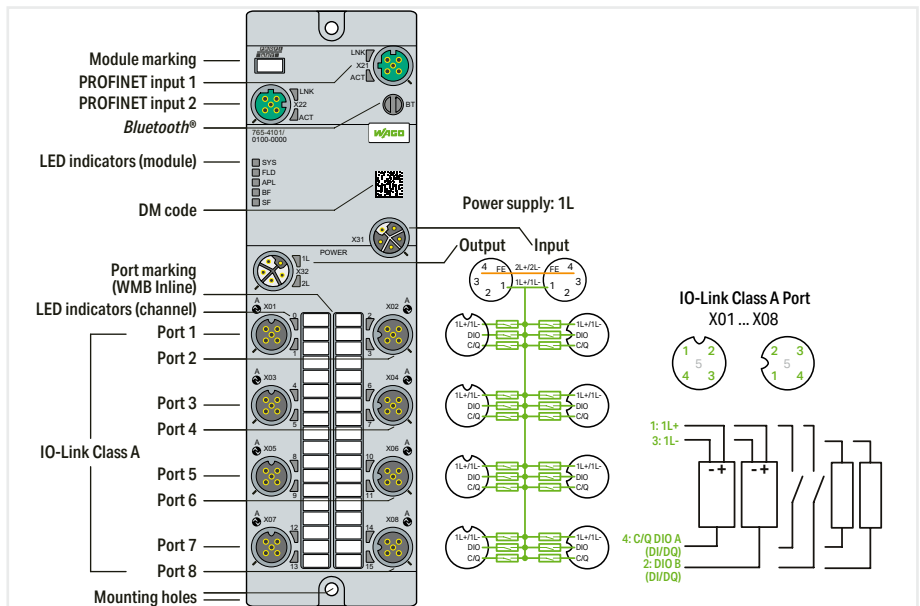
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# IO-Link master ▶ 8-Port IO-Link Master Class A; I/O System Field; 24 VDC / 2.0 A; 8 x M12 Connector



765-4101/100-000



|                  |   |                                |                                |
|------------------|---|--------------------------------|--------------------------------|
| Item description | <b>8-Port IO-Link Master Class A; I/O System Field; 24 VDC / 2.0 A; 8 x M12 Connector</b> |                                |                                |
| Version          | <b>PROFINET</b>   | <b>EtherCAT®</b>               | <b>EtherNet/IP™</b>            |
| Item no.         | 765-4101/100-000  | 765-4201/100-000               | 765-4501/100-000               |
| Order Text       | 8PORT IOL-A FLD PN DC 24V 2.0A  | 8PORT IOL-A FLD EC DC 24V 2.0A | 8PORT IOL-A FLD EI DC 24V 2.0A |

|   |  |                          |                                |
|---|--|--------------------------|--------------------------------|
| Technical data                                |  |                          |                                |
| Fieldbus                                      |  |                          |                                |
| Communication                                 | PROFINET; PROFINET IO device; 2-port switch, LLD, MRP, SNMP  | EtherCAT®; AoE, EoE, FoE | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus | 2 x D-coded M12; 4-pole  |                          |                                |
| Interface standard                            | 10BASE-T/100BASE-TX; potential-free  |                          |                                |
| Autonegotiation; autocrossover                | Yes  |                          |                                |
| Device functions                              | Input filter; Output current; Temperature  |                          |                                |
| Parameter                                     | Undervoltage; overcurrent; overload; overtemperature   |                          |                                |
| Diagnostics                                   | Bluetooth®; OPC UA server  |                          |                                |
| Device functions                              | Android/iOS app; Web server  |                          |                                |
| Visualization                                 |  |                          |                                |
| IO-Link master                                |  |                          |                                |
| IO-Link master classification                 | Class A; V1.1 specification  |                          |                                |
| Port mode                                     | IO-Link: autoconfig, manual, tool-based; DI; DO  |                          |                                |
| Cycle time                                    | 400 µs (min.)  |                          |                                |
| Operating mode                                | IO-Link master, DI or DO (adjustable for pin 4 per port); DI or DO (adjustable for pin 2 per port) |                          |                                |
| IO-Link ports                                 |  |                          |                                |
| Number of digital inputs                      | 16   |                          |                                |
| Number of digital outputs                     | 16   |                          |                                |
| Connection technology: inputs/outputs         | 8 x A-coded M12; 5-pole  |                          |                                |
| Signal type (voltage)                         | 24 VDC   |                          |                                |
| Input characteristic                          | high-side switching  |                          |                                |
| Input filter                                  | 0.2 ... 20 ms  |                          |                                |
| Input characteristic                          | Type 3, per IEC 61131-2  |                          |                                |
| Output current (per channel)                  | 2 A (typ.) for DO  |                          |                                |
| Supply current per port                       | 1L: 1 A for IO-Link; 4 A (max.) for DIO  |                          |                                |
| Supply (module)                               |  |                          |                                |
| Connection technology: supply                 | 2 x L-coded M12; 5-pole  |                          |                                |
| Supply voltage                                | 24 VDC (18 ... 31.2 V); 1L   |                          |                                |
| Current consumption (max.)                    | 16000 mA   |                          |                                |
| Current consumption (note)                    | per supply line; overload- and short-circuit-protected   |                          |                                |
| Reverse voltage protection                    | Yes  |                          |                                |
| Ambient temperature (operation)               | -25 ... +70 °C   |                          |                                |
| Approvals                                     | CE; FCC/ISED   |                          |                                |
| Approvals (pending)                           | OrdLoc   |                          |                                |

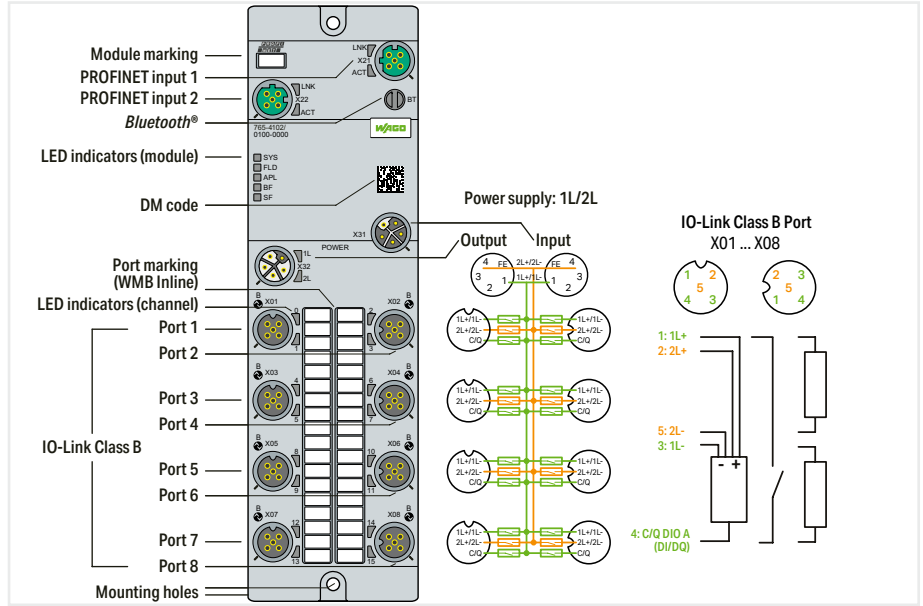
For data sheet and additional information, see: [wago.com/765-4101/100-000](http://wago.com/765-4101/100-000)    [wago.com/765-4201/100-000](http://wago.com/765-4201/100-000)    [wago.com/765-4501/100-000](http://wago.com/765-4501/100-000)

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable  | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

# IO-Link master ▶ 8-Port IO-Link Master Class B; I/O System Field; 24 VDC / 2.0 A; 8 x M12 Connector



765-4102/100-000



|                  |  |                                |                                |
|------------------|--|--------------------------------|--------------------------------|
| Item description | 8-Port IO-Link Master Class B; I/O System Field; 24 VDC / 2.0 A; 8 x M12 Connector |                                |                                |
| Version          | PROFINET   | EtherCAT®                      | EtherNet/IP™                   |
| Item no.         | 765-4102/100-000   | 765-4202/100-000               | 765-4502/100-000               |
| Order Text       | 8PORT IOL-B FLD PN DC 24V 2.0A   | 8PORT IOL-B FLD EC DC 24V 2.0A | 8PORT IOL-B FLD EI DC 24V 2.0A |

|   |  |   |                                |
|---|--|---|--------------------------------|
| Technical data                                |  |   |                                |
| Fieldbus                                      |  |   |                                |
| Communication                                 | PROFINET; PROFINET IO device; 2-port switch, LLD, MRP, SNMP  | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus | 2 x D-coded M12; 4-pole  |   |                                |
| Interface standard                            | 10BASE-T/100BASE-TX; potential-free  |   |                                |
| Autonegotiation; autocrossover                | Yes  |   |                                |
| Device functions                              | Input filter; Output current; Temperature  |   |                                |
| Parameter                                     | Undervoltage; overcurrent; overload; overtemperature   |   |                                |
| Diagnostics                                   | Bluetooth®; OPC UA server  |   |                                |
| Device functions                              | Android/iOS app; Web server  |   |                                |
| Visualization                                 |  |   |                                |
| IO-Link master                                |  |   |                                |
| IO-Link master classification                 | Class B; V1.1 specification  |   |                                |
| Port mode                                     | IO-Link: autoconfig, manual, tool-based; DI; DO  |   |                                |
| Cycle time                                    | 400 µs (min.)  |   |                                |
| Operating mode                                | IO-Link master, DI or DO (adjustable for pin 4 per port); Supply voltage 2L (fixed for pin 2 per port) |   |                                |
| IO-Link ports                                 |  |   |                                |
| Number of digital inputs                      | 8  |   |                                |
| Number of digital outputs                     | 8  |   |                                |
| Connection technology: inputs/outputs         | 8 x A-coded M12; 5-pole  |   |                                |
| Signal type (voltage)                         | 24 VDC   |   |                                |
| Input characteristic                          | high-side switching  |   |                                |
| Input filter                                  | 0.2 ... 20 ms  |   |                                |
| Input characteristic                          | Type 3, per IEC 61131-2  |   |                                |
| Output current (per channel)                  | 2 A (typ.) for DO  |   |                                |
| Supply current per port                       | 1L (pin 1): 1 A for IO-Link; 4 A (max.) for DIO; 2L (pin 2): 4 A (max.)                                | 1L (Pin 1): 1 A for IO-Link; 4 A (max.) for DIO; 2L (Pin 2): 4 A (max.) |                                |
| Supply (module)                               |  |   |                                |
| Connection technology: supply                 | 2 x L-coded M12; 5-pole  |   |                                |
| Supply voltage                                | 24 VDC (18 ... 31.2 V); 1L/2L  |   |                                |
| Current consumption (max.)                    | 16000 mA   |   |                                |
| Current consumption (note)                    | per supply line; overload- and short-circuit-protected   |   |                                |
| Reverse voltage protection                    | Yes  |   |                                |
| Ambient temperature (operation)               | -25 ... +70 °C   |   |                                |
| Approvals                                     | CE; FCC / ISED   |   |                                |
| Approvals (pending)                           | OrdLoc   |   |                                |

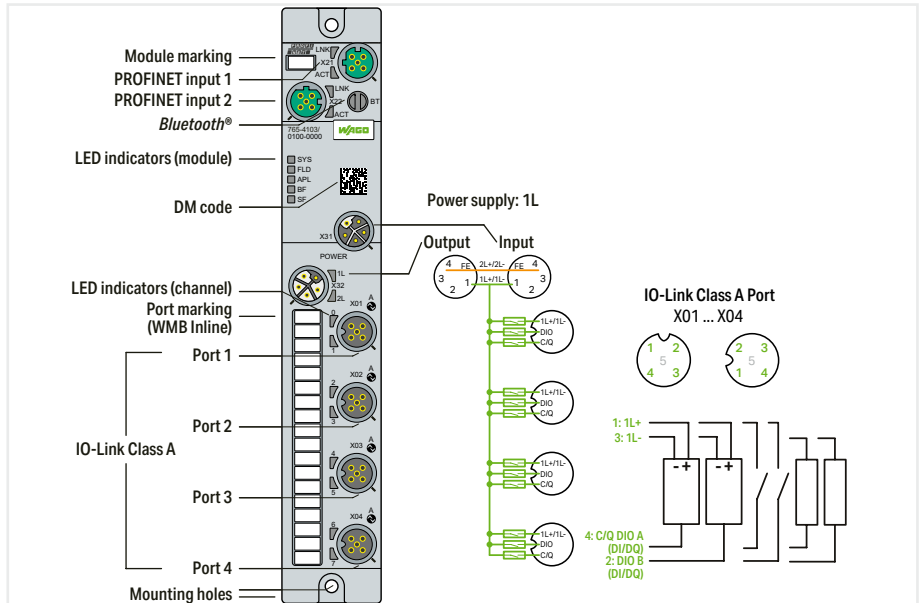
For data sheet and additional information, see: [wago.com/765-4102/100-000](http://wago.com/765-4102/100-000) | [wago.com/765-4202/100-000](http://wago.com/765-4202/100-000) | [wago.com/765-4502/100-000](http://wago.com/765-4502/100-000)

|  |          |          |          |
|--|----------|----------|----------|
| Accessories  | Item no. | Item no. | Item no. |
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable  | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

# IO-Link master ▶ 4-Port IO-Link Master Class A; I/O System Field; 24 VDC / 2.0 A; 4 x M12 Connector



765-4103/100-000



|                  |  |                                |                                |
|------------------|--|--------------------------------|--------------------------------|
| Item description | 4-Port IO-Link Master Class A; I/O System Field; 24 VDC / 2.0 A; 4 x M12 Connector |                                |                                |
| Version          | PROFINET   | EtherCAT®                      | EtherNet/IP™                   |
| Item no.         | 765-4103/100-000   | 765-4203/100-000               | 765-4503/100-000               |
| Order Text       | 4PORT IOL-A FLD PN DC 24V 2.0A   | 4PORT IOL-A FLD EC DC 24V 2.0A | 4PORT IOL-A FLD EI DC 24V 2.0A |

|   |  |                          |                                |
|---|--|--------------------------|--------------------------------|
| Technical data                                |  |                          |                                |
| Fieldbus                                      |  |                          |                                |
| Communication                                 | PROFINET; PROFINET IO device; 2-port switch, LLLDP, MRP, SNMP                                      | EtherCAT®; AoE, EoE, FoE | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus | 2 x D-coded M12; 4-pole  |                          |                                |
| Interface standard                            | 10BASE-T/100BASE-TX; potential-free  |                          |                                |
| Autonegotiation; autocrossover                | Yes  |                          |                                |
| Device functions                              | Input filter; Output current; Temperature  |                          |                                |
| Parameter                                     | Undervoltage; overcurrent; overload; overtemperature   |                          |                                |
| Diagnostics                                   | Bluetooth®; OPC UA server  |                          |                                |
| Device functions                              | Android/iOS app; Web server  |                          |                                |
| Visualization                                 |  |                          |                                |
| IO-Link master                                |  |                          |                                |
| IO-Link master classification                 | Class A; V1.1 specification  |                          |                                |
| Port mode                                     | IO-Link: autoconfig, manual, tool-based; DI; DO  |                          |                                |
| Cycle time                                    | 400 µs (min.)  |                          |                                |
| Operating mode                                | IO-Link master, DI or DO (adjustable for pin 4 per port); DI or DO (adjustable for pin 2 per port) |                          |                                |
| IO-Link ports                                 |  |                          |                                |
| Number of digital inputs                      | 8  |                          |                                |
| Number of digital outputs                     | 8  |                          |                                |
| Connection technology: inputs/outputs         | 4 x A-coded M12; 5-pole  |                          |                                |
| Signal type (voltage)                         | 24 VDC   |                          |                                |
| Input characteristic                          | high-side switching  |                          |                                |
| Input filter                                  | 0.2 ... 20 ms  |                          |                                |
| Input characteristic                          | Type 3, per IEC 61131-2  |                          |                                |
| Output current (per channel)                  | 2 A (typ.) for DO  |                          |                                |
| Supply current per port                       | 1L: 1 A for IO-Link; 4 A (max.) for DIO  |                          |                                |
| Supply (module)                               |  |                          |                                |
| Connection technology: supply                 | 2 x L-coded M12; 5-pole  |                          |                                |
| Supply voltage                                | 24 VDC (18 ... 31.2 V); 1L   |                          |                                |
| Current consumption (max.)                    | 16000 mA   |                          |                                |
| Current consumption (note)                    | per supply line; overload- and short-circuit-protected   |                          |                                |
| Reverse voltage protection                    | Yes  |                          |                                |
| Ambient temperature (operation)               | -25 ... +70 °C   |                          |                                |
| Approvals                                     | CE; FCC/ISED   |                          |                                |
| Approvals (pending)                           | OrdLoc   |                          |                                |

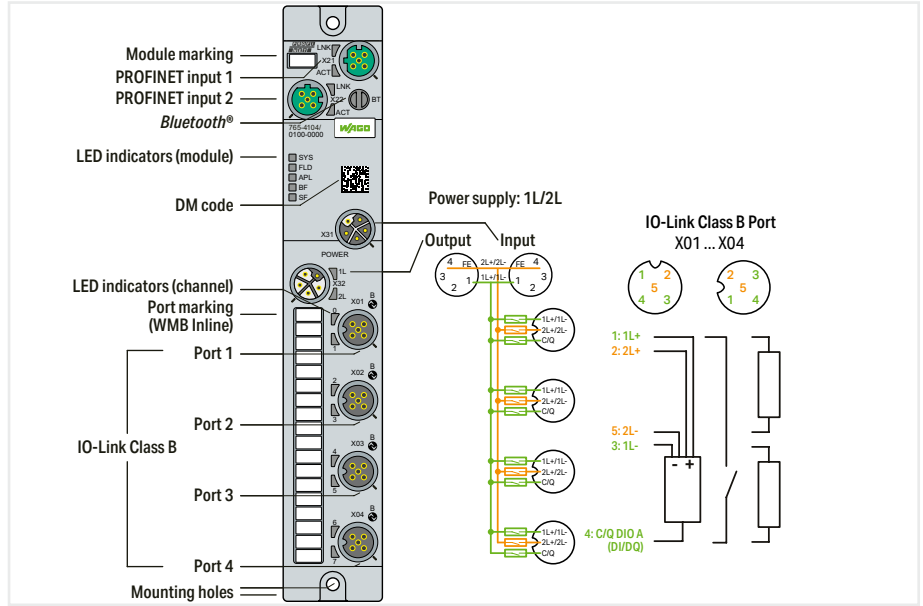
For data sheet and additional information, see: [wago.com/765-4103/100-000](http://wago.com/765-4103/100-000)    [wago.com/765-4203/100-000](http://wago.com/765-4203/100-000)    [wago.com/765-4503/100-000](http://wago.com/765-4503/100-000)

| Accessories  | Item no. | Item no. | Item no. |
|--|----------|----------|----------|
| Torque wrench M8 and M12; Assembly kit   | 206-701  | 206-701  | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 | 756-8102 | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 | 756-8103 | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable  | 2009-110 | 2009-110 | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 | 2009-115 | 2009-115 |

# IO-Link master ▶ 4-Port IO-Link Master Class B; I/O System Field; 24 VDC / 2.0 A; 4 x M12 Connector



765-4104/100-000



|                  |  |                                |                                |
|------------------|--|--------------------------------|--------------------------------|
| Item description | 4-Port IO-Link Master Class B; I/O System Field; 24 VDC / 2.0 A; 4 x M12 Connector |                                |                                |
| Version          | PROFINET   | EtherCAT®                      | EtherNet/IP™                   |
| Item no.         | 765-4104/100-000   | 765-4204/100-000               | 765-4504/100-000               |
| Order Text       | 4PORT IOL-B FLD PN DC 24V 2.0A   | 4PORT IOL-B FLD EC DC 24V 2.0A | 4PORT IOL-B FLD EI DC 24V 2.0A |

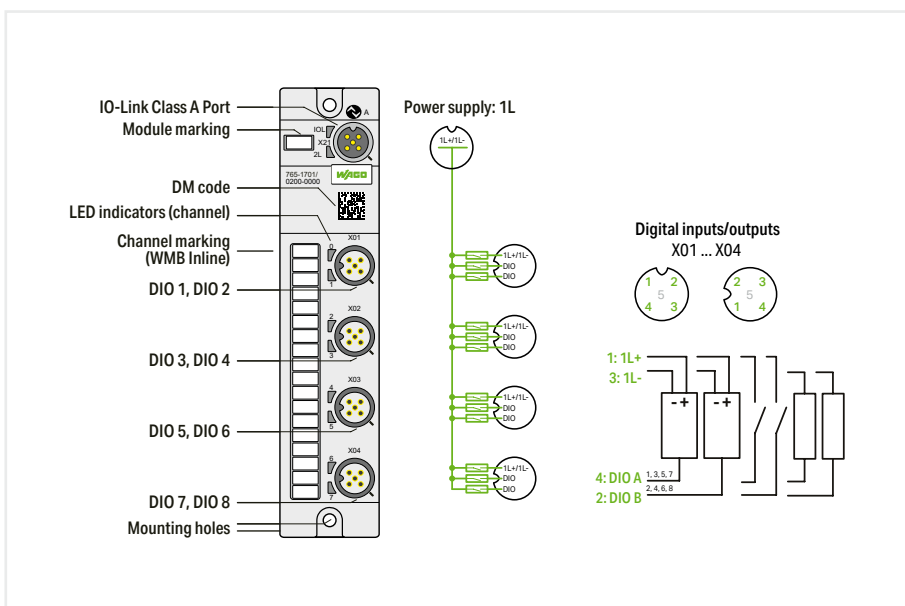
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|---|--|---|--------------------------------|
| Technical data                                |  |   |                                |
| Fieldbus                                      |  |   |                                |
| Communication                                 | PROFINET; PROFINET IO device; 2-port switch, LLDP, MRP, SNMP   | EtherCAT®; AoE, EoE, FoE  | EtherNet/IP™; BOOTP, DHCP, DLR |
| Connection technology: communication/fieldbus | 2 x D-coded M12; 4-pole  |   |                                |
| Interface standard                            | 10BASE-T/100BASE-TX; potential-free  |   |                                |
| Autonegotiation; autocrossover                | Yes  |   |                                |
| Device functions                              | Input filter; Output current; Temperature  |   |                                |
| Parameter                                     | Undervoltage; overcurrent; overload; overtemperature   |   |                                |
| Diagnostics                                   | Bluetooth®; OPC UA server  |   |                                |
| Device functions                              | Android/iOS app; Web server  |   |                                |
| Visualization                                 |  |   |                                |
| IO-Link master                                |  |   |                                |
| IO-Link master classification                 | Class B; V1.1 specification  |   |                                |
| Port mode                                     | IO-Link: autoconfig, manual, tool-based; DI; DO  |   |                                |
| Cycle time                                    | 400 µs (min.)  |   |                                |
| Operating mode                                | IO-Link master, DI or DO (adjustable for pin 4 per port); Supply voltage 2L (fixed for pin 2 per port) |   |                                |
| IO-Link ports                                 |  |   |                                |
| Number of digital inputs                      | 4  |   |                                |
| Number of digital outputs                     | 4  |   |                                |
| Connection technology: inputs/outputs         | 4 x A-coded M12; 5-pole  |   |                                |
| Signal type (voltage)                         | 24 VDC   |   |                                |
| Input characteristic                          | high-side switching  |   |                                |
| Input filter                                  | 0.2 ... 20 ms  |   |                                |
| Input characteristic                          | Type 3, per IEC 61131-2  |   |                                |
| Output current (per channel)                  | 2 A (typ.) for DO  |   |                                |
| Supply current per port                       | 1L (pin 1): 1 A for IO-Link; 4 A (max.) for DIO; 2L (pin 2): 4 A (max.)                                | 1L (Pin 1): 1 A for IO-Link; 4 A (max.) for DIO; 2L (Pin 2): 4 A (max.) |                                |
| Supply (module)                               |  |   |                                |
| Connection technology: supply                 | 2 x L-coded M12; 5-pole  |   |                                |
| Supply voltage                                | 24 VDC (18 ... 31.2 V); 1L/2L  |   |                                |
| Current consumption (max.)                    | 16000 mA   |   |                                |
| Current consumption (note)                    | per supply line; overload- and short-circuit-protected   |   |                                |
| Reverse voltage protection                    | Yes  |   |                                |
| Ambient temperature (operation)               | -25 ... +70 °C   |   |                                |
| Approvals                                     | CE; FCC/ISED   |   |                                |
| Approvals (pending)                           | OrdLoc   |   |                                |

|  |                           |                           |                           |
|--|---------------------------|---------------------------|---------------------------|
| For data sheet and additional information, see:  | wago.com/765-4104/100-000 | wago.com/765-4204/100-000 | wago.com/765-4504/100-000 |
| <b>Accessories</b>   | <b>Item no.</b>           | <b>Item no.</b>           | <b>Item no.</b>           |
| Torque wrench M8 and M12; Assembly kit   | 206-701                   | 206-701                   | 206-701                   |
| M12 protective cap; for unused sockets   | 756-8102                  | 756-8102                  | 756-8102                  |
| M12 protective cap; for unused plugs   | 756-8103                  | 756-8103                  | 756-8103                  |
| Marking strips; for Smart Printer; on reel; not stretchable  | 2009-110                  | 2009-110                  | 2009-110                  |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115                  | 2009-115                  | 2009-115                  |

# IO-Link hub ▶ 8-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 4 x M12 Connector



765-1701/200-000



|                  |  |
|------------------|--|
| Item description | 8-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 4 x M12 Connector |
| Version          | IO-Link hub (class A)  |
| Item no.         | 765-1701/200-000   |
| Order Text       | 8DIO FLD IOL-A HUB DC 24V 2.0A   |

|   |  |
|---|--|
| Technical data                                  |  |
| IO-Link   |  |
| Communication                                   | IO-Link slave (class A)                              |
| Connection technology: communication/fieldbus   | 1 x A-coded M12; 5-pole                              |
| Device functions                                |  |
| Parameter                                       | Input filter; Output current; Temperature            |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs                          |  |
| Number of digital inputs                        | 8  |
| Number of digital outputs                       | 8  |
| Connection technology: inputs/outputs           | 4 x A-coded M12; 5-pole                              |
| Signal type (voltage)                           | 24 VDC   |
| Input characteristic                            | high-side switching                                  |
| Input filter                                    | 0.2 ... 20 ms  |
| Input characteristic                            | Type 3, per IEC 61131-2                              |
| Output current (per channel)                    | 2 A  |
| Supply  |  |
| Connection technology: supply                   | 1 x A-coded M12; 5-pole; via IO-Link port (1L)       |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L                           |
| Current consumption (max.)                      | 4000 mA  |
| Current consumption (note)                      | 1L: 0.2 A + load current                             |
| Reverse voltage protection                      | Yes  |
| Ambient temperature (operation)                 | -25 ... +70 °C                                       |
| Approvals                                       | CE; FCC/ISED   |
| Approvals (pending)                             | OrdLoc   |
| For data sheet and additional information, see: | wago.com/765-1701/200-000                            |

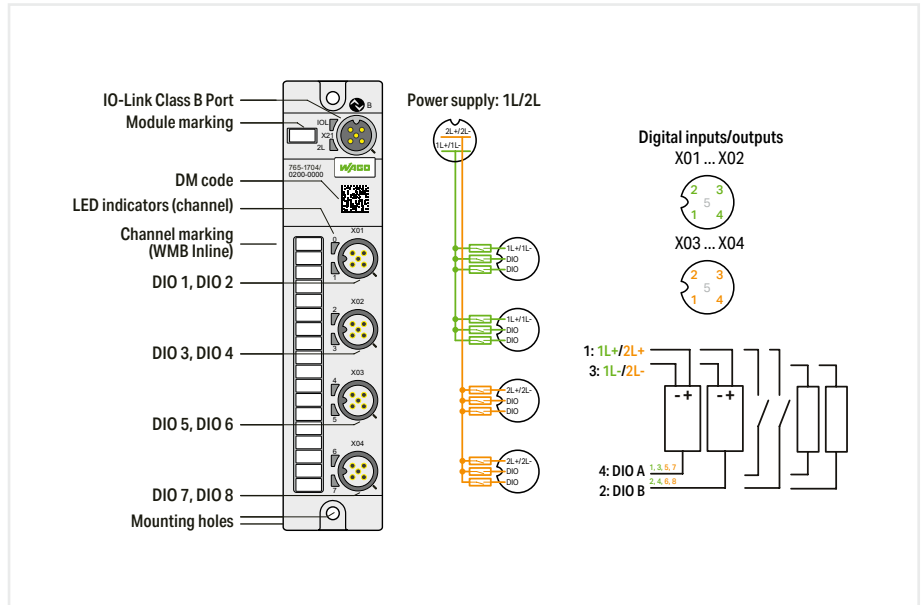
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| Accessories  | Item no. |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 |



# IO-Link hub ▶ 8-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 4 x M12 Connector



765-1704/200-000



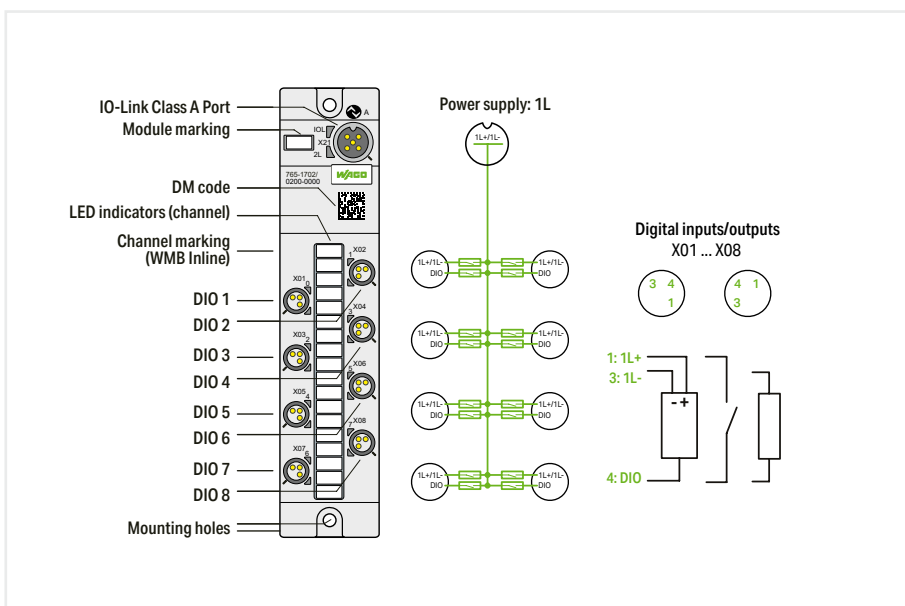
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| Item description | 8-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 4 x M12 Connector |
| Version          | IO-Link hub (class B)  |
| Item no.         | 765-1704/200-000   |
| Order Text       | 8DIO FLD IOL-B HUB DC 24V 2.0A   |

|  |  |
|--|--|
| Technical data   |  |
| IO-Link  |  |
| Communication  | IO-Link slave (class B)                              |
| Connection technology: communication/fieldbus  | 1 x A-coded M12; 5-pole                              |
| Device functions   |  |
| Parameter  | Input filter; Output current; Temperature            |
| Diagnostics  | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs   |  |
| Number of digital inputs   | 8  |
| Number of digital outputs  | 8  |
| Connection technology: inputs/outputs  | 4 x A-coded M12; 5-pole                              |
| Signal type (voltage)  | 24 VDC   |
| Input characteristic   | high-side switching                                  |
| Input filter   | 0.2 ... 20 ms  |
| Input characteristic   | Type 3, per IEC 61131-2                              |
| Output current (per channel)   | 2 A  |
| Supply   |  |
| Connection technology: supply  | 1 x A-coded M12; 5-pole; via IO-Link port (1L/2L)    |
| Supply voltage   | 24 VDC (18 ... 31.2 V); 1L/2L                        |
| Current consumption (max.)   | 4000 mA  |
| Current consumption (note)   | 1L: 0.2 A; 2L: 0.1 A; + load current                 |
| Reverse voltage protection   | Yes  |
| Ambient temperature (operation)  | -25 ... +70 °C                                       |
| Approvals  | CE; FCC/ISED   |
| Approvals (pending)  | OrdLoc   |
| For data sheet and additional information, see:  | wago.com/765-1704/200-000                            |
| Accessories  |  |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102   |
| M12 protective cap; for unused plugs   | 756-8103   |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110   |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115   |

# IO-Link hub ▶ 8-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 8 x M8 Connector



765-1702/200-000



|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 8 x M8 Connector |
| Version          | IO-Link hub (class B)   |
| Item no.         | 765-1702/200-000  |
| Order Text       | 8DIO FLD IOL-A HUB DC 24V 2.0A  |

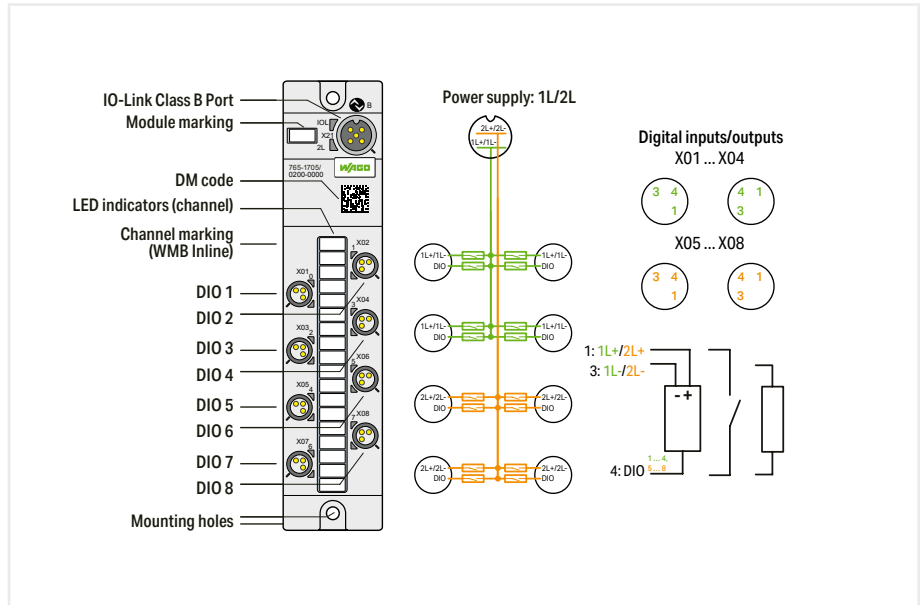
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| Technical data                                  |  |
| IO-Link   |  |
| Communication                                   | IO-Link slave (class A)                              |
| Connection technology: communication/fieldbus   | 1 x A-coded M12; 5-pole                              |
| Device functions                                |  |
| Parameter                                       | Input filter; Output current; Temperature            |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs                          |  |
| Number of digital inputs                        | 8  |
| Number of digital outputs                       | 8  |
| Connection technology: inputs/outputs           | 8 x M8; 3-pole                                       |
| Signal type (voltage)                           | 24 VDC   |
| Input characteristic                            | high-side switching                                  |
| Input filter                                    | 0.2 ... 20 ms  |
| Input characteristic                            | Type 3, per IEC 61131-2                              |
| Output current (per channel)                    | 2 A  |
| Supply  |  |
| Connection technology: supply                   | 1 x A-coded M12; 5-pole; via IO-Link port (1L)       |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L                           |
| Current consumption (max.)                      | 4000 mA  |
| Current consumption (note)                      | 1L: 0.2 A + load current                             |
| Reverse voltage protection                      | Yes  |
| Ambient temperature (operation)                 | -25 ... +70 °C                                       |
| Approvals                                       | CE; FCC/ ISED  |
| Approvals (pending)                             | OrdLoc   |
| For data sheet and additional information, see: | wago.com/765-1702/200-000                            |

|  |          |
|--|----------|
| Accessories  | Item no. |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M8 protective cap; for unused sockets  | 756-8101 |
| M12 protective cap; for unused plugs   | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 |

# IO-Link hub ▶ 8-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 8 x M8 Connector



765-1705/200-000



|                  |   |
|------------------|---|
| Item description | 8-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 8 x M8 Connector |
| Version          | IO-Link hub (class A)   |
| Item no.         | 765-1705/200-000  |
| Order Text       | 8DIO FLD IOL-B HUB DC 24V 2.0A  |

|   |  |
|---|--|
| Technical data                                  |  |
| IO-Link   |  |
| Communication                                   | IO-Link slave (class B)                              |
| Connection technology: communication/fieldbus   | 1 x A-coded M12; 5-pole                              |
| Device functions                                |  |
| Parameter                                       | Input filter; Output current; Temperature            |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs                          |  |
| Number of digital inputs                        | 8  |
| Number of digital outputs                       | 8  |
| Connection technology: inputs/outputs           | 8 x M8; 3-pole                                       |
| Signal type (voltage)                           | 24 VDC   |
| Input characteristic                            | high-side switching                                  |
| Input filter                                    | 0.2 ... 20 ms  |
| Input characteristic                            | Type 3, per IEC 61131-2                              |
| Output current (per channel)                    | 2 A  |
| Supply  |  |
| Connection technology: supply                   | 1 x A-coded M12; 5-pole; via IO-Link port (1L/2L)    |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L/2L                        |
| Current consumption (max.)                      | 4000 mA  |
| Current consumption (note)                      | 1L: 0.2 A; 2L: 0.1 A; + load current                 |
| Reverse voltage protection                      | Yes  |
| Ambient temperature (operation)                 | -25 ... +70 °C                                       |
| Approvals                                       | CE; FCC/ ISED  |
| Approvals (pending)                             | OrdLoc   |
| For data sheet and additional information, see: | wago.com/765-1705/200-000                            |

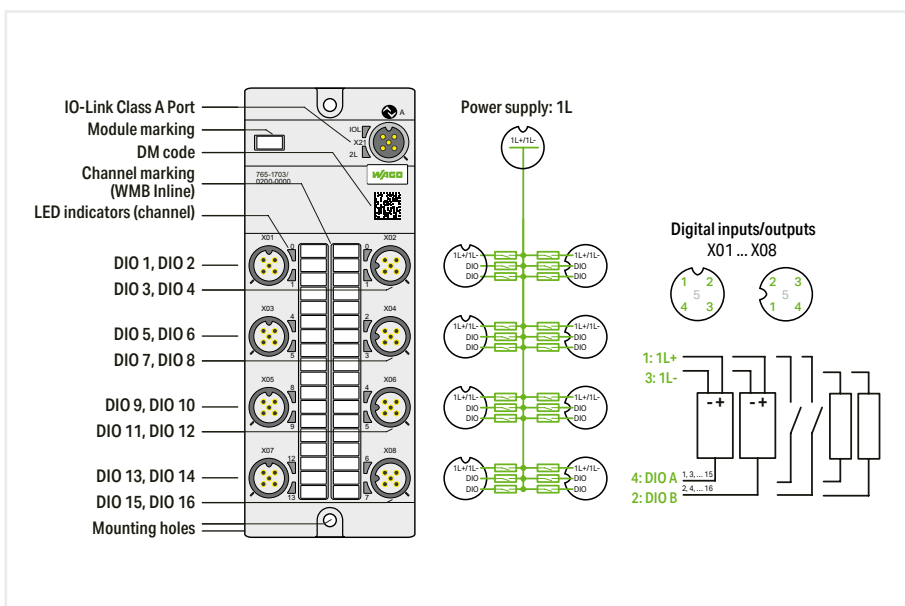
|  |          |
|--|----------|
| Accessories  |          |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M8 protective cap; for unused sockets  | 756-8101 |
| M12 protective cap; for unused plugs   | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 |

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# IO-Link hub ▶ 16-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 8 x M12 Connector



765-1703/200-000



|                  |   |
|------------------|---|
| Item description | 16-Channel Digital Input/Output; I/O System Field; IO-Link Class A Hub; 24 VDC 2.0 A; 8 x M12 Connector |
| Version          | IO-Link hub (class A)   |
| Item no.         | 765-1703/200-000  |
| Order Text       | 16DIO FLD IOL-A HUB DC 24V 2.0A   |

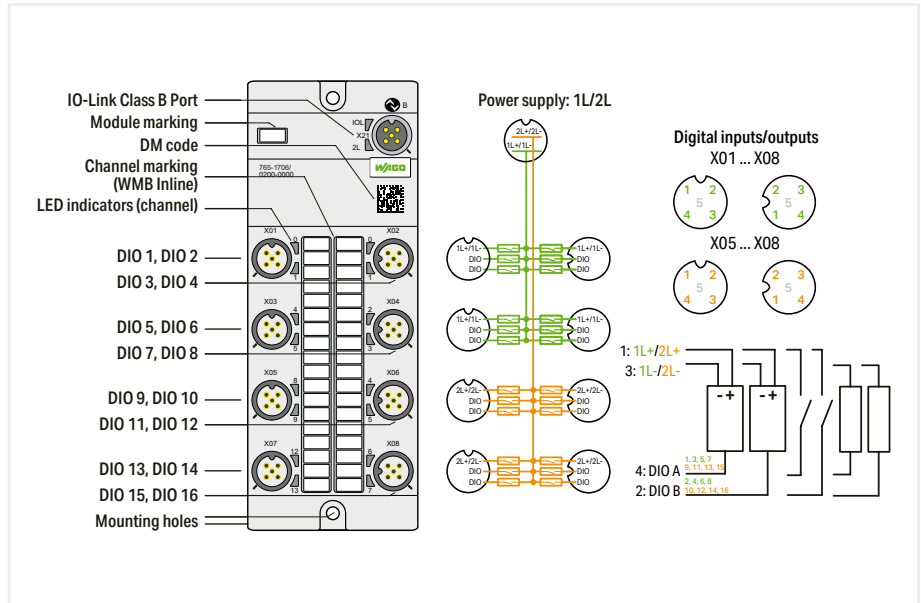
|   |  |
|---|--|
| Technical data                                  |  |
| IO-Link   |  |
| Communication                                   | IO-Link slave (class A)                              |
| Connection technology: communication/fieldbus   | 1 x A-coded M12; 5-pole                              |
| Device functions                                |  |
| Parameter                                       | Input filter; Output current; Temperature            |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs                          |  |
| Number of digital inputs                        | 16   |
| Number of digital outputs                       | 16   |
| Connection technology: inputs/outputs           | 8 x A-coded M12; 5-pole                              |
| Signal type (voltage)                           | 24 VDC   |
| Input characteristic                            | high-side switching                                  |
| Input filter                                    | 0.2 ... 20 ms  |
| Input characteristic                            | Type 3, per IEC 61131-2                              |
| Output current (per channel)                    | 2 A  |
| Supply  |  |
| Connection technology: supply                   | 1 x A-coded M12; 5-pole; via IO-Link port (1L)       |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L                           |
| Current consumption (max.)                      | 4000 mA  |
| Current consumption (note)                      | 1L: 0.2 A + load current                             |
| Reverse voltage protection                      | Yes  |
| Ambient temperature (operation)                 | -25 ... +70 °C                                       |
| Approvals                                       | CE; FCC/ ISED  |
| Approvals (pending)                             | OrdLoc   |
| For data sheet and additional information, see: | wago.com/765-1703/200-000                            |

|  |          |
|--|----------|
| Accessories  |          |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 |

# IO-Link hub ▶ 16-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 8 x M12 Connector



765-1706/200-000

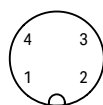


|                  |   |
|------------------|---|
| Item description | 16-Channel Digital Input/Output; I/O System Field; IO-Link Class B Hub; 24 VDC 2.0 A; 8 x M12 Connector |
| Version          | IO-Link hub (class B)   |
| Item no.         | 765-1706/200-000  |
| Order Text       | 16DIO FLD IOL-B HUB DC 24V 2.0A   |

|   |  |
|---|--|
| Technical data                                  |  |
| IO-Link   |  |
| Communication                                   | IO-Link slave (class B)                              |
| Connection technology: communication/fieldbus   | 1 x A-coded M12; 5-pole                              |
| Device functions                                |  |
| Parameter                                       | Input filter; Output current; Temperature            |
| Diagnostics                                     | Undervoltage; overcurrent; overload; overtemperature |
| Digital inputs/outputs                          |  |
| Number of digital inputs                        | 16   |
| Number of digital outputs                       | 16   |
| Connection technology: inputs/outputs           | 8 x A-coded M12; 5-pole                              |
| Signal type (voltage)                           | 24 VDC   |
| Input characteristic                            | high-side switching                                  |
| Input filter                                    | 0.2 ... 20 ms  |
| Input characteristic                            | Type 3, per IEC 61131-2                              |
| Output current (per channel)                    | 2 A  |
| Supply  |  |
| Connection technology: supply                   | 1 x A-coded M12; 5-pole; via IO-Link port (1L/2L)    |
| Supply voltage                                  | 24 VDC (18 ... 31.2 V); 1L/2L                        |
| Current consumption (max.)                      | 4000 mA  |
| Current consumption (note)                      | 1L: 0.2 A; 2L: 0.1 A; + load current                 |
| Reverse voltage protection                      | Yes  |
| Ambient temperature (operation)                 | -25 ... +70 °C                                       |
| Approvals                                       | CE; FCC/ISED   |
| Approvals (pending)                             | OrdLoc   |
| For data sheet and additional information, see: | wago.com/765-1706/200-000                            |

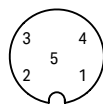
|  |          |
|--|----------|
| Accessories  |          |
| Torque wrench M8 and M12; Assembly kit   | 206-701  |
| M12 protective cap; for unused sockets   | 756-8102 |
| M12 protective cap; for unused plugs   | 756-8103 |
| Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white                | 2009-110 |
| WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white | 2009-115 |

## 1-Channel Analog Input; IO-Link Converter; 4 ... 20 mA



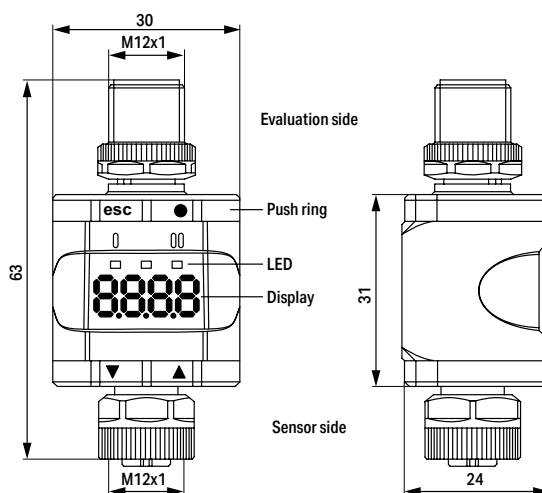
M12-A plug; 4-pole

- 1: 24 VDC: Supply 1L+
- 2: OUT2: Analog output
- 3: 0 V: Supply 1L-
- 4: OUT1: Digital output (SIO)/IO-Link



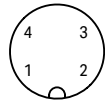
M12-A socket; 5-pole

- 1: Sensor supply 1L+
- 2: Analog input (4 ... 20 mA)
- 3: Sensor supply 1L-
- 4: not used
- 5: not used



|   |  |
|---|--|
| Item Description                                | <b>1-Channel Analog Input; IO-Link Converter; 4 ... 20 mA</b>                          |
| Item No.  | 765-2701/200-000   |
| Order Text                                      | 1AI FLD IOL CONV 4-20mA  |
| <b>Technical Data</b>                           |  |
| Supply voltage                                  | 24 VDC; -25 ... +25 %; (18 ... 30 VDC)   |
| Current consumption                             | 30 ... 830 mA  |
| Operation modes                                 | SIO; IO-Link   |
| <b>Inputs</b>                                   |  |
| Number of analog inputs                         | 1  |
| Connection technology                           | M12-A socket; 5-pole   |
| Signal type (current)                           | 4 ... 20 mA  |
| Sensor supply                                   | 24 VDC   |
| Sensor current                                  | ≤ 800 mA   |
| Accuracy  | 0.5 % of the upper-range value   |
| <b>Outputs</b>                                  |  |
| <b>Digital output (OUT 1)</b>                   |  |
| Number of digital outputs                       | 1  |
| Connection technology                           | M12-A plug; 4-pole   |
| Current carrying capacity per output            | 50 mA  |
| Signal type (voltage)                           | 10 ... 30 VDC  |
| Output circuit design                           | Make/break contact; parameterizable  |
| <b>Analog output (OUT 2)</b>                    |  |
| Number of analog outputs                        | 1  |
| Signal type (current)                           | 4 ... 20 mA  |
| Accuracy  | 0.5 % of the upper-range value   |
| Resolution                                      | 10 bits  |
| <b>IO-Link</b>                                  |  |
| Communication interface                         | IO-Link Class A  |
| Transmission type                               | COM2 (38.4 kBaud)  |
| IO-Link revision                                | 1.1  |
| Process data                                    | 1 x 16-bit IN (analog); 1 x 16-bit IN (digital)  |
| Process cycle time (min.)                       | 3 ms   |
| Parameters via IO-Link                          | Operating mode, switching point, delay, scaling, etc.                                  |
| Indicators                                      | Digital output: 1 x yellow LED; Power: 1 x green LED; Display: 7-segment red/green LED |
| Length of connection cables                     | 30 m without IO-Link on each side; 20 m with IO-Link on the master side                |
| Dimensions                                      | 63 x 30 x 24 mm  |
| Ambient temperature (operation)                 | -20 ... +60 °C   |
| Ambient temperature (storage)                   | -25 ... 70 °C  |
| Protection type                                 | IP67   |
| Relative humidity (without condensation)        | 90 % (max.)  |
| Approvals                                       | CE, UL, IO-Link, MTTF (373 years)  |
| For data sheet and additional information, see: | wago.com/765-2701/200-000  |
| <b>Accessories</b>                              | <b>Item No.</b>  |
| Mounting Clip                                   | 765-101/000-000  |

## 2-Channel Analog Input; IO-Link Converter; 0 ... 10 V



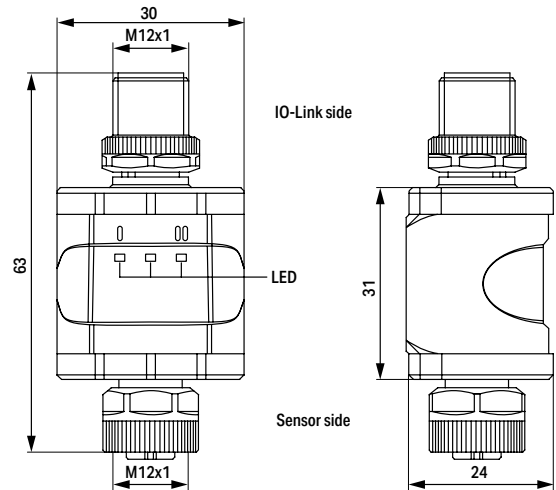
M12-A plug; 4-pole

- 1: 24 VDC: Supply 1L+
- 2: not used
- 3: 0 V: Supply 1L-
- 4: C/Q IO-Link



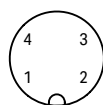
M12-A socket; 5-pole

- 1: Sensor supply 1L+
- 2: Analog input 2 (0 ... 10 V)
- 3: Sensor supply 1L-
- 4: Analog input 1 (0 ... 10 V)
- 5: not used



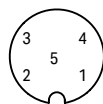
|   |  |
|---|--|
| Item Description                                | <b>2-Channel Analog Input; IO-Link Converter; 0 ... 10 V</b>           |
| Item No.  | 765-2702/200-000   |
| Order Text                                      | 2AI FLD IOL CONV 0-10V   |
| <b>Technical Data</b>                           |  |
| Supply voltage                                  | 24 VDC; -25 ... +25 %; (18 ... 30 VDC)                                 |
| Current consumption                             | < 380 mA   |
| <b>Inputs</b>                                   |  |
| Number of analog inputs                         | 2  |
| Connection technology                           | M12-A socket; 5-pole   |
| Signal type (voltage)                           | 0 ... 10 V   |
| Current carrying capacity for all inputs        | 200 mA (max.)  |
| Input resistance                                | > 100 kΩ   |
| Accuracy  | 0.25 % of the upper-range value  |
| <b>IO-Link</b>                                  |  |
| Communication interface                         | IO-Link Class A/B  |
| Transmission type                               | COM2 (38.4 kBaud)  |
| IO-Link revision                                | 1.1  |
| Process data                                    | 2 x 16-bit IN (analog)   |
| Process cycle time (min.)                       | 4.6 ms   |
| Parameters via IO-Link                          | Description, system identifier, location identifier, mean value filter |
| <b>Indicators</b>                               |  |
| Length of connection cables                     | 20 m   |
| <b>Dimensions</b>                               |  |
| Ambient temperature (operation)                 | -20 ... +60 °C   |
| Ambient temperature (storage)                   | -25 ... 70 °C  |
| Protection type                                 | IP67   |
| Relative humidity (without condensation)        | 90 % (max.)  |
| <b>Approvals</b>                                |  |
| For data sheet and additional information, see: | CE, UL, IO-Link, MTTf (504 years)<br>wago.com/765-2702/200-000         |
| <b>Accessories</b>                              |  |
| Mounting Clip                                   | 765-101/000-000  |

## 2-Channel Analog Output; IO-Link Converter; 4 ... 20 mA



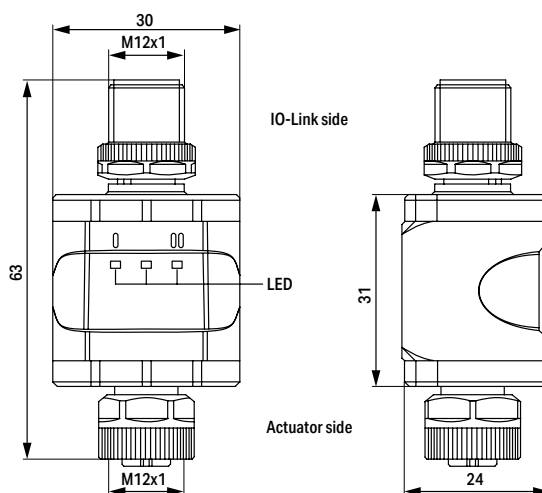
M12-A plug; 4-pole

- 1: 24 VDC: Supply 1L+
- 2: not used
- 3: 0 V: Supply 1L-
- 4: C/Q IO-Link



M12-A socket; 5-pole

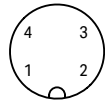
- 1: Actuator supply 1L+
- 2: Analog output 2 (4 ... 20 mA)
- 3: Actuator supply 1L-
- 4: Analog output 1 (4 ... 20 mA)
- 5: not used



|   |  |
|---|--|
| Item Description                                | <b>2-Channel Analog Output; IO-Link Converter; 4 ... 20 mA</b> |
| Item No.  | 765-2703/200-000   |
| Order Text                                      | 2AO FLD IOL CONV 4-20mA  |
| <b>Technical Data</b>                           |  |
| Supply voltage                                  | 24 VDC; -25 ... +25 %; (18 ... 30 VDC)                         |
| Current consumption                             | 300 mA   |
| Current carrying capacity (module)              | 0.2 A  |
| Operation modes                                 | IO-Link  |
| <b>Outputs</b>                                  |  |
| Number of analog outputs                        | 2  |
| Connection technology                           | M12-A socket; 5-pole   |
| Signal type (current)                           | 4 ... 20 mA  |
| Load impedance                                  | ≤ 300 Ω  |
| Accuracy  | 0.25 % of output range end value                               |
| <b>IO-Link</b>                                  |  |
| Communication interface                         | IO-Link Class A/B  |
| Transmission type                               | COM2 (38.4 kBaud)  |
| IO-Link revision                                | 1.1  |
| Process data                                    | 2 x 16-bit OUT (analog)  |
| Process cycle time (min.)                       | 3.6 ms   |
| Parameters via IO-Link                          | Description  |
| Indicators                                      | Analog output: 2 x yellow LED; Power: 1 x green LED            |
| Length of connection cables                     | 20 m   |
| Dimensions                                      | 63 x 30 x 24 mm  |
| Ambient temperature (operation)                 | -20 ... +60 °C   |
| Ambient temperature (storage)                   | -25 ... 70 °C  |
| Protection type                                 | IP67   |
| Relative humidity (without condensation)        | 90 % (max.)  |
| Approvals                                       | CE, UL, IO-Link, MTTF (352 years)                              |
| For data sheet and additional information, see: | wago.com/765-2703/200-000                                      |
| <b>Accessories</b>                              | <b>Item No.</b>  |
| Mounting Clip                                   | 765-101/000-000  |

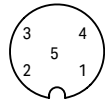


## 2-Channel Analog Output; IO-Link Converter; 0 ... 10 V



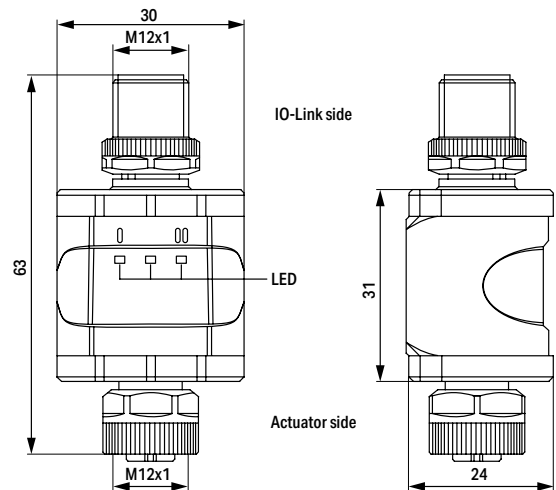
M12-A plug; 4-pole

- 1: 24 VDC: Supply 1L+
- 2: not used
- 3: 0 V: Supply 1L-
- 4: C/Q IO-Link



M12-A socket; 5-pole

- 1: Actuator supply 1L+
- 2: Analog output 2 (0 ... 10 V)
- 3: Actuator supply 1L-
- 4: Analog output 1 (0 ... 10 V)
- 5: not used



|   |   |
|---|---|
| Item Description                                | <b>2-Channel Analog Output; IO-Link Converter; 0 ... 10 V</b> |
| Item No.  | 765-2704/200-000  |
| Order Text                                      | 2AO FLD IOL CONV 0-10V  |
| <b>Technical Data</b>                           |   |
| Supply voltage                                  | 24 VDC; -25 ... +25 %; (18 ... 30 VDC)                        |
| Current consumption                             | 300 mA  |
| Current carrying capacity (module)              | 0.2 A   |
| Operation modes                                 | IO-Link   |
| <b>Outputs</b>                                  |   |
| Number of analog outputs                        | 2   |
| Connection technology                           | M12-A socket; 5-pole  |
| Signal type (voltage)                           | 0 ... 10 V  |
| Load impedance                                  | ≤ 3000 Ω  |
| Accuracy  | 0.25 % of output range end value                              |
| <b>IO-Link</b>                                  |   |
| Communication interface                         | IO-Link Class A/B   |
| Transmission type                               | COM2 (38.4 kBaud)   |
| IO-Link revision                                | 1.1   |
| Process data                                    | 2 x 16-bit OUT (analog)                                       |
| Process cycle time (min.)                       | 3.6 ms  |
| Parameters via IO-Link                          | Description, system identifier, location identifier           |
| Indicators                                      | Analog output: 2 x yellow LED; Power: 1 x green LED           |
| Length of connection cables                     | 20 m  |
| Dimensions                                      | 63 x 30 x 24 mm   |
| Ambient temperature (operation)                 | -20 ... +60 °C  |
| Ambient temperature (storage)                   | -25 ... 70 °C   |
| Protection type                                 | IP67  |
| Relative humidity (without condensation)        | 90 % (max.)   |
| Approvals                                       | C€, UL, IO-Link, MTTf (373 years)                             |
| For data sheet and additional information, see: | wago.com/765-2704/200-000                                     |
| <b>Accessories</b>                              | <b>Item No.</b>   |
| Mounting Clip                                   | 765-101/000-000   |

# Power Cable; L-Coded; 5-Pole

M12 socket



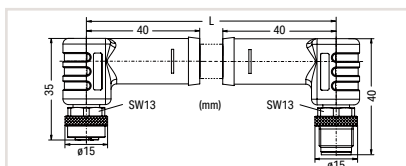
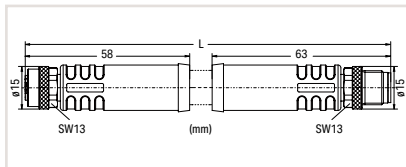
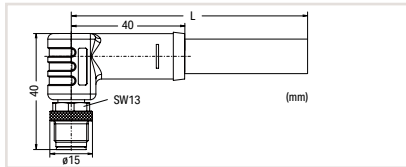
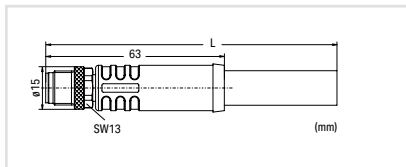
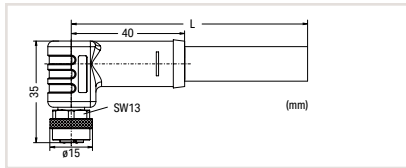
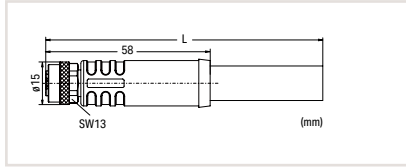
M12 plug



Pin 1 ... 4/FG: 1.5 mm<sup>2</sup>

- 1 brown
- 2 white
- 3 blue
- 4 black
- FG gray

|   |                     |
|---|---------------------|
| Operating voltage                       | 60 VDC              |
| Operating current                       | 16 A / 40 °C (max.) |
| Surrounding air temperature (operation) | -30 ... +90 °C      |
| Protection type                         | IP67                |
| Cable diameter                          | 9.9 mm ±0.3         |



**Power cable; pre-assembled on one end; M12 straight socket; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-3501/050-020 | 1  |
| 5 m          | 756-3501/050-050 | 1  |
| 7.5 m        | 756-3501/050-075 | 1  |
| 10 m         | 756-3501/050-100 | 1  |
| 15 m         | 756-3501/050-150 | 1  |

**Power cable; pre-assembled on one end; M12 angled socket; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-3502/050-020 | 1  |
| 5 m          | 756-3502/050-050 | 1  |
| 7.5 m        | 756-3502/050-075 | 1  |
| 10 m         | 756-3502/050-100 | 1  |
| 15 m         | 756-3502/050-150 | 1  |

**Power cable; pre-assembled on one end; M12 straight plug; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-3503/050-020 | 1  |
| 5 m          | 756-3503/050-050 | 1  |
| 7.5 m        | 756-3503/050-075 | 1  |
| 10 m         | 756-3503/050-100 | 1  |
| 15 m         | 756-3503/050-150 | 1  |

**Power cable; pre-assembled on one end; M12 angled plug; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-3504/050-020 | 1  |
| 5 m          | 756-3504/050-050 | 1  |
| 7.5 m        | 756-3504/050-075 | 1  |
| 10 m         | 756-3504/050-100 | 1  |
| 15 m         | 756-3504/050-150 | 1  |

**Power cable; pre-assembled on both ends; M12 straight socket/M12 straight plug; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 0.3 m        | 756-3505/050-003 | 1  |
| 0.5 m        | 756-3505/050-005 | 1  |
| 1 m          | 756-3505/050-010 | 1  |
| 2 m          | 756-3505/050-020 | 1  |
| 5 m          | 756-3505/050-050 | 1  |
| 7.5 m        | 756-3505/050-075 | 1  |
| 10 m         | 756-3505/050-100 | 1  |
| 15 m         | 756-3505/050-150 | 1  |

**Power cable; pre-assembled on both ends; M12 angled socket/M12 angled plug; L-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 0.3 m        | 756-3506/050-003 | 1  |
| 0.5 m        | 756-3506/050-005 | 1  |
| 1 m          | 756-3506/050-010 | 1  |
| 2 m          | 756-3506/050-020 | 1  |
| 5 m          | 756-3506/050-050 | 1  |
| 7.5 m        | 756-3506/050-075 | 1  |
| 10 m         | 756-3506/050-100 | 1  |
| 15 m         | 756-3506/050-150 | 1  |

9

# ETHERNET/PROFINET Cable; D-Coded; 4-Pole

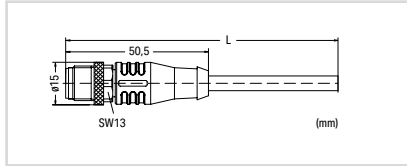
M12 plug



Pin 1 - 4: 0.34 mm<sup>2</sup>

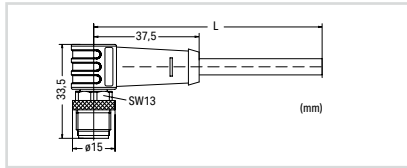
- 1 yellow
- 2 white
- 3 orange
- 4 blue

|   |                            |
|---|----------------------------|
| Operating voltage                                 | 250 V                      |
| Operating current                                 | 4 A                        |
| Rated surge voltage                               | 2 kV                       |
| Drag chain suitability                            | ≥ 3 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -40 ... +70 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 6.5 mm ±0.2                |



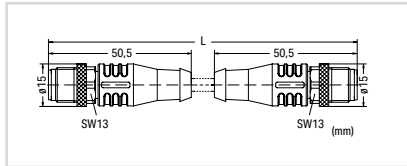
**ETHERNET/PROFINET cable; pre-assembled on one end; M12 straight plug; D-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-1201/060-020 | 1  |
| 5 m          | 756-1201/060-050 | 1  |
| 10 m         | 756-1201/060-100 | 1  |
| 20 m         | 756-1201/060-200 | 1  |



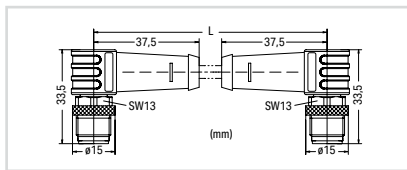
**ETHERNET/PROFINET cable; pre-assembled on one end; M12 angled plug; D-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-1202/060-020 | 1  |
| 5 m          | 756-1202/060-050 | 1  |
| 10 m         | 756-1202/060-100 | 1  |
| 15 m         | 756-1202/060-200 | 1  |



**ETHERNET/PROFINET cable; pre-assembled on both ends; M12 plug – M12 plug; straight; D-coded**



| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-1203/060-020 | 1  |
| 5 m          | 756-1203/060-050 | 1  |
| 10 m         | 756-1203/060-100 | 1  |
| 20 m         | 756-1203/060-200 | 1  |



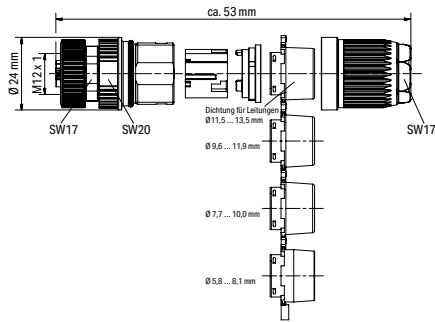
**ETHERNET/PROFINET cable; pre-assembled on both ends; M12 plug – M12 plug; angled; D-coded**

| Cable length | Item No.         | PU |
|--------------|------------------|----|
| 2 m          | 756-1204/060-020 | 1  |
| 5 m          | 756-1204/060-050 | 1  |
| 10 m         | 756-1204/060-100 | 1  |
| 20 m         | 756-1204/060-200 | 1  |

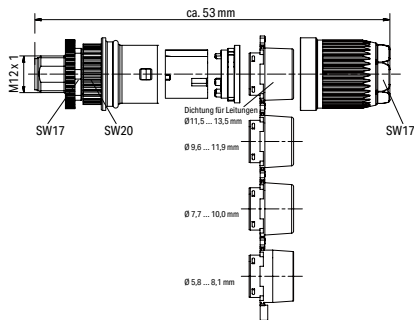
# Configurable Connector; 5-Pole; IDC Technology

|   |   |   |
|---|---|---|
| M12 socket,<br>L-coded  | M12 plug,<br>L-coded  | Connectable cable:<br>Ø 5.8 ... 13.5 mm<br>0.75 ... 1.5 mm <sup>2</sup> |
|  |  |   |

|   |                                      |
|---|--------------------------------------|
| Rated current                           | 12 A                                 |
| Rated voltage                           | 63 V                                 |
| Rated surge voltage                     | 1.5 kV                               |
| Surrounding air temperature (operation) | -40 ... +85 °C                       |
| Protection type                         | IP65; IP67 when mated; per IEC 60529 |
| Cable diameter                          | 5.8 ... 13.5 mm                      |



| Configurable connector; 5-pole; IDC technology |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| M12-L socket; straight                         | 756-9711/050-000 | 1  |



| Configurable connector; 5-pole; IDC technology |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| M12-L plug; straight                           | 756-9701/050-000 | 1  |

# Mounting Clip

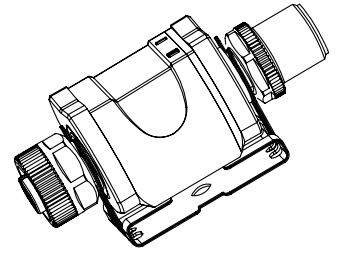
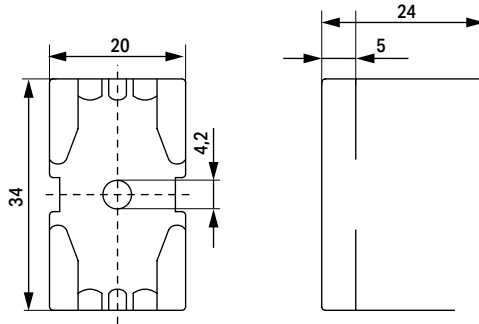


Figure: Mounting Clip (765-101/000-000)

|                  |  |
|------------------|--|
| Item Description | Mounting Clip  |
| Version          | for 765-2701/200-000, 765-2702/200-000, 765-2703/200-000 and 765-2704/200-000 Converters |
| Item No.         | 765-101/000-000  |
| Technical Data   |  |
| Weight           | 6.8 g  |
| Dimensions       | 34 x 20 x 24 mm  |
| Material         | Copper beryllium 2.1247 (CuBe2)  |








# Industrial Switches

## Industrial Switches

- Copper cables
- Fiber optic cables
- Ring redundancy

# Industrial Switches

## Contents

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|   |                    | Number of Copper Ports |            | Number of SFP Ports |                   | Number of PoE+ Ports | Item No.         |     |
|   |                    | 100BASE-TX             | 1000BASE-T | 100BASE-FX          | 1000BASE-SX/LX/ZX |                      |                  |     |
| <b>Industrial Unmanaged Switches</b>  |                    |                        |            |                     |                   |                      |                  |     |
|    | Eco Unmanaged      | 5                      |            |                     |                   |                      | 852-111          | 588 |
|   |                    | 5                      |            |                     |                   |                      | 852-111/000-001  | 589 |
|   |                    | 8                      |            |                     |                   |                      | 852-112          | 590 |
|   |                    | 8                      |            |                     |                   |                      | 852-112/000-001  | 591 |
|   |                    | 8                      |            |                     |                   |                      | 852-112/000-002  | 590 |
|   |                    | 5                      |            |                     |                   |                      | 852-1111/000-001 | 592 |
|   |                    | 8                      |            |                     |                   |                      | 852-1112         | 593 |
|   |                    | 5                      |            |                     |                   | 4                    | 852-1411         | 594 |
|   |                    | 5                      |            |                     |                   | 4                    | 852-1411/000-001 | 594 |
|   |                    | 5                      |            |                     | 2                 | 4                    | 852-1417         | 595 |
|  | Standard Unmanaged | 5                      |            |                     |                   |                      | 852-101          | 596 |
|   |                    | 8                      |            |                     |                   |                      | 852-102          | 597 |
|   |                    | 8                      |            | 2                   |                   |                      | 852-103          | 598 |
|   |                    | 8                      |            |                     |                   |                      | 852-1102         | 599 |
|   |                    | 16                     |            |                     |                   |                      | 852-1106         | 600 |
| <b>Industrial Managed Switches</b>  |                    |                        |            |                     |                   |                      |                  |     |
|  | Lean Managed       | 8                      |            |                     |                   |                      | 852-1812         | 602 |
|   |                    | 8                      |            | 2                   |                   |                      | 852-1813         | 603 |
|   |                    | 8                      |            | 2                   |                   | 8                    | 852-1813/000-001 | 604 |
|   |                    | 16                     |            |                     |                   |                      | 852-1816         | 605 |
|  | MAC Security       | 8                      |            |                     |                   |                      | 852-1322         | 606 |
|   |                    | 6                      |            | 2                   |                   |                      | 852-1328         | 607 |
|  | Fully Managed      | 8                      |            | 2                   |                   |                      | 852-303          | 608 |
|   |                    | 8                      |            |                     | 4                 |                      | 852-1305         | 609 |
|   |                    | 8                      |            |                     | 4                 |                      | 852-1305/000-001 | 610 |
|   |                    | 8                      |            |                     | 4                 | 8                    | 852-1505         | 611 |
|   |                    | 8                      |            |                     | 4                 | 8                    | 852-1505/000-001 | 612 |
|  | PROFINET® Managed  | 8                      |            |                     |                   |                      | 852-602          | 613 |
|   |                    | 8                      |            | 2                   |                   |                      | 852-603          | 614 |
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|  | Accessories        | SFP Modules            |            |                     |                   |                      |                  | 616 |

# Industrial Switches

## General Product Information

### Always the Right Solution

WAGO's range of switches ensures the scalability of your ETHERNET network infrastructure, while providing outstanding electrical and mechanical performance. These rugged switches are designed for industrial use and are fully compliant with IEEE 802.3, IEEE 802.3u and IEEE 802.3ab.

### Combinable with Fiber Optic Cables

ETHERNET via fiber optic cables offers a multitude of advantages for industrial applications.

High immunity to interference, electrical isolation and long ranges up to 80 km are extremely beneficial characteristics – and these benefits are a perfect fit with the IT environment.

### Scaled Selection

Unmanaged and managed switches in various designs are available for high-end applications. WAGO's Eco Switches are ideal for cost-sensitive applications that do not require technical features such as redundancy. They are ideal for small- to medium-sized networks.

### Modular and Expandable

Exchangeable SPF modules adapt WAGO's switches to various fiber optic cables (FOC) and the associated required distances and fibers. These SFP modules are available for multimode and single-mode fiber optic cables for ranges up to 80 km. With the exact combination of copper and fiber optic cables, you are prepared for a multitude of requirements.

### Web-Based Management

WAGO's fully managed switches have integrated Web-based management. Any Web browser can be used to configure the switch.

### Integrated Function Monitoring

For monitoring and error reporting, WAGO's managed switch have configurable functions such as an email alarm and SNMP traps. Additionally, all switches (except for Eco versions) can monitor individual ports or the power supply via a potential-free alarm contact. A DIP switch configures this function.

### Full Bandwidth on All Ports

The WAGO Switches' internal bandwidth is designed so that all ports can communicate simultaneously – in full duplex without restrictions.

### Security

WAGO's managed switches have built-in security features, such as:

- Authentication
- Access control lists
- DHCP snooping
- Port security

### Data Transmission

WAGO's managed switches provide configuration options for data transmission, such as:

- VLAN
- IGMP snooping
- IP-based VLAN
- MAC-based VLAN

### Redundancy

Select industrial switches have several options for building redundant network structures and guarantee secure communication – even when connections are faulty:

- Rapid Spanning Tree per IEEE 802.1w – compatible with the IT standard
- Jet Ring – a simple ring protocol with switching time < 300 ms
- Xpress Ring – a fast ring protocol with switching time < 20 ms
- ERPSv2 per ITU-T standard, switching time < 50 ms
- Media Redundancy Protocol (MRP), switching time < 200 ms

In addition to communication link redundancy, a redundant power supply – which can also be monitored using an alarm relay – is integrated into the switches. If the power supply fails, communication is not interrupted.

### Different Operating Modes

The unmanaged switches are ideal for direct plug-and-play use. Managed switches are available for applications where IP filtering or further interpretation of telegrams is required for the application.

### Configurable Performance

WAGO's managed switches offer performance control features, such as:

- Storm control
- Bandwidth control
- Auto-provisioning
- Link aggregation

### Configuration and Diagnostics

Modbus® can be used to diagnose managed switches. Configuration and diagnostics can also be performed with standardized protocols such as SNMP.

Select products also have the "PROFINET Conformance Class B" certificate, allowing simple diagnostics and configuration in PROFINET systems.

### Advantages:

- Adaptable to different transmission media
- Automatically adapts to
  - Speed (auto-negotiation)
  - Wiring (auto-crossover, MDI/MDIX)
- Optional redundancy
- Wide supply voltage range

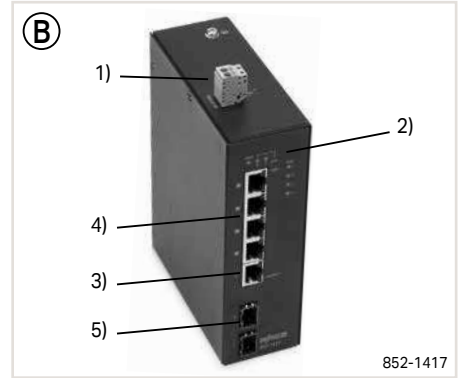
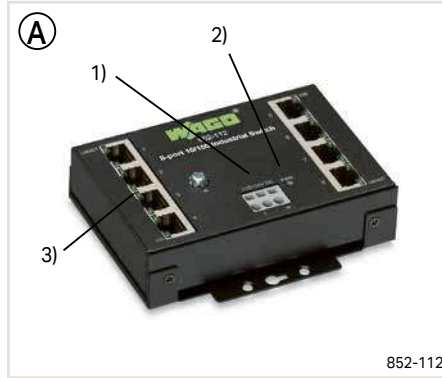


# Industrial Switches Functional Variants

## Eco Unmanaged (A, B)

- Plug & play operation (Auto MDI-X)
- Megabit and gigabit variants
- Vibration and shock resistance
- DIN-rail adapter

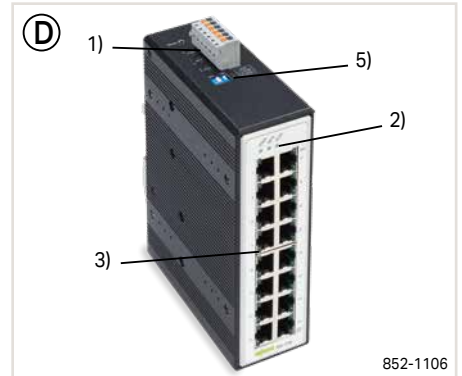
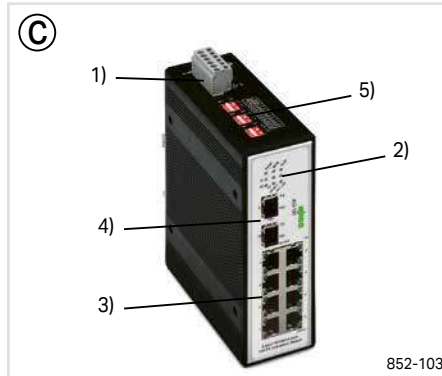
- 1) Power supply
- 2) Status LEDs
- 3) Copper ports
- 4) Power over Ethernet (PoE+) ports
- 5) SFP ports for SFP modules



## Standard Unmanaged (C, D)

- Up to 16-Gbit ports + SFP slots
- Diagnostics via LEDs and relay
- High temperature range (-40 ... +70 °C)
- Redundant power supply

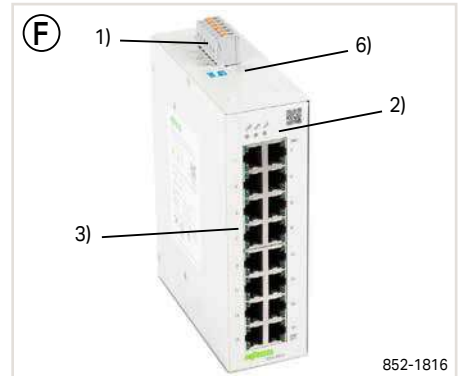
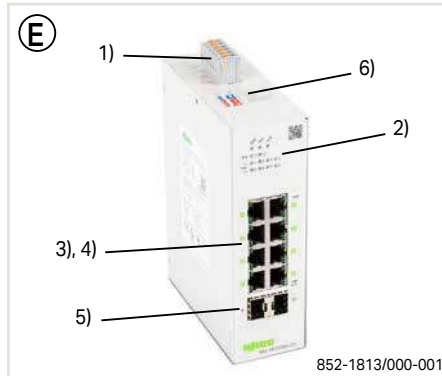
- 1) Redundant power supply
- 2) Status and diagnostic LEDs
- 3) Copper ports
- 4) SFP ports for SFP modules
- 5) DIP switches for configuration



## Lean Managed (E, F)

- Intuitive configuration for automation engineers
- Simple network diagnostics in the browser
- Media redundancy with RSTP/ERPS
- Network security basic functions

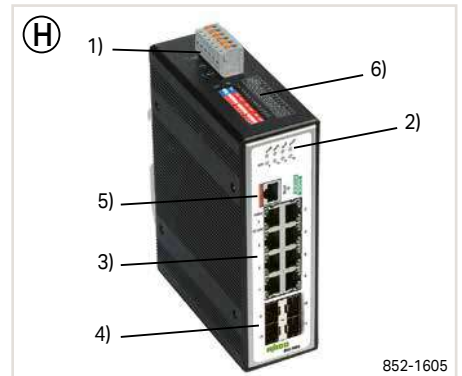
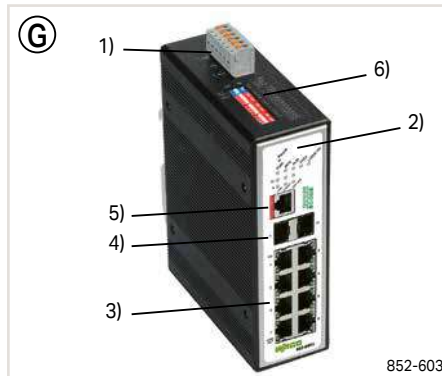
- 1) Redundant power supply
- 2) Status and diagnostic LEDs
- 3) Copper ports
- 4) Power over Ethernet (PoE+) ports
- 5) SFP ports for SFP modules
- 6) DIP switches for configuration



## PROFINET® Managed (G, H)

- Configuration/diagnostics in the PROFINET® system
- PROFINET®-certified (CC-B)
- Cyclically readable process image
- Potential-free networking over 80 km

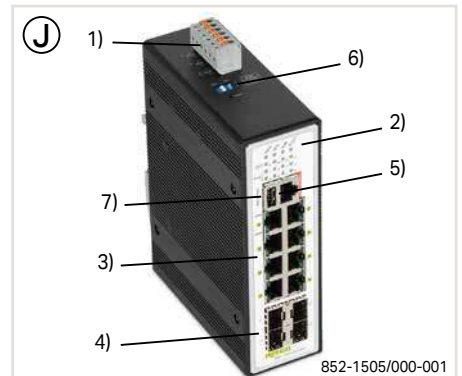
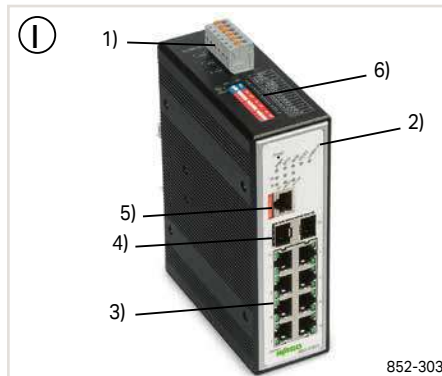
- 1) Redundant power supply
- 2) Status and diagnostic LEDs
- 3) Copper ports
- 4) SFP ports for SFP modules
- 5) RS-232 port
- 6) DIP switches for configuration



## Fully Managed (I, J)

- Fast network redundancy (< 30 ms)
- Diagnostics (SNMPv3, Modbus®, Syslog, ...)
- Security (SSH, VLAN, 802.1X, ACL, ...)
- Extended network functions
- (Routing, IPv6, LACP, DHCP, ...)

- 1) Redundant power supply
- 2) Status and diagnostic LEDs
- 3) Copper ports
- 4) SFP ports for SFP modules
- 5) RS-232 port
- 6) DIP switches for configuration
- 7) USB interface



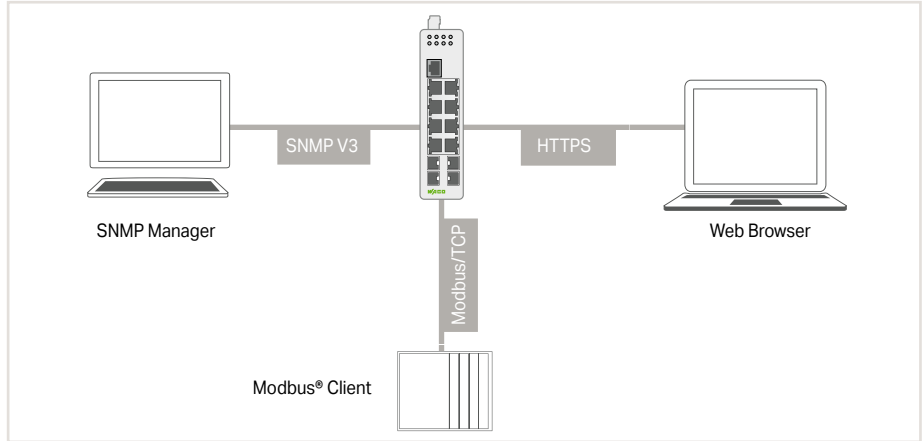
# Industrial Switches

## Configuration, Diagnostics and Performance

### Configuration and Diagnostics

Several options:

- Configuration via Web-Based Management
- Configuration via command line (SSH, Telnet, RS-232)
- Network management via SNMP v1, v2c, v3
- Support of Management Information Base (MIB) standards
- PROFINET configuration via device description file (GSD file)
- Diagnostics via Modbus TCP:  
Comprehensive data available for easy diagnostics via Modbus®

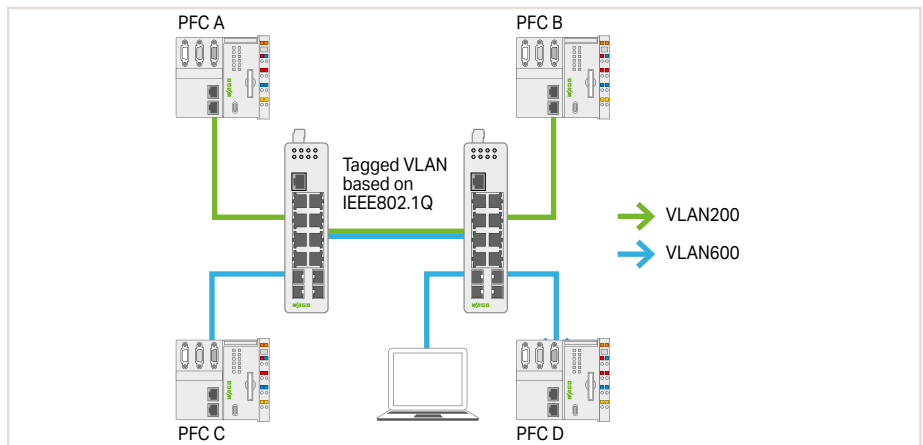


Configuration interfaces

### Logical Network Segmentation

VLAN (e.g., per IEEE 802.1Q) and segmentation into virtual networks:

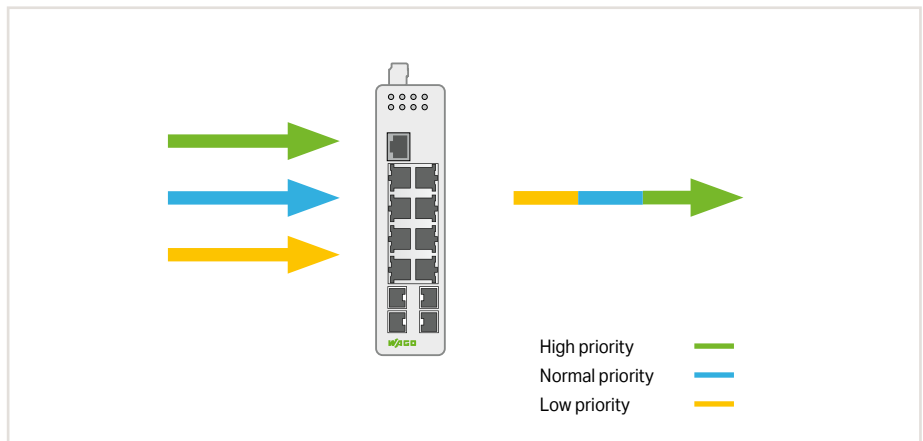
- Broadcast limitation
- Network security improvement
- Data flow prioritization
- Subdivision of machines and office networks



VLAN

### Data Traffic Prioritization and Limitation

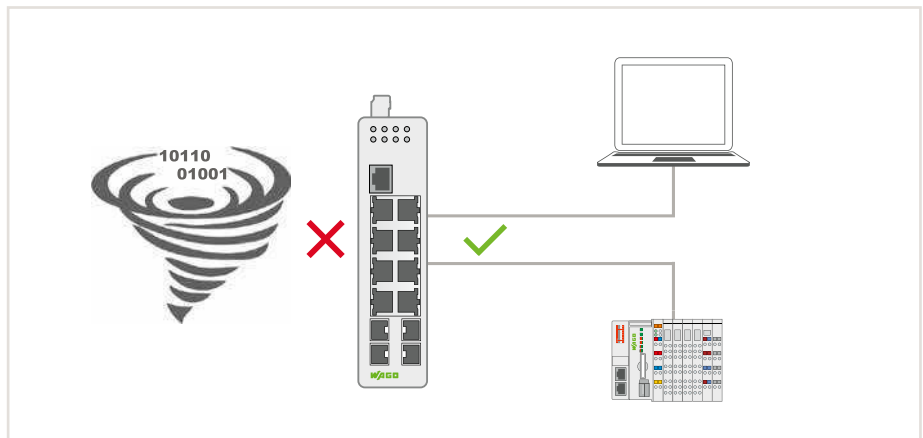
- Faster transfer of important data packets through the switch
- Prioritization of data packets per IEEE 802.1 Q
- Limitation of the bandwidth or number of packets per unit of time per port
- Increase in data transmission quality



QoS

### Mastering Data Traffic

- Stopping broadcast storms
- Ensuring network availability
- Limiting broadcast and multicast data flows (packets/time)



Storm Control

10

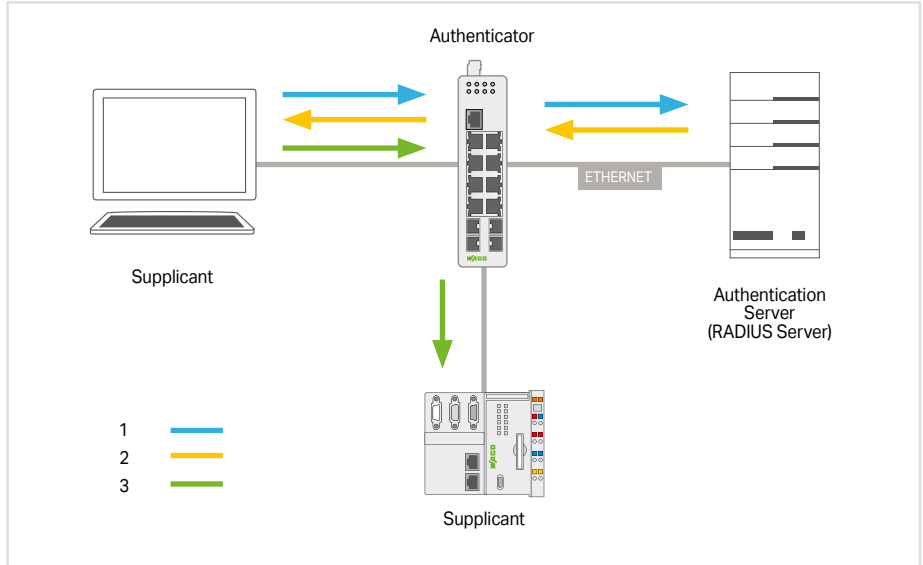
# Industrial Switches Security

## Authentication (IEEE 802.1X)

Secure authentication and authorization in ETHERNET networks (locally on the switch or via RADIUS server)

Process:

- Authentication of a subscriber is performed by the authenticator.
- The authenticator checks the authentication information of the subscriber (supplicant) with an authentication server.



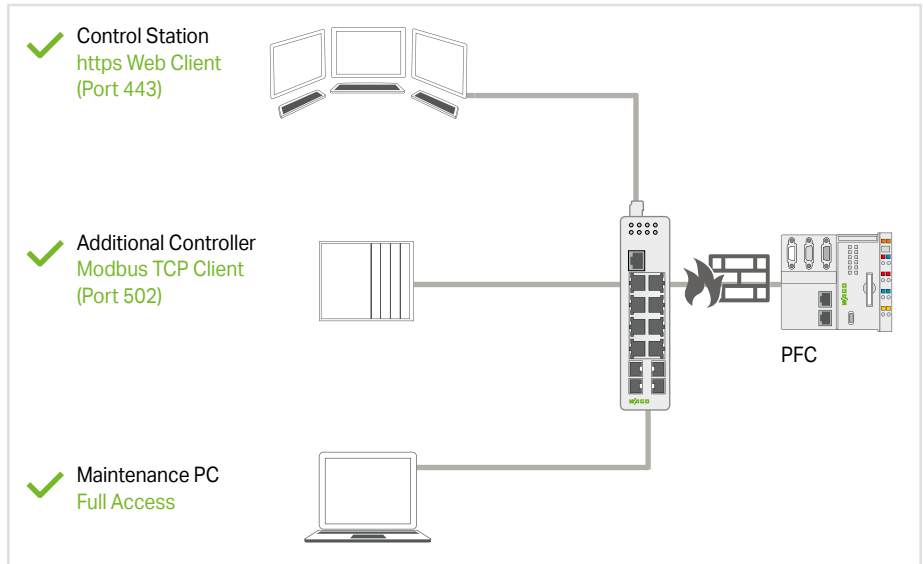
IEEE 802.1X

## Firewall – Access Control List

Authorization Only for the Required Services

Filtering data packets via:

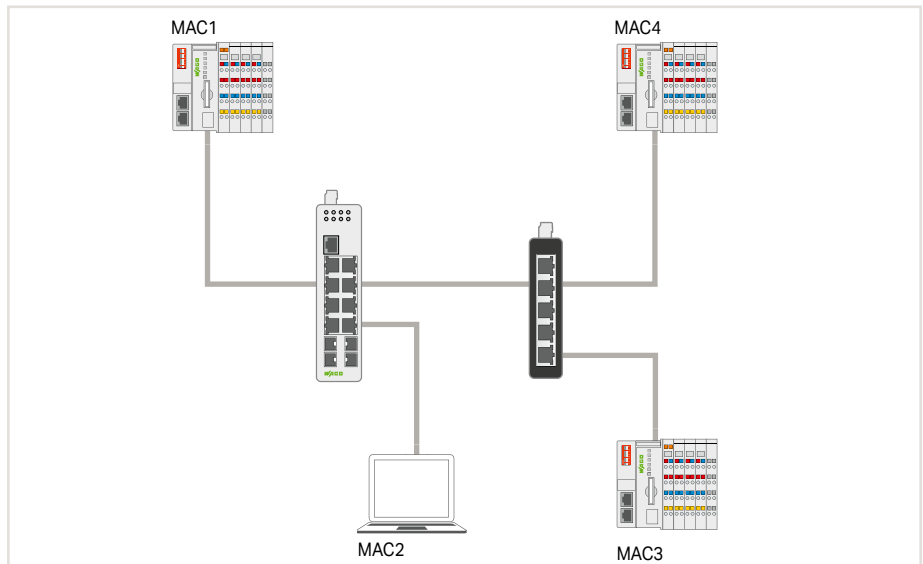
- Source MAC or source IP address
- Destination MAC or destination IP address
- Range of MAC or IP addresses
- UDP/TCP source or destination ports
- MAC-based white/black list for each port



Firewall

## Port Security

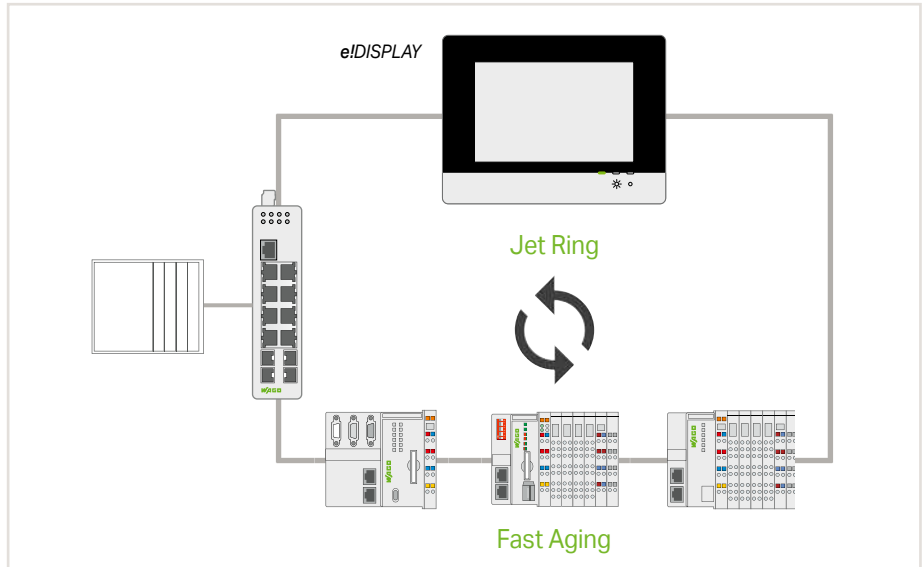
- Dynamically learns MAC addresses for each port
- Limitation of MAC addresses for each port
- MAC-based white/black list for each port



# Industrial Switches Redundancy

## Jet Ring

- Typical switching time of 400 ms (depends on the application)
- Extremely easy configuration (on or off)
- Up to 20 switches in a Jet Ring
- WAGO ETHERNET devices (Fast Aging) can be used in the Jet Ring



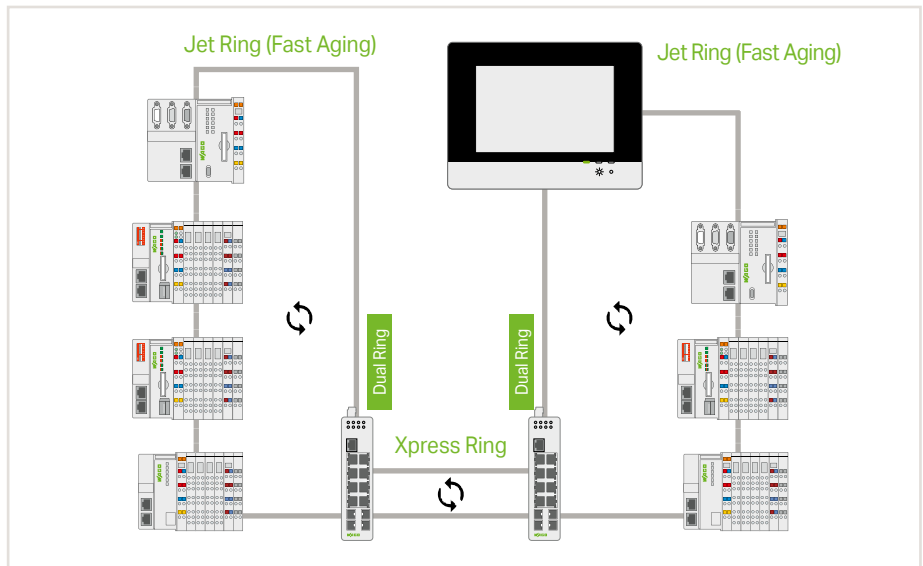
Jet Ring

## Xpress Ring

- Switching time < 20 ms
- Easy configuration (3 parameters per switch)
- Up to 200 switches in one Xpress Ring
- 2 Xpress Rings per switch

## Dual Ring

- Combination of both redundancy types
- 1 Jet Ring and 1 Xpress Ring per switch



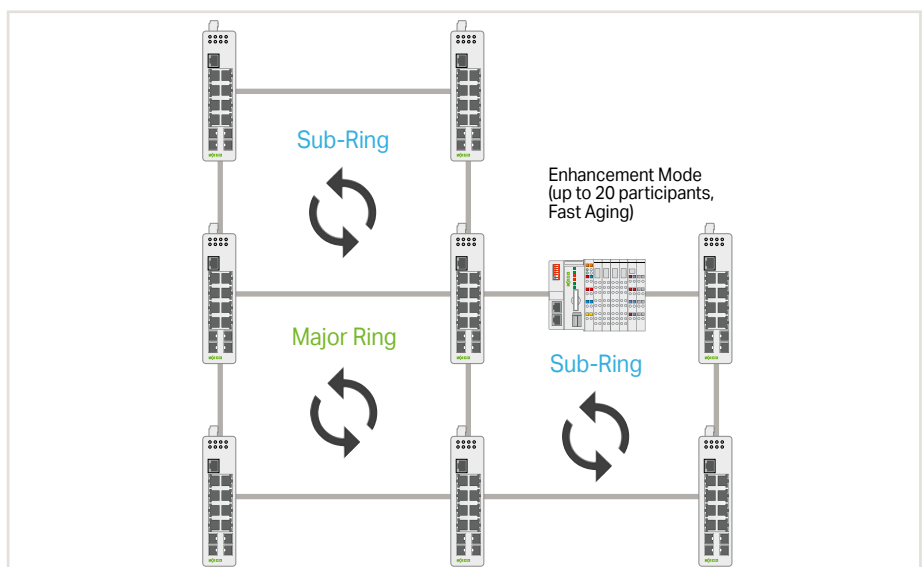
Xpress Ring and Dual Ring

## ERPS: ETHERNET Ring Protection Switching

- Standardized and open technology
- Switching time < 50 ms
- Nested topologies with up to 6 rings per switch
- Implementation of one-fault tolerance (SPOF – Single Point of Failure)

## ERPS – Enhancement Mode

- WAGO devices with an integrated switch and fast aging configuration
- Typical switching time of 400 ms (depends on the application)



ERPS V2

# Industrial Switches

## Product Overview

|                                    |  | Unmanaged |         |                 |         |          |                  |          |         |         |         | Managed      |          |          |          |                  |               |          |          |           |          |                  |          |                  |         |         |          |   |
|------------------------------------|--|-----------|---------|-----------------|---------|----------|------------------|----------|---------|---------|---------|--------------|----------|----------|----------|------------------|---------------|----------|----------|-----------|----------|------------------|----------|------------------|---------|---------|----------|---|
|                                    |  | Eco       |         |                 |         |          | Standard         |          |         |         |         | Lean Managed |          |          | MACsec   |                  | Fully Managed |          |          | PROFINET® |          |                  |          |                  |         |         |          |   |
|                                    |  | 852-111   | 852-112 | 852-111/000-001 | 852-112 | 852-1411 | 852-1411/000-001 | 852-1417 | 852-101 | 852-102 | 852-103 | 852-1102     | 852-1106 | 852-1812 | 852-1813 | 852-1813/000-001 | 852-1816      | 852-1322 | 852-1328 | 852-303   | 852-1305 | 852-1305/000-001 | 852-1505 | 852-1505/000-001 | 852-602 | 852-603 | 852-1605 |   |
| Hardware                           | Number of copper ports                           | 5         | 8       | 5               | 8       | 5        | 5                | 5        | 5       | 8       | 8       | 8            | 16       | 8        | 8        | 8                | 16            | 8        | 6        | 8         | 8        | 8                | 8        | 8                | 8       | 8       | 8        |   |
|                                    | 100 Mbit/s                                       | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | 1 Gbit/s   |           |         | ■               | ■       | ■        | ■                | ■        |         |         |         | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | PoE+ ports among these (1 Gbit/s)                | -         | -       | -               | -       | 4        | 4                | 4        | -       | -       | -       | -            | -        | -        | -        | 8                | -             | -        | -        | -         | -        | -                | 8        | 8                | -       | -       | -        |   |
|                                    | Number of SFP ports                              | -         | -       | -               | -       | -        | -                | 2        | -       | -       | 2       | -            | -        | -        | 2        | 2                | -             | -        | 2        | 2         | 4        | 4                | 4        | 4                | 4       | -       | 2        | 4 |
|                                    | 100 Mbit/s                                       |           |         |                 |         |          |                  |          |         |         | ■       |              |          |          | ■        | ■                |               |          | ■        | ■         |          |                  | ■        | ■                |         |         | ■        |   |
|                                    | 1 Gbit/s   |           |         |                 |         |          |                  | ■        |         |         |         |              |          |          | ■        | ■                |               |          | ■        | ■         |          |                  | ■        | ■                |         |         | ■        |   |
|                                    | Alarm relay                                      |           |         |                 |         |          |                  |          | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        | ■ |
| Approvals, Standards, Certificates | CE   | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | DNV GL   | ■         |         | ■               |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                |          |                  | ■       |         | ■        |   |
|                                    | UL 61010   | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | IEC 61850-3                                      |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  | ■        | ■                |         |         | ■        |   |
|                                    | PROFINET® CC-B (certificate)                     |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  |          |                  |         | ■       | ■        | ■ |
| Hardware Features                  | Status LEDs                                      |           |         |                 | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Autonegotiation                                  | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Auto-crossing                                    | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | PROFINET CC-A                                    |           |         | ■               | ■       | ■        | ■                | ■        |         |         |         | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
| Configuration                      | DIP switches (diagnostics)                       |           |         |                 |         |          |                  |          | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Web-Based Management (http, https)               |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | SNMP (MIB)                                       |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | CLI (SSH, Telnet)                                |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        |           |          | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | CLI with RS-232                                  |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | PROFINET configurator (GSD file)                 |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  |          |                  |         | ■       | ■        | ■ |
|                                    | USB storage                                      |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  |          | ■                | ■       |         |          |   |
| Diagnostics                        | Status LED (LINK active)                         | ■         | ■       | ■               | ■       | ■        | ■                | ■        | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Status LED (LINK down)                           |           |         |                 |         |          |                  |          | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Status LED (alarm)                               |           |         |                 |         |          |                  |          | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | SNMP (MIB)                                       |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | SNMP traps                                       |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Modbus® registers                                |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Web-Based Management (http, https)               |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Dashboard and topology map                       |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        |          |           |          | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | PROFINET diagnostics (acyclic and cyclic)        |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  |          |                  |         | ■       | ■        | ■ |
|                                    | Neighborhood detection (LLDP)                    |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        |          |           |          | ■                | ■        | ■                | ■       | ■       | ■        | ■ |
| Redundancy                         | Redundant power supply                           |           |         |                 |         |          |                  |          | ■       | ■       | ■       | ■            | ■        | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Jet Ring   |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Xpress Ring                                      |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | ETHERNET Ring Protection Switching               |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Media Redundancy Protocol (MRP) (client/manager) |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           |          |                  |          |                  |         | ■       | ■        | ■ |
|                                    | RSTP/STP   |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        | ■ |
| Network Security                   | Segmentation (VLAN)                              |           |         |                 |         |          |                  |          |         |         |         |              |          | ■        | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Authentication (IEEE 802.1X)                     |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Access Control List (MAC, IP, Port)              |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Port security                                    |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | MAC security (IEEE 802.1AE)                      |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          | ■        | ■         |          |                  |          |                  |         |         |          |   |
| Data Transmission and Performance  | LACP link aggregation                            |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Prioritization (IEEE 802.1 p)                    | ■         | ■       | ■               | ■       | ■        | ■                | ■        |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Quality of service (IEEE 802.1 Q)                |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        | ■        | ■         | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Bandwidth limitation                             |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Broadcast limitation                             |           |         |                 |         |          |                  |          |         |         |         |              |          |          | ■        | ■                | ■             | ■        |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Routing within VLANs                             |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |
|                                    | Static route                                     |           |         |                 |         |          |                  |          |         |         |         |              |          |          |          |                  |               |          |          |           | ■        | ■                | ■        | ■                | ■       | ■       | ■        |   |

<sup>1</sup>DNV GL and LR starting from hardware version 5 or 3

<sup>2</sup>Firmware 2 or higher

<sup>3</sup>Supports two ERPS rings with a switchover time of less than 800 ms

<sup>4</sup>Supports up to five VLANs

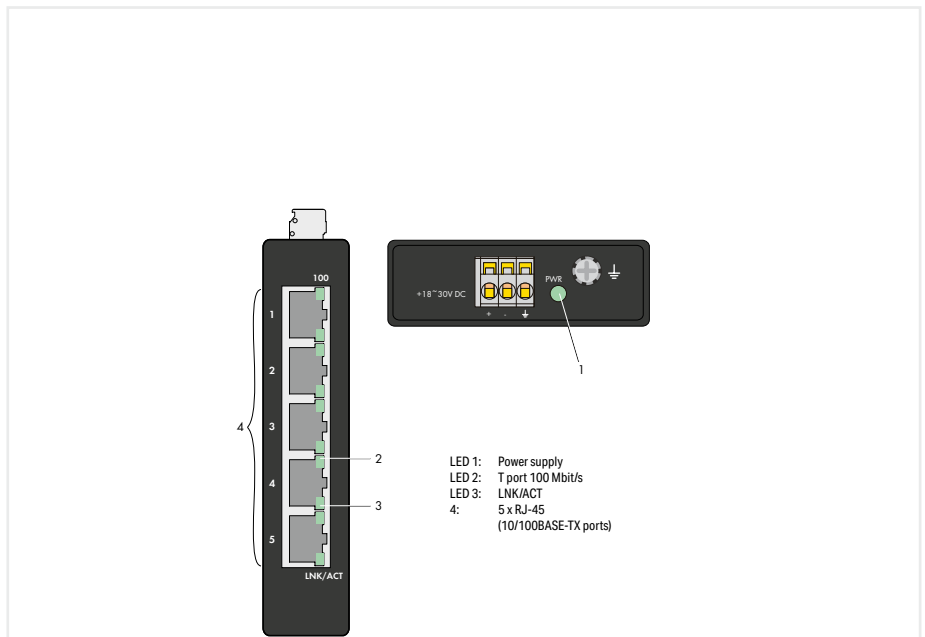
<sup>5</sup>Supports up to 32 entries (based on MAC and IP address)

<sup>6</sup>applies to variant 852-111/000-001; 852-112/000-001 and 852-112/000-002

## ECO Unmanaged ▶ 5 ports 100BASE-TX



852-111



Item no.

852-111

Order Text

Industrial-Eco-Switch; 5Port

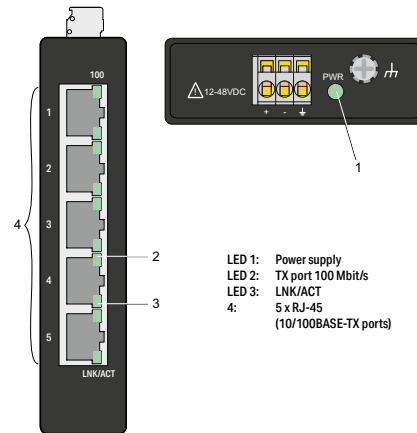
## Technical data

|   |   |
|---|---|
| Switching mode                                  | Store-and-forward; non-blocking                                       |
| Number of copper ports                          | 5 x 100BASE-TX (RJ-45)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control |
| MAC table (size)                                | 2000 addresses  |
| Topology  | Star  |
| Jumbo frame size                                | 1536 bytes  |
| Supply voltage                                  | 18 ... 30 VDC   |
| Power consumption (max.)                        | 3 W   |
| ESD (contact/air discharge)                     | 4 KV / 8 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45   |
| Ambient temperature (operation)                 | -40 ... +70 °C (UL max. +60 °C)                                       |
| Dimensions W x H x D                            | (23.4 x 109.2 x 73.8) mm  |
| Approvals                                       | CE; DNV GL; OrdLoc  |
| For data sheet and additional information, see: | wago.com/852-111  |

## ECO Unmanaged ▶ 5 ports 100BASE-TX



852-111/000-001

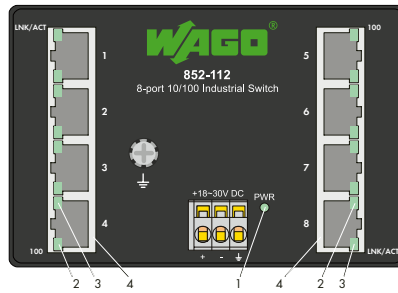


|   |   |
|---|---|
| <b>Item no.</b>                                 | <b>852-111/000-001</b>  |
| <b>Order Text</b>                               | <b>Industrial-Eco-Switch; 5Port</b>   |
| <b>Technical data</b>                           |   |
| Switching mode                                  | Store-and-forward; non-blocking   |
| Number of copper ports                          | 5 x 100BASE-TX (RJ-45)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization |
| MAC table (size)                                | 2000 addresses  |
| Topology  | Star  |
| Supply voltage                                  | 12 ... 48 VDC   |
| Power consumption (max.)                        | 2 W   |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45   |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (23.4 x 109.2 x 73.8) mm  |
| For data sheet and additional information, see: | wago.com/852-111/000-001  |

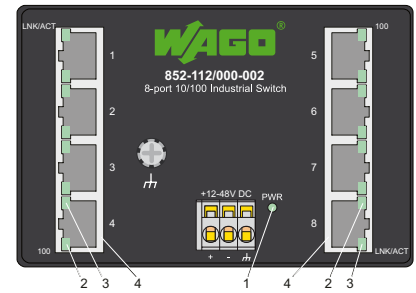
## ECO Unmanaged ► 8 ports 100BASE-TX



852-112



- LED 1: Power supply  
 LED 2: TX port 100 Mbit/s  
 LED 3: LNK/ACT  
 4: 8 x RJ-45 (10/100BASE-TX ports)



- LED 1: Power supply  
 LED 2: TX port 100 Mbit/s  
 LED 3: LNK/ACT  
 4: 8 x RJ-45 (10/100BASE-TX ports)

|            |                              |
|------------|------------------------------|
| Item no.   | 852-112                      |
| Order Text | Industrial-Eco-Switch; 8Port |

|            |                              |
|------------|------------------------------|
| Item no.   | 852-112                      |
| Order Text | Industrial-Eco-Switch; 8Port |

|            |                              |
|------------|------------------------------|
| Item no.   | 852-112/000-002              |
| Order Text | Industrial-Eco-Switch; 8Port |

## Technical data

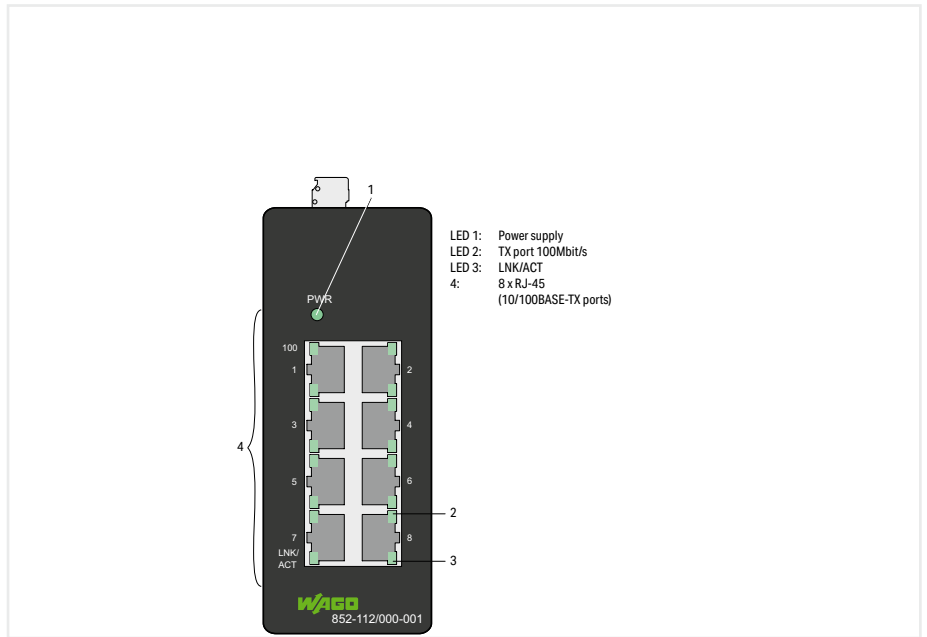
|   |   |  |
|---|---|--|
| Switching mode                                  | Store-and-forward; non-blocking                                       | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 100BASE-TX (RJ-45)  | 8 x 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization; IEEE 802.3 Nway Autonegotiation |
| MAC table (size)                                | 2000 addresses  | 8192 Adressen  |
| Topology  | Star  | Star   |
| Jumbo frame size                                | 1536 bytes  | 9216 bytes   |
| Supply voltage                                  | 18 ... 30 VDC   | 12 ... 48 VDC; (±15 %); 12 ... 48 VDC (UL)   |
| Power consumption (max.)                        | 3 W   | 2 W  |
| ESD (contact/air discharge)                     | 4 KV / 8 KV   | -  |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45   | Copper cable: 8 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C (UL max. +60 °C)                                       | -40 ... +70 °C   |
| Dimensions W x H x D                            | (109.2 x 73.8 x 24) mm  | (109.2 x 73.8 x 24) mm   |
| Approvals                                       | CE, UL, OrdLoc  | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-112  | wago.com/852-112   |



# ECO Unmanaged ▶ 8 ports 100BASE-TX



852-112/000-001



**Item no.**  
**Order Text**

**852-112/000-001**  
**Industrial-Eco-Switch; 8Port**

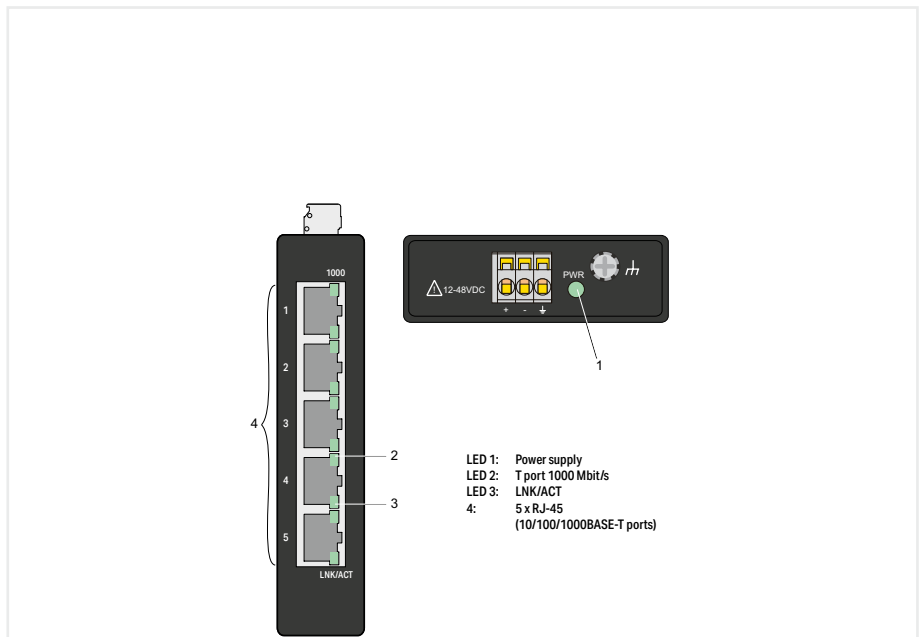
**Technical data**

|   |   |
|---|---|
| Switching mode                                  | Store-and-forward; non-blocking   |
| Number of copper ports                          | 8 x 100BASE-TX (RJ-45)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization |
| Topology  | Star  |
| Supply voltage                                  | 12 ... 48 VDC   |
| Power consumption (max.)                        | 2 W   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45   |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (23.4 x 109.2 x 73.8) mm  |
| Approvals                                       | CE; OrdLoc  |
| For data sheet and additional information, see: | wago.com/852-112  |

## ECO Unmanaged ▶ 5 ports 1000BASE-T



852-1111/000-001



|            |                                  |
|------------|----------------------------------|
| Item no.   | 852-1111/000-001                 |
| Order Text | Industrial-Eco-Switch; 5-Port Gb |

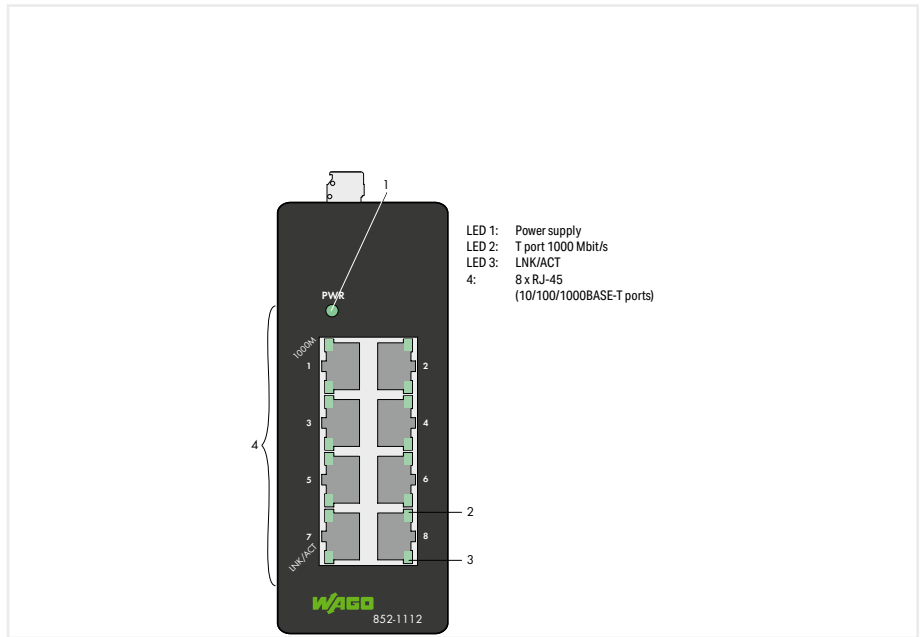
|            |                                  |
|------------|----------------------------------|
| Item no.   | 852-1111/000-001                 |
| Order Text | Industrial-Eco-Switch; 5-Port Gb |

| Technical data                                  |  |
|---|--|
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 5 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization |
| MAC table (size)                                | 2000 addresses   |
| Topology  | Star   |
| Jumbo frame size                                | 9216 bytes   |
| Supply voltage                                  | 12 ... 48 VDC; ( $\pm 15\%$ ); 24 ... 48 VDC (UL)  |
| Power consumption (max.)                        | 4 W  |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (23.4 x 109.2 x 73.8) mm   |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1111/000-001  |

# ECO Unmanaged ▶ 8 ports 1000BASE-T



852-1112



|            |                                  |
|------------|----------------------------------|
| Item no.   | 852-1112                         |
| Order Text | Industrial-Eco-Switch; 8-Port Gb |

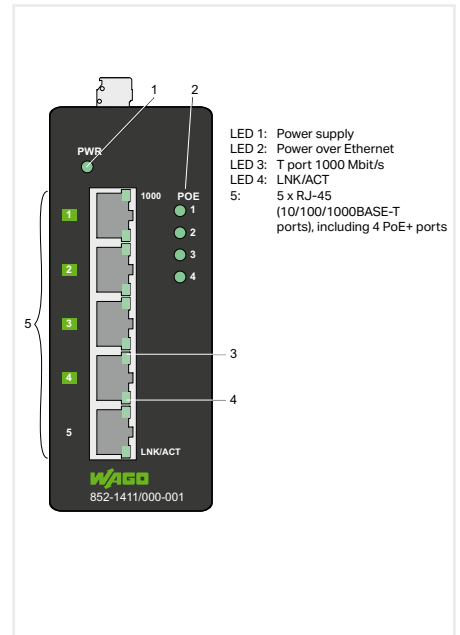
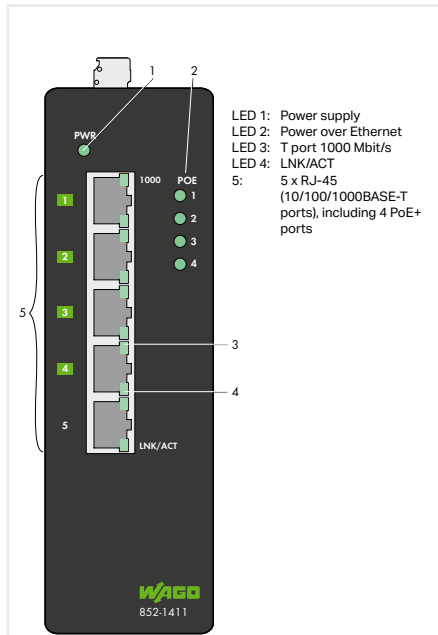
|            |                                  |
|------------|----------------------------------|
| Item no.   | 852-1112                         |
| Order Text | Industrial-Eco-Switch; 8-Port Gb |

| Technical data                                  |  |
|---|--|
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization |
| MAC table (size)                                | 8000 addresses   |
| Topology  | Star   |
| Jumbo frame size                                | 9000 bytes   |
| Supply voltage                                  | 9 ... 57 VDC   |
| Power consumption (max.)                        | 6 W  |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45  |
| Ambient temperature (operation)                 | 0 ... +60 °C   |
| Dimensions W x H x D                            | (46 x 116 x 110) mm  |
| Approvals                                       | CE; OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1112  |

# ECO Unmanaged ▶ 5 ports 1000BASE-T; 4 \* Power over Ethernet



852-1411



|            |                                       |
|------------|---------------------------------------|
| Item no.   | 852-1411                              |
| Order Text | Industrial-Eco-Switch; 5Port Gb; 4PoE |

|            |                                       |
|------------|---------------------------------------|
| Item no.   | 852-1411                              |
| Order Text | Industrial-Eco-Switch; 5Port Gb; 4PoE |

|            |                                       |
|------------|---------------------------------------|
| Item no.   | 852-1411/000-001                      |
| Order Text | Industrial-Eco-Switch; 5Port Gb; 4PoE |

|   |  |
|---|--|
| Technical data                                  |  |
| Number of copper ports                          | 5  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization |
| MAC table (size)                                | 8000 addresses   |
| Topology  | Star   |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 24 ... 57 VDC  |
| Power consumption (max.)                        | 13 W   |
| Power consumption (note)                        | 133 W with 4 PoE   |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C (per CE; -10 ... +60 °C per UL 61010)   |
| Dimensions W x H x D                            | (50 x 160 x 120) mm  |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1411  |

|   |  |
|---|--|
| Technical data                                  |  |
| Number of copper ports                          | 5 x 1000BASE-T or 100BASE-TX (RJ-45); 4 x PoE+ (Power over Ethernet)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization |
| MAC table (size)                                | 8000 addresses   |
| Topology  | Star   |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 24 ... 57 VDC  |
| Power consumption (max.)                        | 13 W   |
| Power consumption (note)                        | 133 W with 4 PoE   |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C (per CE; -10 ... +60 °C per UL 61010)   |
| Dimensions W x H x D                            | (50 x 160 x 120) mm  |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1411  |

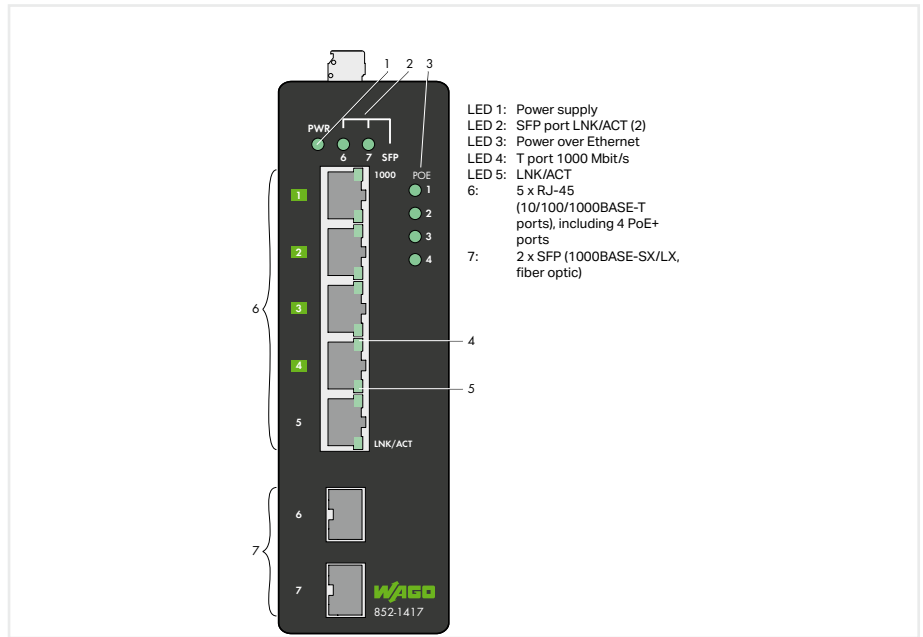
|   |  |
|---|--|
| Technical data                                  |  |
| Number of copper ports                          | 5 x 1000BASE-T or 100BASE-TX (RJ-45); 4 x PoE+ (Power over Ethernet)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization |
| MAC table (size)                                | 8000 addresses   |
| Topology  | Star   |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 24 ... 57 VDC  |
| Power consumption (max.)                        | 13 W   |
| Power consumption (note)                        | 133 W with 4 PoE   |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C (per CE; -10 ... +60 °C per UL 61010)   |
| Dimensions W x H x D                            | (50 x 104 x 115) mm  |
| Approvals                                       | CE, OrdLoc; FCC approval (This device complies with Part 15 Subpart B, Class A of the FCC Rules)   |
| For data sheet and additional information, see: | wago.com/852-1411  |

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# ECO Unmanaged ▶ 5 ports 1000BASE-T; 2 slots 1000BASE-SX/LX; 4 \* Power over Ethernet



852-1417



|                   |
|-------------------|
| <b>Item no.</b>   |
| <b>Order Text</b> |

|   |
|---|
| <b>852-1417</b>   |
| <b>Industrial-Eco-Switch; 5Port Gb; 2-Slot 1000BASE-SX/LX; 4PoE</b> |

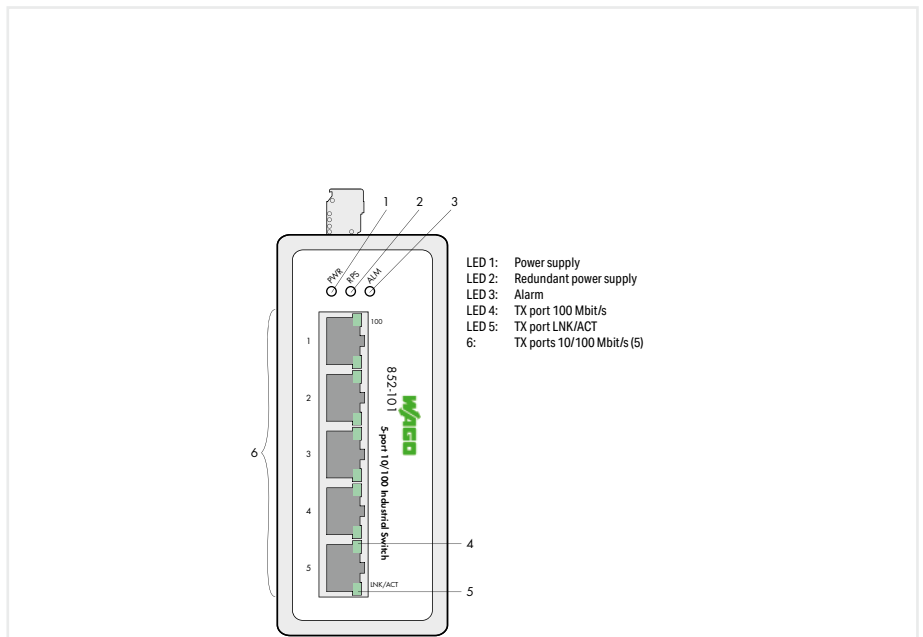
**Technical data**

|   |   |
|---|---|
| Number of copper ports                          | 5 x 1000BASE-T or 100BASE-TX (RJ-45); 4 x PoE+ (Power over Ethernet)  |
| Number of FOC ports                             | 2 x 1000BASE-SX/LX (SFP slot)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization |
| MAC table (size)                                | 8000 addresses  |
| Topology  | Star  |
| Jumbo frame size                                | 10000 bytes   |
| Supply voltage                                  | 24 ... 57 VDC   |
| Power consumption (max.)                        | 14 W  |
| Power consumption (note)                        | 134 W with 4 PoE  |
| Connection technology: communication/fieldbus   | Copper cable: 5 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  |
| Ambient temperature (operation)                 | -40 ... +70 °C (per CE; -10 ... +60 °C per UL 61010)  |
| Dimensions W x H x D                            | (50 x 160 x 120) mm   |
| Approvals                                       | CE, OrdLoc  |
| For data sheet and additional information, see: | wago.com/852-1417   |

## Standard Unmanaged ▶ 5 ports 100BASE-TX



852-101



- LED 1: Power supply
- LED 2: Redundant power supply
- LED 3: Alarm
- LED 4: TX port 100 Mbit/s
- LED 5: TX port LNK/ACT
- 6: TX ports 10/100 Mbit/s (5)



Item no.

852-101

Order Text

Industrial-Switch; 5Port

## Technical data

|   |   |
|---|---|
| Switching mode                                | Store-and-forward; non-blocking   |
| Number of copper ports                        | 5 x 100BASE-TX (RJ-45)  |
| Communication standards                       | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control   |
| Redundancy function                           | Redundant DC power supply   |
| Configuration options                         | DIP switch for signal contact   |
| Diagnostics                                   | Signal contact  |
| MAC table (size)                              | 2000 addresses  |
| Jumbo frame size                              | 1536 bytes  |
| Supply voltage                                | 9 ... 48 VDC; Cable length: < 3 m   |
| Power consumption (max.)                      | 3.84 W  |
| ESD (contact/air discharge)                   | 8 KV / 15 KV  |
| Connection technology: communication/fieldbus | Copper cable: 5 x RJ-45   |
| Ambient temperature (operation)               | -40 ... +70 °C (UL max. +60 °C)   |
| Dimensions W x H x D                          | (50 x 105 x 120) mm   |
| Approvals                                     | CE,  ,  OrdLoc |

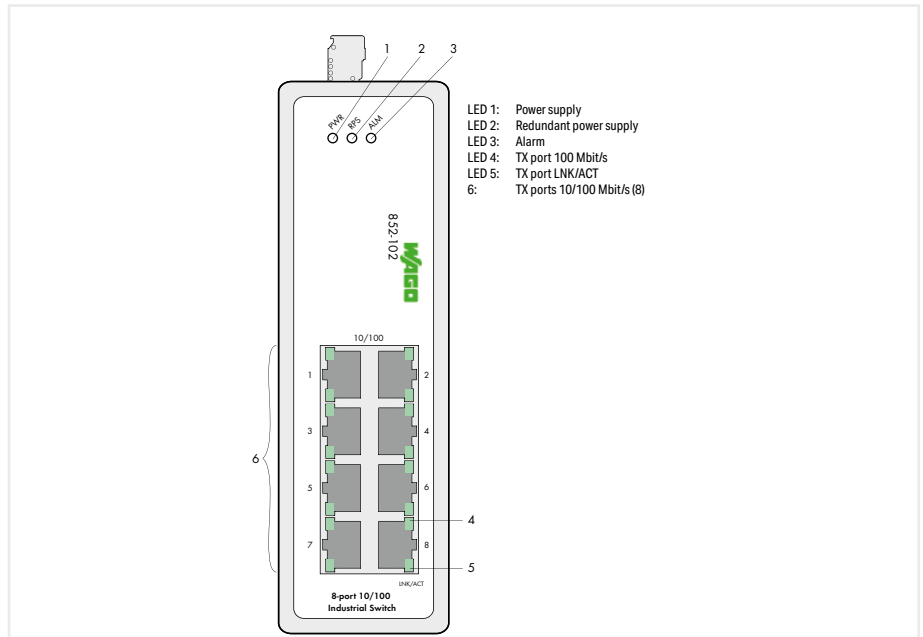
For data sheet and additional information, see:

wago.com/852-101

# Standard Unmanaged ▶ 8 ports 100BASE-TX



852-102



|                   |                          |
|-------------------|--------------------------|
| <b>Item no.</b>   | 852-102                  |
| <b>Order Text</b> | Industrial-Switch; 8Port |

|                   |                          |
|-------------------|--------------------------|
| <b>Item no.</b>   | 852-102                  |
| <b>Order Text</b> | Industrial-Switch; 8Port |

| Technical data                                |   |
|---|---|
| Switching mode                                | Store-and-forward; non-blocking                                       |
| Number of copper ports                        | 8 x 100BASE-TX (RJ-45)  |
| Communication standards                       | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control |
| Redundancy function                           | Redundant DC power supply   |
| Configuration options                         | DIP switch for signal contact   |
| Diagnostics                                   | Signal contact  |
| MAC table (size)                              | 2000 addresses  |
| Jumbo frame size                              | 1536 bytes  |
| Supply voltage                                | 9 ... 48 VDC; Cable length:< 3 m                                      |
| Power consumption (max.)                      | 5.28 W  |
| ESD (contact/air discharge)                   | 8 KV / 15 KV  |
| Connection technology: communication/fieldbus | Copper cable: 8 x RJ-45   |
| Ambient temperature (operation)               | -40 ... +70 °C (UL max. +60 °C)                                       |
| Dimensions W x H x D                          | (50 x 162 x 120) mm   |
| Approvals                                     | CE, RoHS, OrdLoc  |

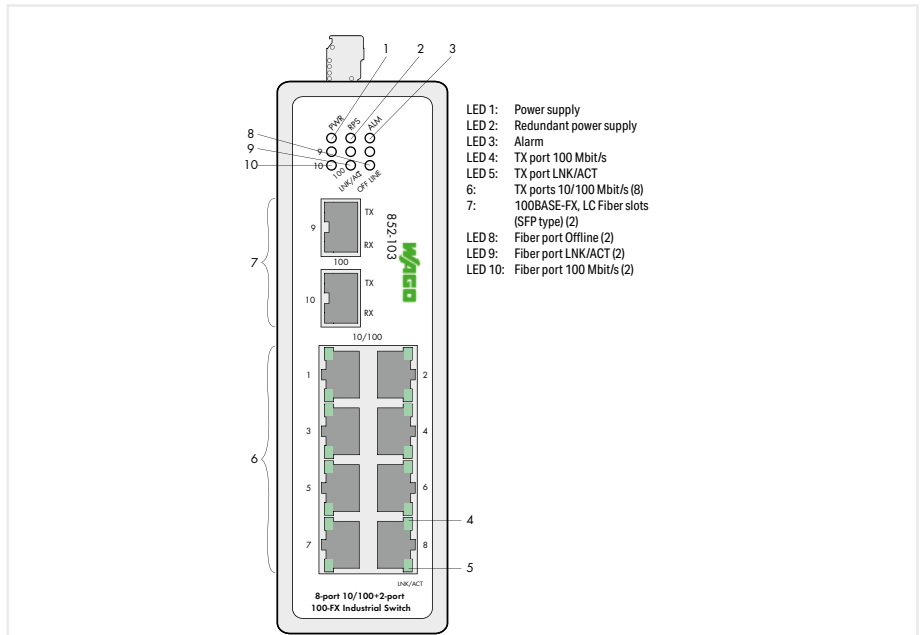
For data sheet and additional information, see:

wago.com/852-102

# Standard Unmanaged ▶ 8 ports 100BASE-TX; 2 slots 100BASE-FX



852-103



**Item no.**  
**Order Text**

**852-103**  
**Industrial-Switch; 8Port; 2-Slot 100BASE-FX**

**Technical data**  
 Switching mode  
 Number of copper ports  
 Number of FOC ports  
 Communication standards  
 Redundancy function  
 Configuration options  
 Diagnostics  
 MAC table (size)  
 Jumbo frame size  
 Supply voltage  
 Power consumption (max.)  
 ESD (contact/air discharge)  
 Connection technology: communication/fieldbus  
 Ambient temperature (operation)  
 Dimensions W x H x D  
 Approvals  
 For data sheet and additional information, see:

Store-and-forward; non-blocking  
 8 x 100BASE-TX (RJ-45)  
 2 x 100BASE-FX (SFP slot)  
 IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3x Flow Control  
 Redundant DC power supply  
 DIP switch for signal contact  
 Signal contact  
 2000 addresses  
 1536 bytes  
 9 ... 48 VDC; Cable length: < 3 m  
 6.08 W  
 8 KV / 15 KV  
 Copper cable: 8 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  
 -40 ... +70 °C (UL max. +60 °C)  
 (50 x 162 x 120) mm  
 CE, IEC, OrdLoc  
 wago.com/852-103

**Accessories**  
 SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored  
 SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored

**Item no.**  
 852-201/107-002  
 852-201/107-030

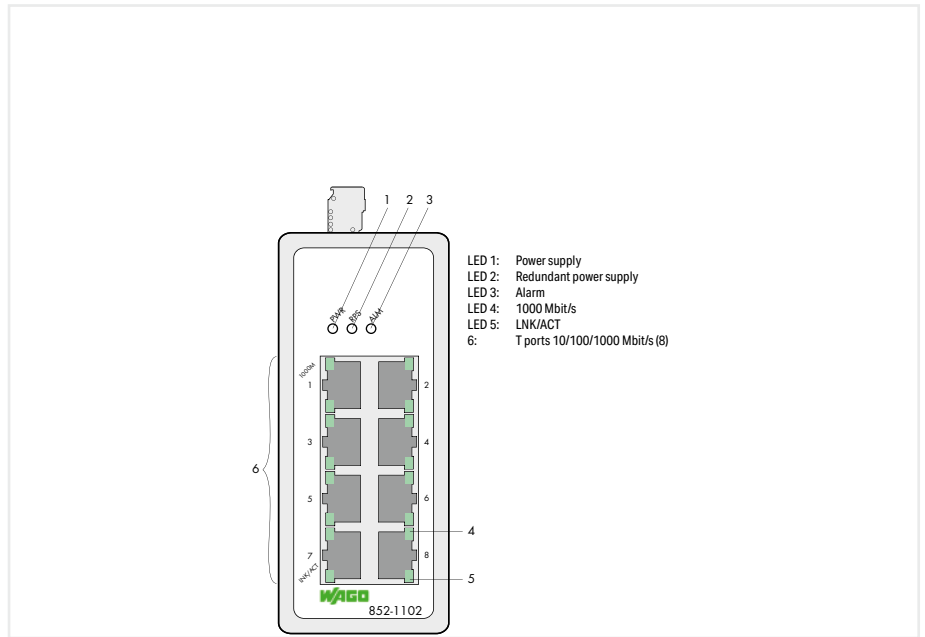
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# Standard Unmanaged ▶ 8 ports 1000BASE-T



852-1102



|            |                              |
|------------|------------------------------|
| Item no.   | 852-1102                     |
| Order Text | Industrial-Switch; 8-Port Gb |

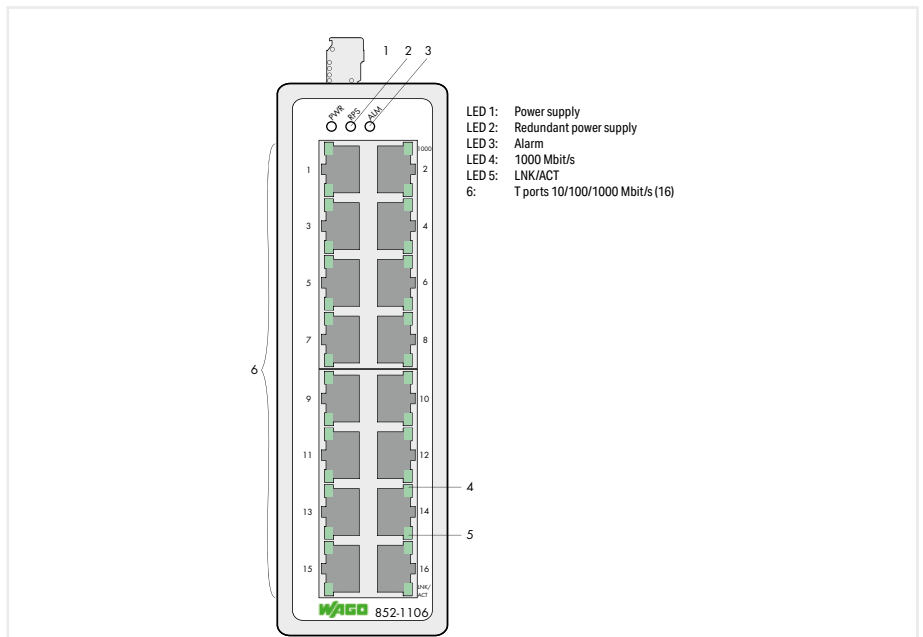
|            |                              |
|------------|------------------------------|
| Item no.   | 852-1102                     |
| Order Text | Industrial-Switch; 8-Port Gb |

|   |  |
|---|--|
| Technical data                                  |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization |
| Redundancy function                             | Redundant DC power supply  |
| Configuration options                           | DIP switch for signal contact  |
| Diagnostics                                     | Signal contact   |
| MAC table (size)                                | 8000 addresses   |
| Jumbo frame size                                | 9000 bytes   |
| Supply voltage                                  | 9 ... 57 VDC   |
| Power consumption (max.)                        | 6 W  |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (50 x 105 x 120) mm  |
| Approvals                                       | CE; DNV GL; OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1102  |

## Standard Unmanaged ► 16 ports 1000BASE-T



852-1106



Item no.

852-1106

Order Text

Industrial-Switch; 16-Port Gb

## Technical data

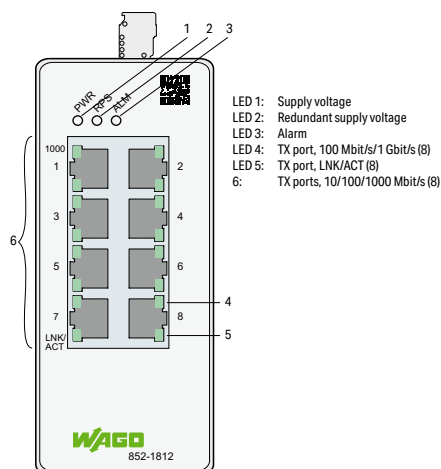
|   |   |
|---|---|
| Switching mode                                  | Store-and-forward; non-blocking   |
| Number of copper ports                          | 16 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization |
| Redundancy function                             | Redundant DC power supply   |
| Configuration options                           | DIP switch for signal contact   |
| Diagnostics                                     | Signal contact  |
| MAC table (size)                                | 8000 addresses  |
| Jumbo frame size                                | 10000 bytes   |
| Supply voltage                                  | 12 ... 60 VDC   |
| Power consumption (max.)                        | 12 W  |
| Connection technology: communication/fieldbus   | Copper cable: 16 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (50 x 162 x 120) mm   |
| Approvals                                       | CE; DNV GL; OrdLoc  |
| For data sheet and additional information, see: | wago.com/852-1106   |



## Lean Managed ▶ 8 ports 1000BASE-T



852-1812

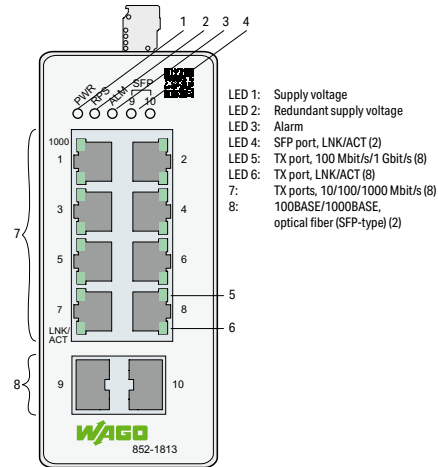


|   |  |
|---|--|
| Item no.  | 852-1812   |
| Order Text                                      | Lean-Managed-Switch; 8-Port 1000BASE-T   |
| Technical data                                  |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3az Energy Efficient Ethernet; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; ERPSv1/v2 (max. 2 rings per switch, max. 16 switches per ring, switching time < 800 ms)  |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3   |
| Diagnostics                                     | Signal contact; Modbus TCP; port status; port statistics; port load; traffic monitor; syslog; SNMP traps; loop detection; diagnostics dashboard; topology map  |
| Safety  | Access-control list with max. 32 entries; port security; IEEE 802.1X authentication  |
| MAC table (size)                                | 8000 addresses   |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 24 ... 48 VDC; (±15 %); 24 ... 48 VDC (UL)   |
| Power consumption (max.)                        | 10 W   |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45  |
| Ambient temperature (operation)                 | -40 ... +60 °C   |
| Dimensions W x H x D                            | (50 x 116 x 100) mm  |
| Approvals                                       | CE; OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1812  |

## Lean Managed ▶ 8 ports 1000BASE-T; 2 slots 1000BASE-FX/TX



852-1813

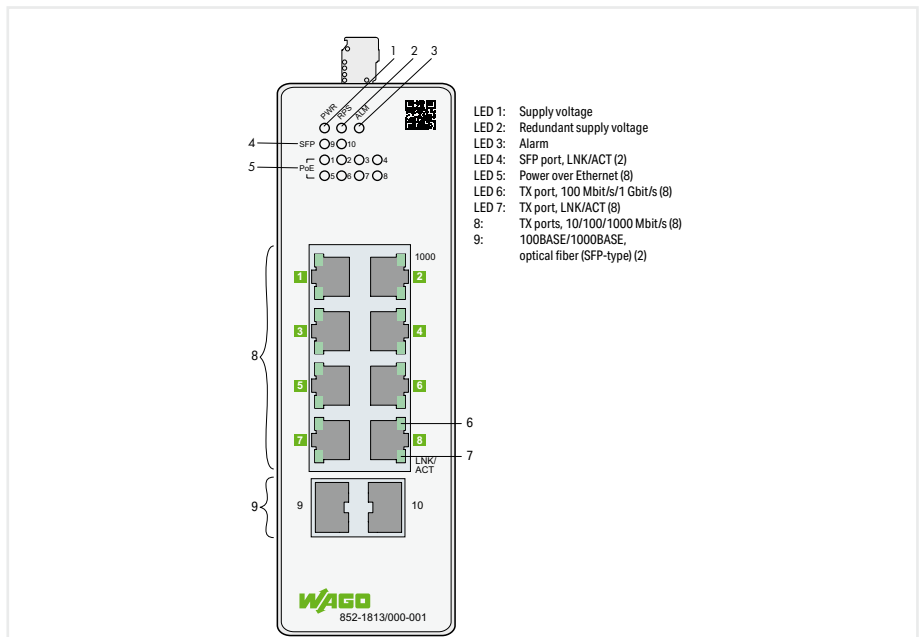


|   |  |
|---|--|
| <b>Item no.</b>   | <b>852-1813</b>  |
| <b>Order Text</b>   | <b>Lean-Managed-Switch; 8-Port 1000BASE-T; 2 Slots 1000BASE-SX/LX</b>  |
| <b>Technical data</b>   |  |
| Switching mode  | Store-and-forward; non-blocking  |
| Number of copper ports  | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Number of FOC ports   | 2 x 1000BASE-SX/LX/ZX or 100BASE-FX (SFP slot)   |
| Communication standards   | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3az Energy Efficient Ethernet; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function   | Redundant DC power supply; STP; RSTP; ERPSv1/v2 (max. 2 rings per switch, max. 16 switches per ring, switching time < 800 ms)  |
| Configuration options   | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3   |
| Diagnostics   | Signal contact; Modbus TCP; port status; port statistics; port load; traffic monitor; syslog; SNMP traps; loop detection; diagnostics dashboard; topology map  |
| Safety  | Access-control list with max. 32 entries; port security; IEEE 802.1X authentication  |
| MAC table (size)  | 8000 addresses   |
| Jumbo frame size  | 10000 bytes  |
| Supply voltage  | 24 ... 48 VDC; (± 15 %); 24 ... 48 VDC (UL)  |
| Power consumption (max.)  | 11 W   |
| ESD (contact/air discharge)   | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)   |
| Ambient temperature (operation)   | -40 ... +60 °C   |
| Dimensions W x H x D  | (50 x 116 x 100) mm  |
| Approvals   | CE; OrdLoc   |
| For data sheet and additional information, see:   | wago.com/852-1813  |
| <b>Accessories</b>  |  |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored  | 852-201/107-002  |
| SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored  | 852-201/107-030  |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280   |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200   |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210   |

# Lean Managed ▶ 8 ports 1000BASE-T; 2 slots 1000BASE-FX/TX; 8 \* Power over Ethernet



852-1813/000-001



**Item no.**  
**Order Text**

**852-1813/000-001**  
**Lean-Managed-Switch; 8-Port 1000BASE-T; 2 Slots 1000BASE-SX/LX; +PoE**

**Technical data**  
 Switching mode  
 Number of copper ports  
 Number of FOC ports  
 Communication standards

Store-and-forward; non-blocking  
 8 x 1000BASE-T or 100BASE-TX (RJ-45); 8 x PoE+ (Power over Ethernet)  
 2 x 1000BASE-SX/LX/ZX or 100BASE-FX (SFP slot)  
 IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.3az Energy Efficient Ethernet; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS)

Redundancy function

Redundant DC power supply; STP; RSTP; ERPSv1/v2 (max. 2 rings per switch, max. 16 switches per ring, switching time < 800 ms)

**Configuration options**  
**Diagnostics**

DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3  
 Signal contact; Modbus TCP; port status; port statistics; port load; traffic monitor; syslog; SNMP traps; loop detection; diagnostics dashboard; topology map

**Safety**  
 MAC table (size)  
 Jumbo frame size  
 Supply voltage  
 Power consumption (max.)  
 Power consumption (note)  
 ESD (contact/air discharge)  
 Connection technology: communication/fieldbus  
 Ambient temperature (operation)  
 Dimensions W x H x D  
 Approvals

Access-control list with max. 32 entries; port security; IEEE 802.1X authentication  
 8000 addresses  
 10000 bytes  
 24 ... 57 VDC  
 13 W  
 253 W with 8 PoE+; 30 W per port  
 8 KV / 15 KV  
 Copper cable: 8 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  
 -40 ... +60 °C  
 (50 x 160 x 120) mm  
 CE; OrdLoc  
 wago.com/852-1813/000-001

For data sheet and additional information, see:

- Accessories**
- SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored
  - SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored
  - SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored
  - SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored
  - SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored

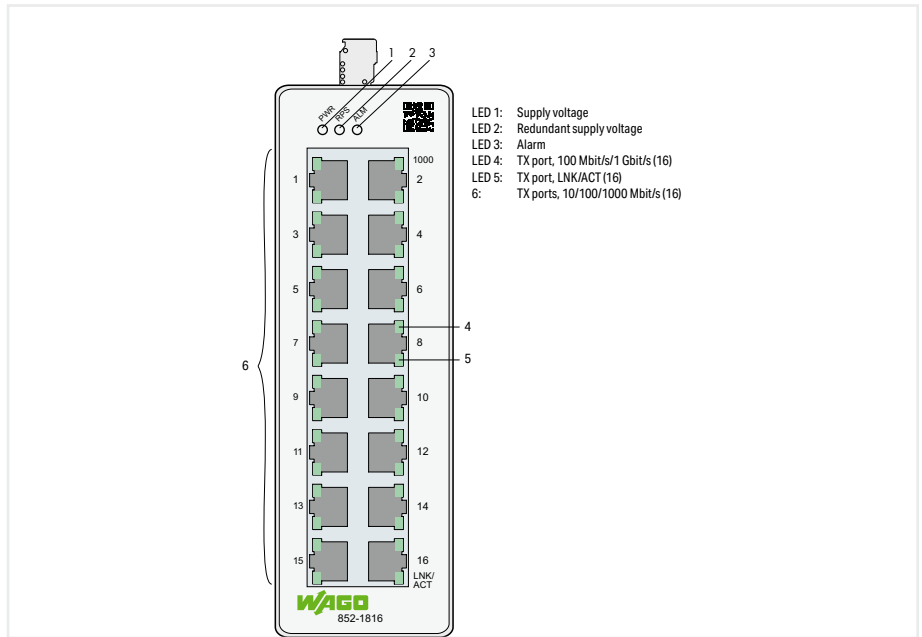
- Item no.**
- 852-201/107-002
  - 852-201/107-030
  - 852-1280
  - 852-1200
  - 852-1210

10

# Lean Managed ▶ 16 ports 1000BASE-T



852-1816

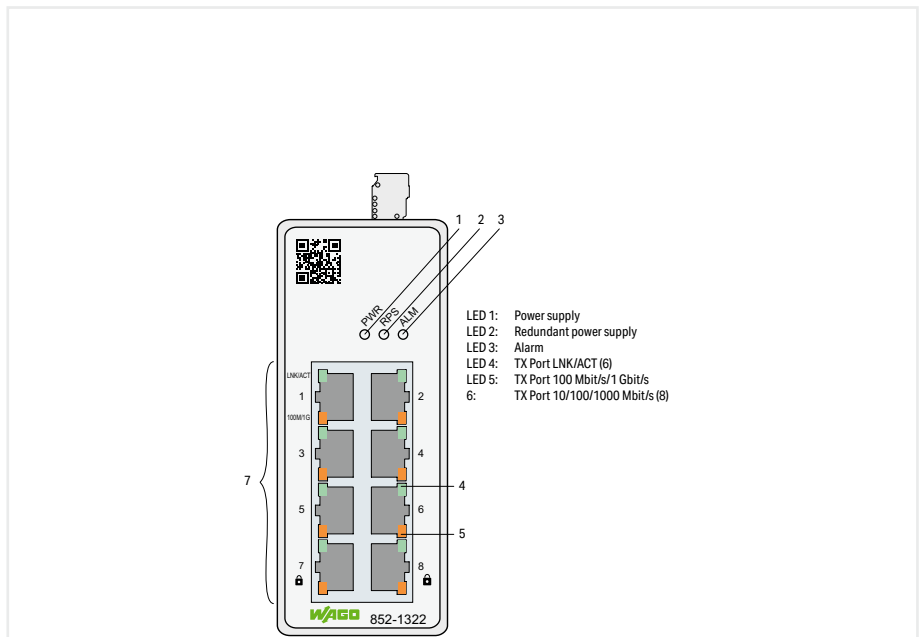


|   |  |
|---|--|
| <b>Item no.</b>                                 | <b>852-1816</b>  |
| <b>Order Text</b>                               | <b>Lean-Managed-Switch; 16 Ports 1000BASE-T</b>  |
| <b>Technical data</b>                           |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 16 x 1000BASE-T or 100BASE-TX (RJ-45)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3az Energy Efficient Ethernet; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; ERPSv1/v2 (max. 2 rings per switch, max. 16 switches per ring, switching time < 800 ms)  |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3   |
| Diagnostics                                     | Signal contact; Modbus TCP; port status; port statistics; port load; traffic monitor; syslog; SNMP traps; loop detection; diagnostics dashboard; topology map  |
| Safety  | Access-control list with max. 32 entries; port security; IEEE 802.1X authentication  |
| MAC table (size)                                | 8000 addresses   |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 12 ... 60 VDC  |
| Power consumption (max.)                        | 12 W   |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 16 x RJ-45   |
| Ambient temperature (operation)                 | -40 ... +60 °C   |
| Dimensions W x H x D                            | (50 x 160 x 120) mm  |
| Approvals                                       | CE; - OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1816  |

## MACsec Managed ▶ 8 ports 1000BASE-T; MAC security



852-1322



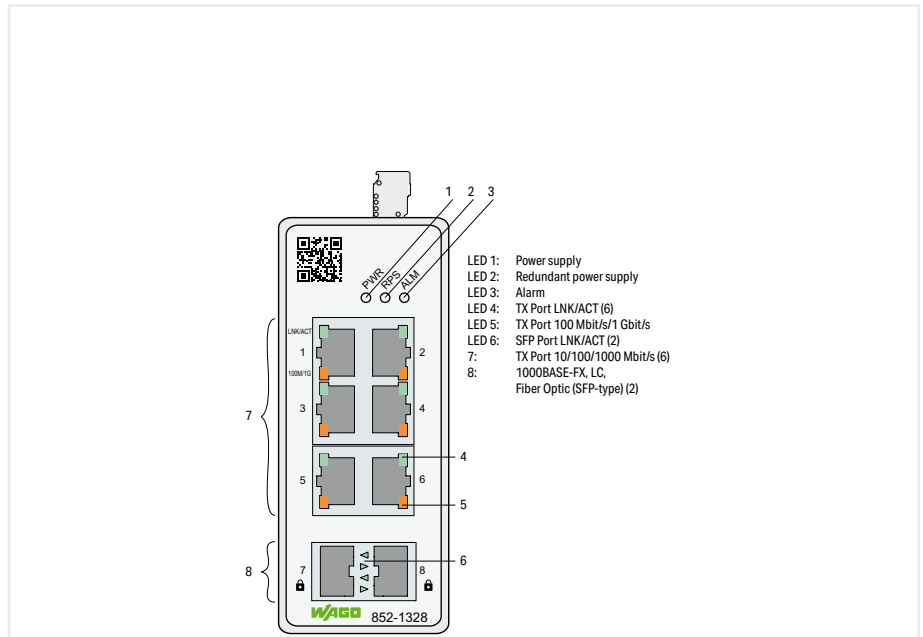
|   |  |
|---|--|
| Item no.  | 852-1322   |
| Order Text                                      | Managed Switch; 8Port Gb; MACsec   |
| Technical data                                  |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1Q VLAN Tagging; IEEE 802.1AE MAC Security |
| Redundancy function                             | Redundant DC power supply  |
| Configuration options                           | Web-based (HTTP(S)); SNMPv1/v2c/v3   |
| Diagnostics                                     | Modbus TCP; Port status; Syslog; SNMP traps  |
| MAC table (size)                                | 16000 addresses  |
| Supply voltage                                  | 9 ... 48 VDC   |
| Power consumption (max.)                        | 5.8 W  |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45  |
| Ambient temperature (operation)                 | -20 ... +70 °C   |
| Dimensions W x H x D                            | (45.3 x 110 x 92) mm   |
| Approvals                                       | CE; OrdLoc (E482462)   |
| For data sheet and additional information, see: | wago.com/852-1322  |



# MACsec Managed ▶ 6 ports 1000BASE-T; 2 slots 1000BASE-SX/LX; MAC security



852-1328

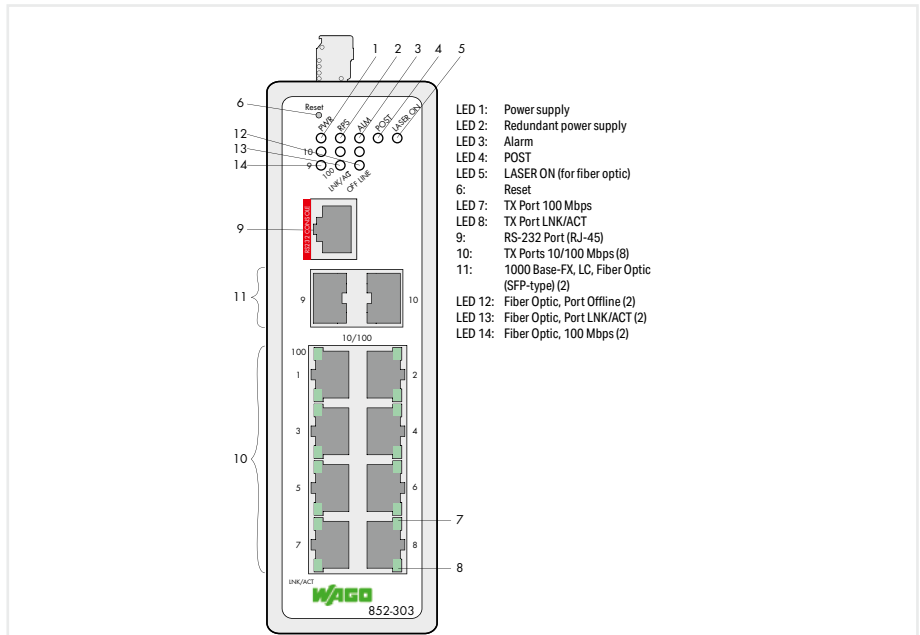


|   |  |
|---|--|
| <b>Item no.</b>   | <b>852-1328</b>  |
| <b>Order Text</b>   | <b>Managed Switch; 6Port Gb; 2FOC Gb; MACsec</b>   |
| <b>Technical data</b>   |  |
| Switching mode  | Store-and-forward; non-blocking  |
| Number of copper ports  | 6 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Number of FOC ports   | 2 x 1000BASE-SX/LX or 100BASE-FX (SFP slot)  |
| Communication standards   | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1Q VLAN Tagging; IEEE 802.1AE MAC Security |
| Redundancy function   | Redundant DC power supply  |
| Configuration options   | Web-based (HTTP(S)); SNMPv1/v2c/v3   |
| Diagnostics   | Modbus TCP; Port status; Syslog; SNMP traps  |
| MAC table (size)  | 16000 addresses  |
| Supply voltage  | 9 ... 48 VDC   |
| Power consumption (max.)  | 5.8 W  |
| ESD (contact/air discharge)   | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 6 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)   |
| Ambient temperature (operation)   | -20 ... +70 °C   |
| Dimensions W x H x D  | (45.3 x 110 x 92) mm   |
| Approvals   | CE; OrdLoc (E482462)   |
| For data sheet and additional information, see:   | wago.com/852-1328  |
| <b>Accessories</b>  |  |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored  | 852-201/107-002  |
| SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored  | 852-201/107-030  |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280   |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200   |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210   |

# Fully Managed ▶ 8 ports 100BASE-TX; 2 slots 1000BASE-SX/LX



852-303



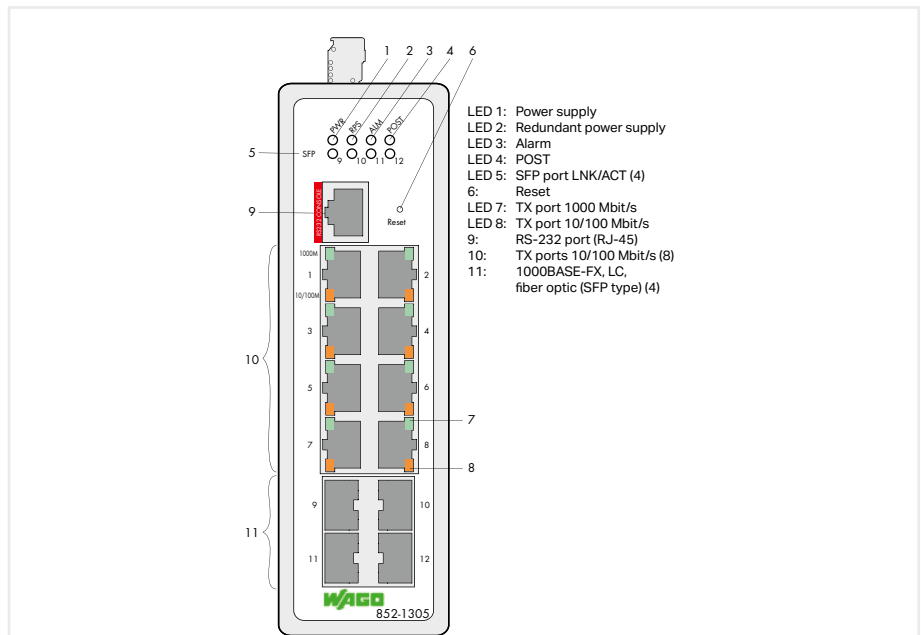
|   |   |
|---|---|
| <b>Item no.</b>   | <b>852-303</b>  |
| <b>Order Text</b>   | <b>Managed-Switch; 8Port; 2-Slot 1000BASE-SX/LX</b>   |
| <b>Technical data</b>   |   |
| Switching mode  | Store-and-forward; non-blocking   |
| Number of copper ports  | 8 x 100BASE-TX (RJ-45)  |
| Number of FOC ports   | 2 x 1000BASE-SX/LX or 100BASE-FX (SFP slot)   |
| Communication standards   | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication |
| Redundancy function   | Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP  |
| Configuration options   | DIP switch for signal contact; Command Line Interface; SNMPv1/v2c/v3  |
| Diagnostics   | Signal contact, Modbus/TCP, port status, port statistics, port load, traffic monitor, SFP information, syslog, mail alarm, SNMP traps   |
| MAC table (size)  | 16000 addresses   |
| Jumbo frame size  | 10000 bytes   |
| Supply voltage  | 12 ... 60 VDC; Cable length: < 3 m  |
| Power consumption (max.)  | 12 W  |
| ESD (contact/air discharge)   | 8 KV / 15 KV  |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  |
| Ambient temperature (operation)   | -40 ... +70 °C  |
| Dimensions W x H x D  | (50 x 162 x 120) mm   |
| Approvals   | CE; DNV GL; OrdLoc  |
| For data sheet and additional information, see:   | wago.com/852-303  |
| <b>Accessories</b>  |   |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored  | 852-201/107-002   |
| SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored  | 852-201/107-030   |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280  |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200  |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210  |

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## Fully Managed ▶ 8 ports 1000BASE-T; 4 slots 1000BASE-SX/LX



852-1305

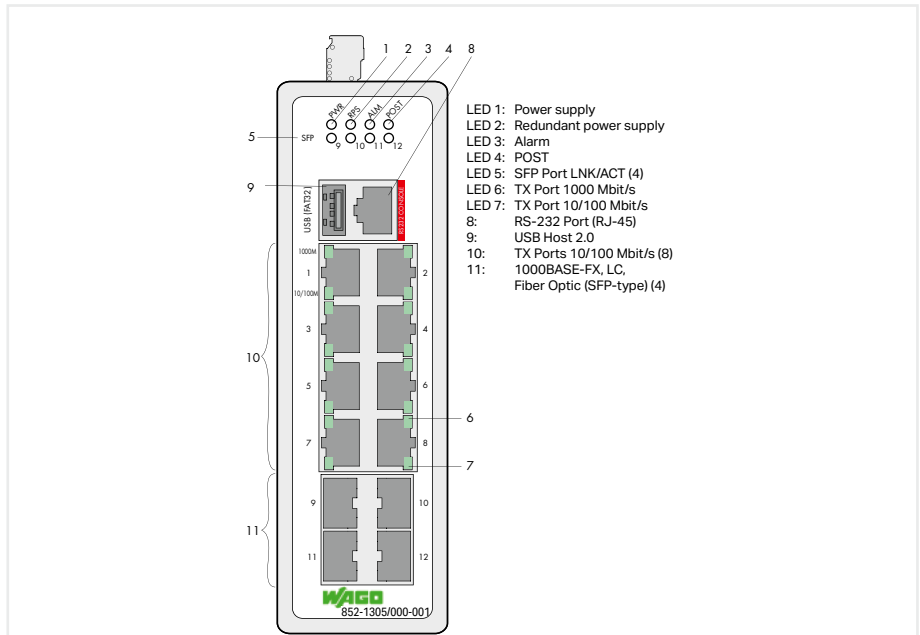


|   |   |
|---|---|
| <b>Item no.</b>   | <b>852-1305</b>   |
| <b>Order Text</b>   | <b>Managed-Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX</b>   |
| <b>Technical data</b>   |   |
| Switching mode  | Store-and-forward; non-blocking   |
| Number of copper ports  | 8 x 1000BASE-T or 100BASE-TX (RJ-45)  |
| Number of FOC ports   | 4 x 1000BASE-SX/LX (SFP slot)   |
| Communication standards   | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function   | Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP  |
| Configuration options   | DIP switch for signal contact; Command Line Interface; SNMPv1/v2c/v3  |
| Diagnostics   | Signal contact, Modbus/TCP, port status, port statistics, port load, traffic monitor, SFP information, syslog, mail alarm, SNMP traps   |
| MAC table (size)  | 16000 addresses   |
| Jumbo frame size  | 10000 bytes   |
| Supply voltage  | 12 ... 60 VDC; Cable length:< 3 m   |
| Power consumption (max.)  | 18 W  |
| ESD (contact/air discharge)   | 8 KV / 15 KV  |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  |
| Ambient temperature (operation)   | -40 ... +70 °C  |
| Dimensions W x H x D  | (50 x 162 x 120) mm   |
| Approvals   | CE; DNV GL; Ⓢ-OrdLoc  |
| For data sheet and additional information, see:   | wago.com/852-1305   |
| <b>Accessories</b>  |   |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280  |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200  |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210  |

# Fully Managed ▶ 8 ports 1000BASE-T; 4 slots 1000BASESX/LX; USB



852-1305/000-001



|            |   |
|------------|---|
| Item no.   | 852-1305/000-001  |
| Order Text | Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; USB |

|            |   |
|------------|---|
| Item no.   | 852-1305/000-001  |
| Order Text | Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; USB |

|   |  |
|---|--|
| Technical data                                  |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Number of FOC ports                             | 4 x 1000BASE-SX/LX (SFP slot)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3ad Link Aggregation; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP   |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3; USB storage medium   |
| Diagnostics                                     | Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps; Loop detection; ...   |
| MAC table (size)                                | 16000 addresses  |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 12 ... 48 VDC  |
| Power consumption (max.)                        | 18 W   |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)   |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (50 x 162 x 120) mm  |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1305/000-001  |

|   |  |
|---|--|
| Technical data                                  |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Number of FOC ports                             | 4 x 1000BASE-SX/LX (SFP slot)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3ad Link Aggregation; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP   |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3; USB storage medium   |
| Diagnostics                                     | Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps; Loop detection; ...   |
| MAC table (size)                                | 16000 addresses  |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 12 ... 48 VDC  |
| Power consumption (max.)                        | 18 W   |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)   |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (50 x 162 x 120) mm  |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1305/000-001  |

|   |          |
|---|----------|
| Accessories   |          |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280 |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200 |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210 |

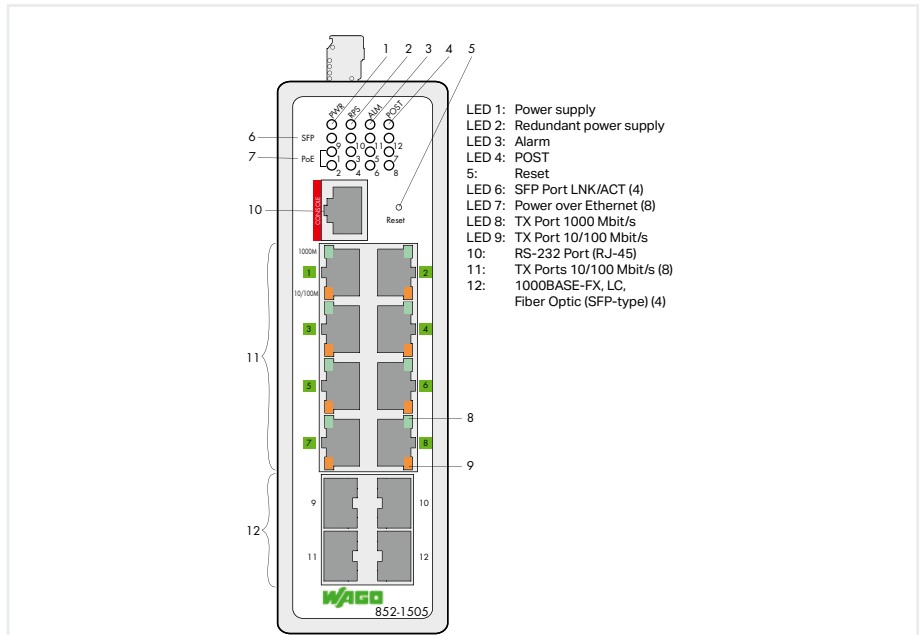
|   |          |
|---|----------|
| Accessories   |          |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280 |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200 |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210 |

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Fully Managed ▶ 8 ports 1000BASE-T; 4 slots 1000BASE-SX/LX; 8 \* Power over Ethernet



852-1505



|            |
|------------|
| Item no.   |
| Order Text |

|  |
|--|
| 852-1505   |
| Managed-Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX; 8PoE |

|                         |
|-------------------------|
| Technical data          |
| Switching mode          |
| Number of copper ports  |
| Number of FOC ports     |
| Communication standards |

|   |
|---|
| Store-and-forward; non-blocking   |
| 8 x 1000BASE-T or 100BASE-TX (RJ-45); 8 x PoE+ (Power over Ethernet)  |
| 4 x 1000BASE-SX/LX (SFP slot)   |
| IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3ad Port Trunk with LACP; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 1588v2 Precision Time Protocol (PTP); IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |

|                     |
|---------------------|
| Redundancy function |
|---------------------|

|  |
|--|
| Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP |
|--|

|                       |
|-----------------------|
| Configuration options |
| Diagnostics           |

|   |
|---|
| DIP switch for signal contact; Command Line Interface; SNMPv1/v2c/v3  |
| Signal contact, Modbus/TCP, port status, port statistics, port load, traffic monitor, SFP information, syslog, mail alarm, SNMP traps |

|   |
|---|
| MAC table (size)                              |
| Jumbo frame size                              |
| Supply voltage                                |
| Power consumption (max.)                      |
| Power consumption (note)                      |
| ESD (contact/air discharge)                   |
| Connection technology: communication/fieldbus |
| Ambient temperature (operation)               |
| Dimensions W x H x D                          |
| Approvals                                     |

|  |
|--|
| 16000 addresses  |
| 10000 bytes  |
| 48 ... 57 VDC  |
| 18 W   |
| 258 W with 8 PoE+  |
| 8 KV / 15 KV   |
| Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector) |
| -40 ... +70 °C   |
| (50 x 162 x 120) mm  |
| CE   |

For data sheet and additional information, see:

wago.com/852-1505

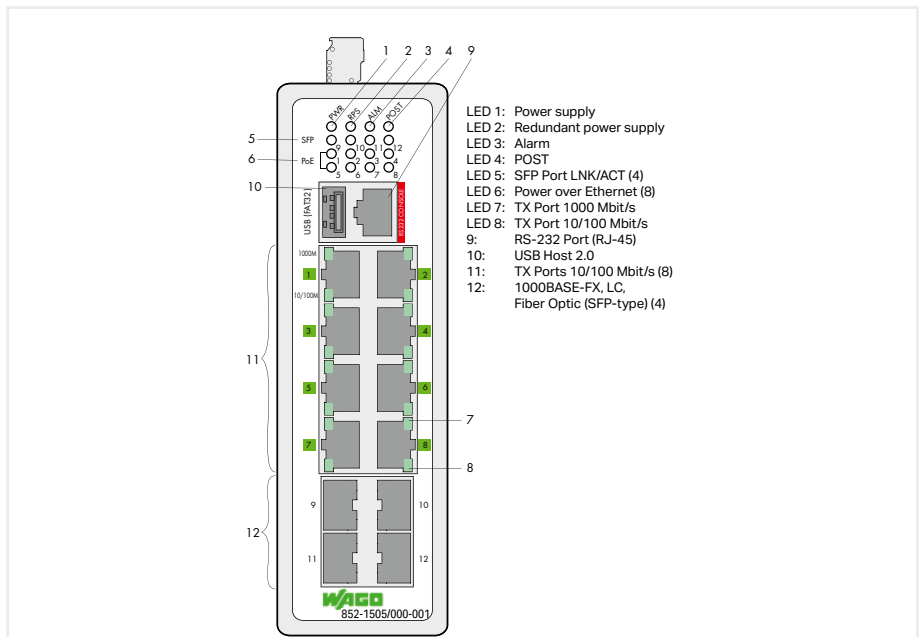
|   |
|---|
| <b>Accessories</b>  |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored |

|          |          |
|----------|----------|
| Item no. | 852-1280 |
|          | 852-1200 |
|          | 852-1210 |

# Fully Managed ▶ 8 ports 1000BASE-T; 4 slots 1000BASESX/LX; 8 \* Power over Ethernet; USB



852-1505/000-001



|                   |
|-------------------|
| <b>Item no.</b>   |
| <b>Order Text</b> |

|   |
|---|
| <b>852-1505/000-001</b>   |
| <b>Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; EXT; 8PoE; USB</b> |

|                         |
|-------------------------|
| <b>Technical data</b>   |
| Switching mode          |
| Number of copper ports  |
| Number of FOC ports     |
| Communication standards |

|  |
|--|
| Store-and-forward; non-blocking  |
| 8 x 1000BASE-T or 100BASE-TX (RJ-45); 8 x PoE+ (Power over Ethernet)   |
| 4 x 1000BASE-SX/LX (SFP slot)  |
| IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1X Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3ad Link Aggregation; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) |

|                     |
|---------------------|
| Redundancy function |
|---------------------|

|  |
|--|
| Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP |
|--|

|                       |
|-----------------------|
| Configuration options |
|-----------------------|

|  |
|--|
| DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3; USB storage medium |
|--|

|             |
|-------------|
| Diagnostics |
|-------------|

|  |
|--|
| Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps; Loop detection; ... |
|--|

|                  |
|------------------|
| MAC table (size) |
| Jumbo frame size |

|                 |
|-----------------|
| 16000 addresses |
| 10000 bytes     |

|                          |
|--------------------------|
| Supply voltage           |
| Power consumption (max.) |

|               |
|---------------|
| 24 ... 57 VDC |
| 18 W          |

|                             |
|-----------------------------|
| Power consumption (note)    |
| ESD (contact/air discharge) |

|                   |
|-------------------|
| 258 W with 8 PoE+ |
| 8 KV / 15 KV      |

|   |
|---|
| Connection technology: communication/fieldbus |
| Ambient temperature (operation)               |
| Dimensions W x H x D                          |

|  |
|--|
| Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector) |
| -40 ... +70 °C   |
| (50 x 162 x 120) mm  |

|   |
|---|
| Approvals                                       |
| For data sheet and additional information, see: |

|                           |
|---------------------------|
| CE; DNV GL; OrdLoc        |
| wago.com/852-1505/000-001 |

**Accessories**

- SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored
- SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored
- SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored

|                 |          |
|-----------------|----------|
| <b>Item no.</b> | 852-1280 |
|-----------------|----------|

|  |          |
|--|----------|
|  | 852-1200 |
|--|----------|

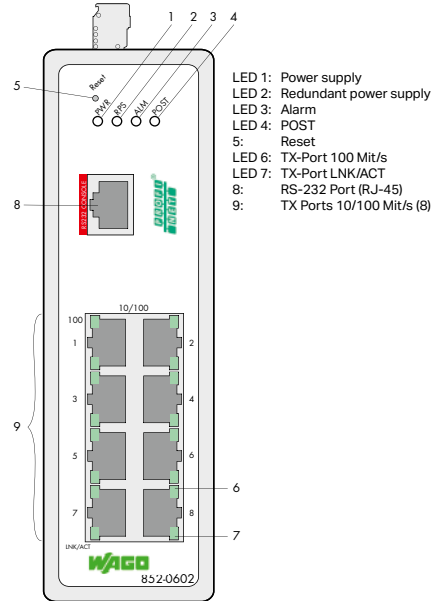
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|  | 852-1210 |
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10

# PROFINET® Managed ▶ 8 ports 100BASE-TX; PROFINET



852-602

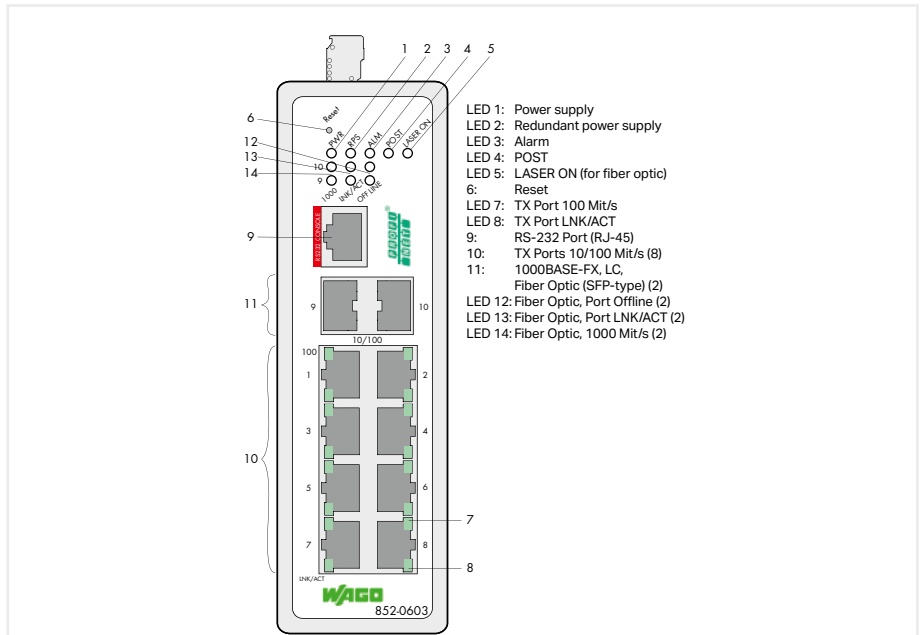


|   |   |
|---|---|
| Item no.  | 852-602   |
| Order Text                                      | Managed-Switch; 8Port 100BASE-TX; PROFINET; T   |
| Technical data                                  |   |
| Switching mode                                  | Store-and-forward; non-blocking   |
| Number of copper ports                          | 8 x 100BASE-TX (RJ-45)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Class of Service; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); PROFINET Conformance Class B |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; MSTP; Media redundancy protocol as manager or client  |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3  |
| Diagnostics                                     | Signal contact; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; SNMP traps; PN diagnostics (cyclic and acyclic)  |
| MAC table (size)                                | 16000 addresses   |
| Jumbo frame size                                | 10000 bytes   |
| Supply voltage                                  | 12 ... 60 VDC   |
| Power consumption (max.)                        | 12 W  |
| ESD (contact/air discharge)                     | 8 KV / 15 KV  |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45   |
| Ambient temperature (operation)                 | -40 ... +70 °C  |
| Dimensions W x H x D                            | (50 x 162 x 120) mm   |
| Approvals                                       | CE; OrdLoc  |
| For data sheet and additional information, see: | wago.com/852-602  |

# PROFINET® Managed ▶ 8 ports 100BASE-TX; 2 slots 1000BASE-SX/LX; PROFINET



852-603



|                   |
|-------------------|
| <b>Item no.</b>   |
| <b>Order Text</b> |

|  |
|--|
| <b>852-603</b>   |
| <b>Managed-Switch; 8Port 100BASE-TX; 2Slot 1000BASE-SX/LX; PROFINET; T</b> |

|   |
|---|
| <b>Technical data</b>                           |
| Switching mode                                  |
| Number of copper ports                          |
| Number of FOC ports                             |
| Communication standards                         |
| Redundancy function                             |
| Configuration options                           |
| Diagnostics                                     |
| MAC table (size)                                |
| Jumbo frame size                                |
| Supply voltage                                  |
| Power consumption (max.)                        |
| ESD (contact/air discharge)                     |
| Connection technology: communication/fieldbus   |
| Ambient temperature (operation)                 |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

|   |
|---|
| Store-and-forward; non-blocking   |
| 8 x 100BASE-TX (RJ-45)  |
| 2 x 1000BASE-SX/LX/ZX or 100BASE-FX (SFP slot)  |
| IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Class of Service; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); PROFINET Conformance Class B |
| Redundant DC power supply; STP; RSTP; MSTP; Media redundancy protocol as manager or client  |
| DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3  |
| Signal contact; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; SNMP traps; PN diagnostics (cyclic and acyclic)  |
| 16000 addresses   |
| 10000 bytes   |
| 12 ... 60 VDC   |
| 12 W  |
| 8 KV / 15 KV  |
| Copper cable: 8 x RJ-45; Fiber optic: 2 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)  |
| -40 ... +70 °C  |
| (50 x 162 x 120) mm   |
| CE, OrdLoc  |
| wago.com/852-603  |

|   |
|---|
| <b>Accessories</b>  |
| SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; silver-colored  |
| SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; silver-colored  |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored |

|                 |
|-----------------|
| <b>Item no.</b> |
| 852-201/107-002 |
| 852-201/107-030 |
| 852-1280        |
| 852-1200        |
| 852-1210        |

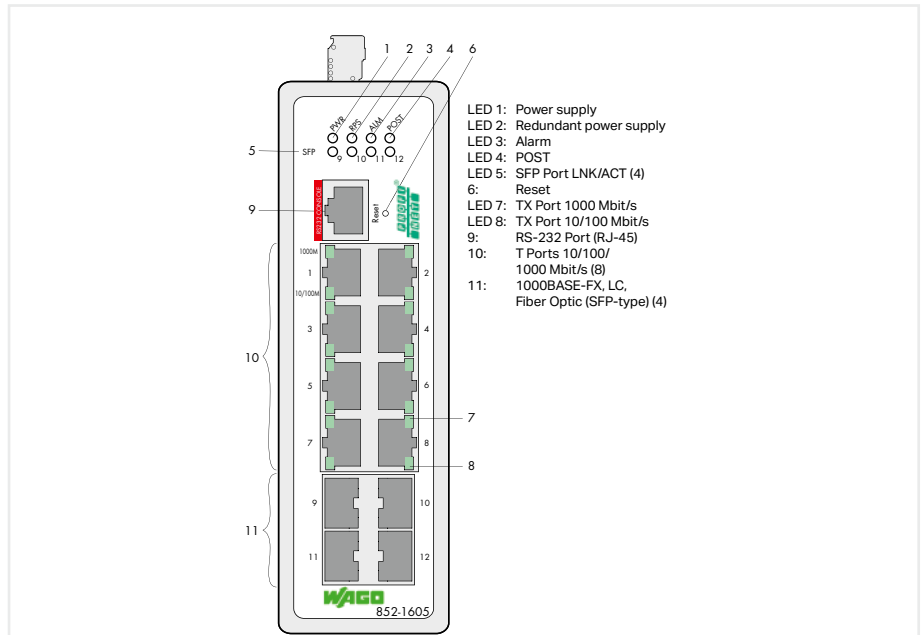
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# PROFINET® Managed ▶ 8 ports 1000BASE-T; 4 slots 1000BASE-SX/LX; PROFINET



852-1605



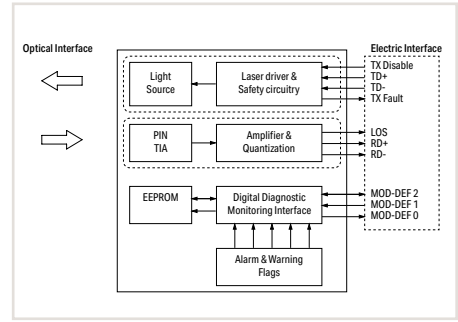
|                   |  |
|-------------------|--|
| <b>Item no.</b>   | <b>852-1605</b>  |
| <b>Order Text</b> | <b>Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; PROFINET; T</b> |

|   |  |
|---|--|
| <b>Technical data</b>                           |  |
| Switching mode                                  | Store-and-forward; non-blocking  |
| Number of copper ports                          | 8 x 1000BASE-T or 100BASE-TX (RJ-45)   |
| Number of FOC ports                             | 4 x 1000BASE-SX/LX (SFP slot)  |
| Communication standards                         | IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1Q VLAN Tagging; IEEE 802.1p Class of Service; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); PROFINET Conformance Class B |
| Redundancy function                             | Redundant DC power supply; STP; RSTP; MSTP; Media redundancy protocol as manager or client   |
| Configuration options                           | DIP switch for signal contact; Web-Based Management; Command Line Interface; SNMPv1/v2c/v3   |
| Diagnostics                                     | Signal contact; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; SNMP traps; PN diagnostics (cyclic and acyclic)   |
| MAC table (size)                                | 16000 addresses  |
| Jumbo frame size                                | 10000 bytes  |
| Supply voltage                                  | 12 ... 60 VDC  |
| Power consumption (max.)                        | 12 W   |
| ESD (contact/air discharge)                     | 8 KV / 15 KV   |
| Connection technology: communication/fieldbus   | Copper cable: 8 x RJ-45; Fiber optic: 4 x SFP-slots (e.g., with SFP module and LC fiber-optic connector)   |
| Ambient temperature (operation)                 | -40 ... +70 °C   |
| Dimensions W x H x D                            | (50 x 162 x 120) mm  |
| Approvals                                       | CE, OrdLoc   |
| For data sheet and additional information, see: | wago.com/852-1605  |

|   |          |
|---|----------|
| <b>Accessories</b>  |          |
| SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1280 |
| SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended temperature range; DDM; silver-colored                            | 852-1200 |
| SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended temperature range; Digital Diagnostics Monitoring; silver-colored | 852-1210 |

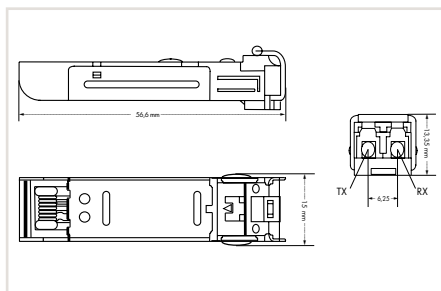
# Industrial Switches – Accessories

## SFP Modules



**Features:**

- Duplex LC optical connector
- Small Form-Factor Pluggable (SFP) industry-standard design
- Compliant with Fast ETHERNET and Gigabit ETHERNET (IEEE802.3z) standards
- Differential LVPECL inputs and outputs
- Supply voltage: 3.3 V
- TTL signal detect indicator
- Hot-pluggable capability



|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Item No.</b>         |

|   |
|---|
| <b>SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; Extended Temperature Range; DDM</b> |
| <b>852-1200</b>   |

|   |   |
|---|---|
| <b>SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; Extended Temperature Range; DDM</b> | <b>SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; Extended Temperature Range; DDM</b> |
| <b>852-1210</b>   | <b>852-1280</b>   |

|   |
|---|
| <b>Technical Data</b>                   |
| Optical fiber type                      |
| Cable length (max.)                     |
| Cable type                              |
| Wavelength                              |
| Surrounding air temperature (operation) |

|                        |
|------------------------|
| Multi-mode             |
| 300 m; 550 m           |
| 62.5/125 μm, 50/125 μm |
| 850 nm                 |
| -40 ... +85 °C         |

|                |         |
|----------------|---------|
| Single-mode    |         |
| 10 km          | 80 km   |
| 9/125 μm       |         |
| 1310 nm        | 1550 nm |
| -40 ... +85 °C |         |

|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Item No.</b>         |

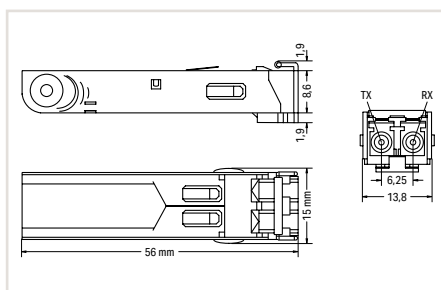
|  |
|--|
| <b>SFP Module 2: 1310 nm; 100BASE-FX Multi-Mode LC; 2 km</b> |
| <b>852-201/107-002</b>                                       |

|   |
|---|
| <b>SFP Module 30: 1310 nm; 100BASE-FX Single-Mode LC; 30 km</b> |
| <b>852-201/107-030</b>  |

|   |
|---|
| <b>Technical Data</b>                   |
| Optical fiber type                      |
| Cable length (max.)                     |
| Cable type                              |
| Wavelength                              |
| Surrounding air temperature (operation) |

|                        |
|------------------------|
| Multi-mode             |
| 2 km                   |
| 62.5/125 μm, 50/125 μm |
| 1310 nm                |
| -40 ... +70 °C         |

|              |
|--------------|
| Single-mode  |
| 30 km        |
| 9/125 μm     |
| 1310 nm      |
| 0 ... +60 °C |



|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Item No.</b>         |

|   |
|---|
| <b>SFP Module 100BASE; FX Multi-Mode 1310 nm LC; 2 km; DDM; Extended Temperature Range; DDM</b> |
| <b>852-202</b>  |

**Features:**

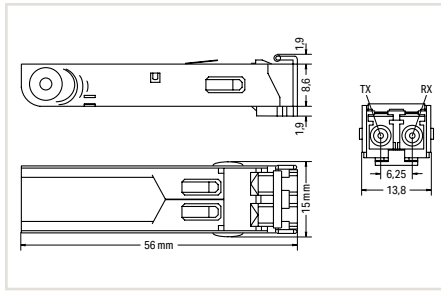
- Low Power
- Coated PCB
- Extended surrounding air temperature: -40 ... 100 °C
- High impulse withstand voltage: 1.2 kVDC
- Duplex LC optical connector
- Small Form-Factor Pluggable (SFP) industry-standard design
- 125Mbps 100BASE-LX10, IEEE 802.3 Clause 58
- Compliant with the Fast ETHERNET standard
- Digital Diagnostic Monitoring interface according to SFF-8472
- Supply voltage: 3.3 V
- TTL signal detect indicator
- Hot-pluggable capability

|   |
|---|
| <b>Technical Data</b>                   |
| Optical fiber type                      |
| Cable length (max.)                     |
| Cable type                              |
| Wavelength                              |
| Surrounding air temperature (operation) |

|                        |
|------------------------|
| Multi-mode             |
| 2 km                   |
| 62.5/125 μm, 50/125 μm |
| 1310 nm                |
| -40 ... +100 °C        |

# Industrial Switches – Accessories

## SFP Modules



**Features:**

- Low Power
- Coated PCB
- Extended surrounding air temperature: -40 ... 95 °C
- High impulse withstand voltage: 0.7 kVDC
- Duplex LC optical connector
- Small Form-Factor Pluggable (SFP) industry-standard design
- 125Mbps 100BASE-LX10, IEEE 802.3 Clause 58
- Compliant with the Fast ETHERNET standard
- Digital Diagnostic Monitoring interface according to SFF-8472
- Supply voltage: 3.3 V
- TTL signal detect indicator
- Hot-pluggable capability
- Class 1 laser according to IEC 60825

|   |  |
|---|--|
| <b>Item Description</b>                 | <b>SFP Module 100BASE; LX Single-Mode 1310 nm LC; 30 km; DDM; Extended Temperature Range</b> |
| <b>Item No.</b>                         | <b>852-230</b>   |
| <b>Technical Data</b>                   |  |
| Optical fiber type                      | Single-mode  |
| Cable length (max.)                     | 30 km  |
| Cable type                              | 9/125 µm   |
| Wavelength                              | 1310 nm  |
| Surrounding air temperature (operation) | -40 ... +95 °C   |







# Radio Technology

## Radio Technology

- Bluetooth®
- WLAN
- EnOcean®

# Radio Technology – Bluetooth®, WLAN and EnOcean® Components

## Contents

|   |   |   | Page                       |
|---|---|---|----------------------------|
|   |   | General Product Information   | 620                        |
|   |   | Interfaces and Types  | 621                        |
|   |   | Application and Installation Instructions   | 622                        |
|   |   | <b>Beschreibung</b>   | <b>Bestellnr.</b>          |
|  |  | Wireless ETHERNET Gateway<br>Wireless ETHERNET Gateway; External Antenna            | 758-918<br>758-918/000-001 |
|  |  | Wireless Access Point   | 758-919                    |
|  |  | EnOcean® RS-485 Gateway; 868 MHz  | 750-940                    |
|   |   | Radio Transmitter, EnOcean® easyfit PTM 250   | 627                        |
|   |   | 2-Channel Lighting Control  | 758-940/001-000            |
|   |   | 4-Channel Lighting Control  | 758-940/003-000            |
|   |   | 2-Channel Sunblind Control  | 758-940/002-000            |
|   |   | 4-Channel Sunblind Control  | 758-940/004-000            |
|   |   | Accessories   |                            |
|   |   | Antennas  | 628                        |
|   |   |  |                            |

## Radio Technology

### General Product Information

#### Wireless Technology in the Industrial Environment

Wireless technology can support wired applications or enable completely new applications.

In mobile or movable systems, wireless technology is the first choice when greater distances or obstacles must be overcome. It is an alternative for applications in which wired solutions are not economical or technically feasible.

Various wireless technologies can be used depending on the application.



#### **Bluetooth® – Robust, Flexible, High-Performance**

Well-known in consumer electronics, *Bluetooth®* technology is also well-suited to industrial use with its internationally approved frequency range, a very robust transmission technology (frequency hopping), real-time response and a range of up to 400 m. It makes wireless process data communication between two stations possible (point-to-point communication), and also enables the setup of a piconet in which a *Bluetooth®* master can communicate with up to seven slaves, e.g., decentralized mobile sensors.

In addition, *Bluetooth®* can be used as the radio system for commissioning.

Features:

- Secure transmission (encrypted)
- AFH (Adaptive Frequency Hopping)
- Adaptive transmission power
- Uses the license-free 2.4 GHz frequency band



#### **WLAN – Full IT Integration**

WLAN makes it easy to set up a wireless transmission link for ETHERNET protocols. This can be standard ETHERNET protocols, e.g., for communication between a smartphone and automation components. Industrial fieldbus protocols such as PROFINET, Modbus TCP or Ethernet/IP can also be used to link mobile equipment with stationary equipment. Ranges up to 400 m are possible depending on the transmission technology used.

#### **EnOcean® – The Radio Standard in Building Automation**



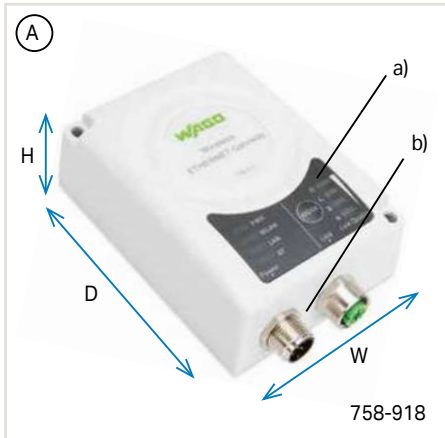
**enocean®**

Wireless switches and sensors based on EnOcean® technology harvest available energy to power themselves, e.g., kinetic energy from actuating a switch or sensors powered by ambient light. This energy harvesting completely eliminates maintenance of the radio transmitter at a range of up to 300 m in open air (30 m in buildings).

#### **Advantages:**

- Branch and application-specific – always the right radio system
- Industrial design – high-performance, rugged and safe
- Tightly integrated into WAGO automation technology

## Radio Technology Interfaces and Types



### ETHERNET Gateway (A)

- Wireless transmission via WLAN (IEEE802.11a/b/g/d/n/r), Bluetooth® or Bluetooth® Low Energy
- Works as an access point, client or gateway
- Two internal 2.4 GHz and 5 GHz dual-band antennas and an integrated 2.4 GHz MIMO antenna
- Status and diagnostic LEDs (a)
- M12 connectors for both network connection and power supply (b)
- Protection type: IP65
- W x H x D (mm): 66 x 36.2 x 91

### Wireless Access Point (B)

- Wireless transmission via WLAN (IEEE802.11a/b/g/d/n/r), Bluetooth® or Bluetooth® Low Energy
- Internal 2.4 GHz and 5 GHz dual-band antenna
- Protection type (top): IP66/IP67 (outside of unit)
- M50 through-panel installation (cut-out: 50.5 mm)



758-919



### EnOcean® RS-485 Gateway (C);

#### Communication module for I/O system

- Integration of sensors/actuators based on EnOcean® wireless technology into intelligent control systems such as the WAGO I/O system
- Communication via RS-485 interface using ESP3 telegrams (EnOcean®) or Modbus® protocol
- Internal antenna (optional external antenna)
- Dimensions (mm) Diameter x Height 95 x 36

### Switch Inserts (D)

- Universal switch inserts for standard switch series in building automation
- Compatible with manufacturer programs from BERKER, GIRA, JUNG, MERTEN

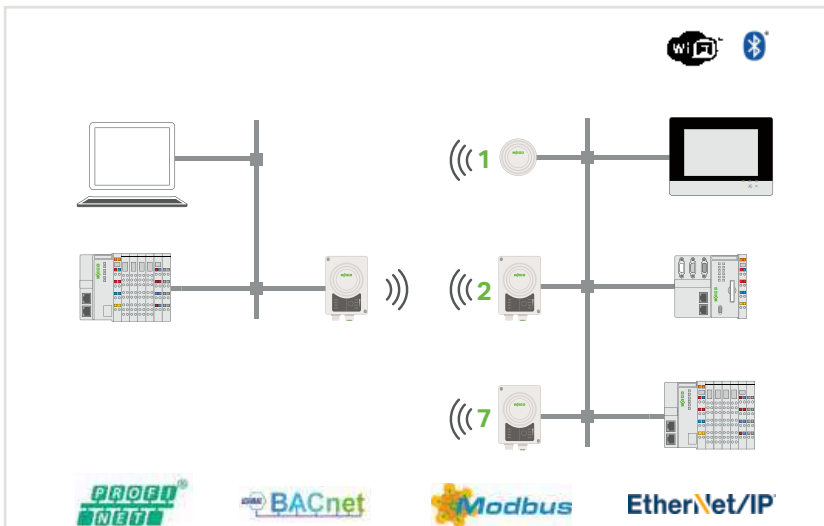


# Radio Technology

## Application and Installation Instructions

### ETHERNET Bridge

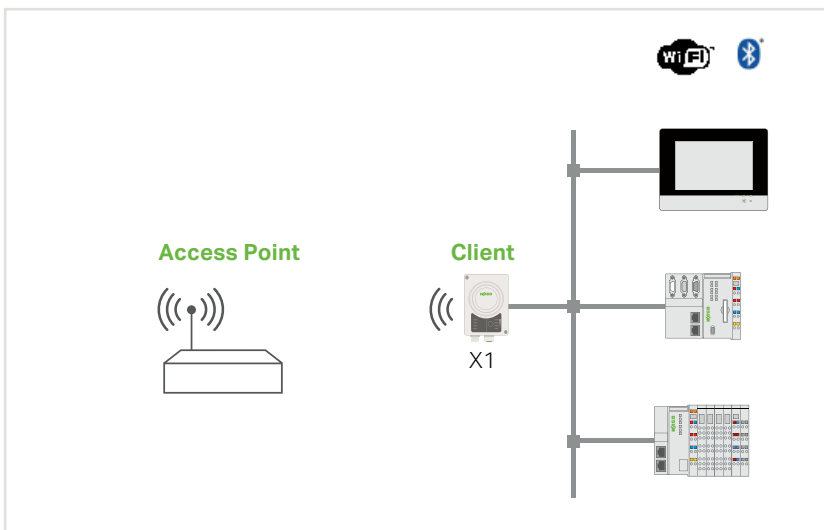
- Transmission of each TCP/IP protocol along with prioritized PROFINET RT and EtherNet/IP™ frames
- Pairing via device's push-button (758-918 only)
- Up to 7 clients
- Use of Wi-Fi or Bluetooth®



### Client for Existing Access Point

- Connection to a Wi-Fi 802.11a/b/g/n/d/r network
- Protocols like Modbus TCP, EtherNet/IP™, BACnet/IP ...
- Possibility of connecting multiple devices after the client

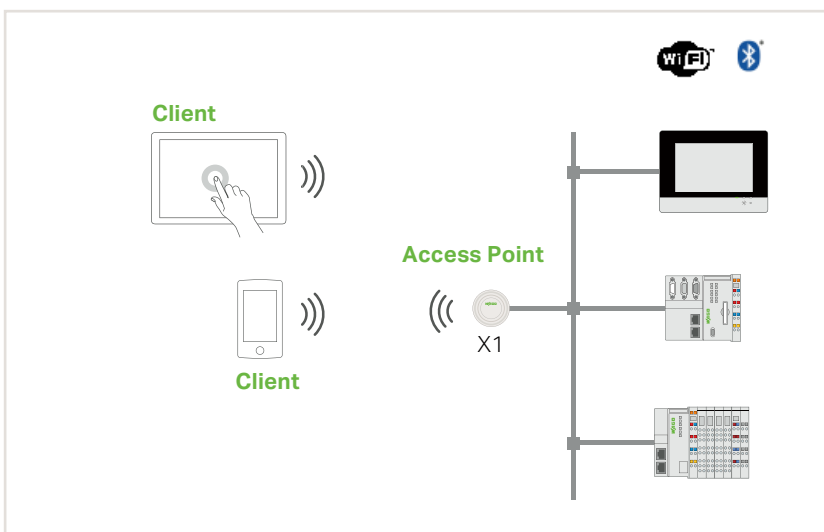
Note X1: 758-918 or 758-919



### Access Point

- Setup of a Wi-Fi 802.11a/b/g/n/d/r or Bluetooth® network
- Connection of tablets, smartphones ...
- Up to 7 clients simultaneously

Note X1: 758-918 or 758-919



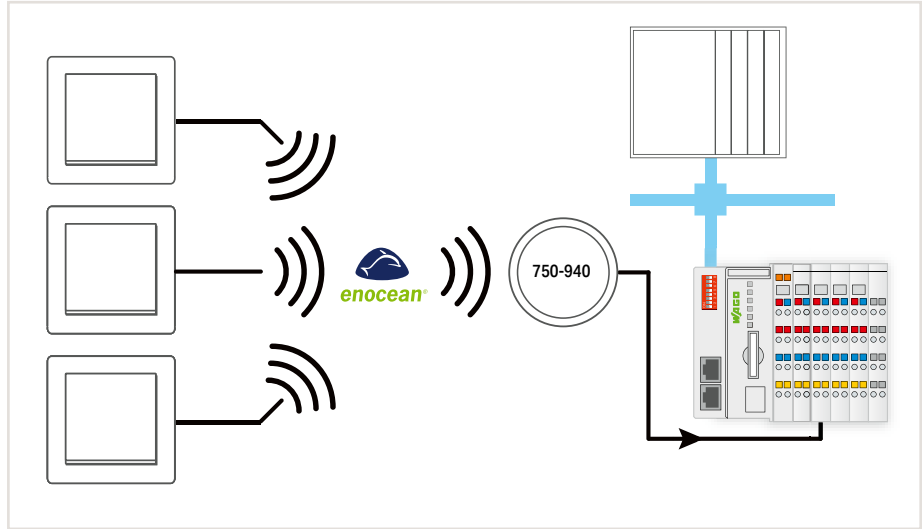


# Radio Technology

## Application and Installation Instructions

### Integration into the WAGO I/O System via EnOcean® Radio Technology

- Communication via the EnOcean® RS-485 Gateway in the WAGO I/O System
- Operation on:
  - Controllers
  - Fieldbus couplers
- Internal antenna (optional external antenna)



# WLAN ETHERNET Gateway



### Power connector:

M12 plug, A-coded



- 1: Vin + (9 ... 30 VDC)
- 2: Digital input GND
- 3: Vin GND (0 V)
- 4: Digital input + (9 ... 30 VDC)
- 5: Functional ground

### ETHERNET connector:

M12 socket, D-coded



- 1: Transmit +
- 2: Receive +
- 3: Transmit -
- 4: Receive -

| Item Description  | Wireless ETHERNET Gateway  |   |
|---|--|---|
| Version   | External Antenna   |   |
| Item No.  | 758-918  | 758-918/000-001   |
| Order Text  | Wireless ETHERNET Gateway  | Wireless ETHERNET Gateway; External Antenna             |
| <b>Technical Data</b>                                     |  |   |
| Wireless technology                                       | Bluetooth®: 4.0;<br>WLAN: 802.11a/b/g/d/e/i/h  |   |
| Topology  | Peer-to-peer connection  |   |
| Security authentication                                   | WLAN: WPA/WPA2 PSK; LEAP; PEAP   |   |
| Security encryption                                       | WLAN: none; WEP64; WEP128; TKIP; AES/CCMP  |   |
| Frequency band  | ISM band; 2.4 GHz (Bluetooth®, WLAN);<br>ISM band; 5 GHz (WLAN)  |   |
| Transmission range  | Up to 400 m*   |   |
| Antenna   | Internal directional antenna   | External dipole antenna (3dBi);<br>included in delivery |
| Supply voltage  | 24 VDC (9 ... 30 V)  |   |
| Connectors  | ETHERNET connection:<br>M12 connector, D-coded<br>Power connection:<br>M12 connector, A-coded;<br>RP-SMA socket for external antenna |   |
| Configuration   | Simple push-button operation and<br>Web-Based Management   |   |
| Number of inputs  | 1 (trigger input: 9 ... 30 VDC)  |   |
| Surrounding air temperature (operation)                   | -30 ... +65 °C   |   |
| Dimensions W x H x D                                      | 67.8 × 33.2 × 92.7   |   |
| Protection type   | IP65   |   |
| Approvals   | CE   |   |
| For data sheet and additional information, see:           | <a href="http://wago.com/758-918">wago.com/758-918</a>   |   |
| <b>Accessories</b>  |  |   |
| ETHERNET/PROFINET Cable; M12 plug; straight; D-coded; 2 m | 756-1201/060-020   |   |
| Power Cable; M12 socket; straight; A coded; 2 m           | 756-3102/040-020   |   |
| PROFINET RJ-45 Plug; IP20                                 | 750-976  |   |

WAGO's Wireless ETHERNET Gateway simplifies the creation of a wireless transmission link for ETHERNET protocols (e.g., PROFINET, Modbus/TCP, EtherNet/IP™). The gateway works as a cable substitute to create a robust, industry-proven Bluetooth® or WLAN link between two automation devices.

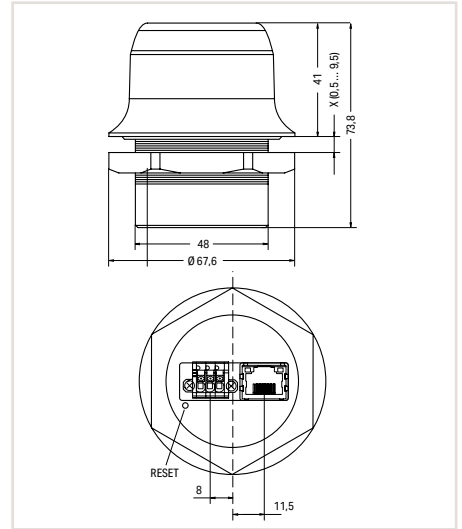
This gateway supports various configurations and can therefore also be operated as an access point. IP65 protection type and an external antenna allow installation of the Wireless ETHERNET Gateway within a conductive housing. The external antenna must be mounted on the outside of the housing. Simple push-button operation rapidly connects two Wireless ETHERNET Gateways. Additional settings can be made via Web-Based Management.

#### Note:

Two Wireless ETHERNET Gateways of the same type are required to establish a peer-to-peer connection.

\*The maximum range in the field decreases within buildings and varies depending on building materials and spatial geometry. Therefore, range specifications within buildings can only represent a typical value that can normally be achieved. More detailed information is available in the manual.

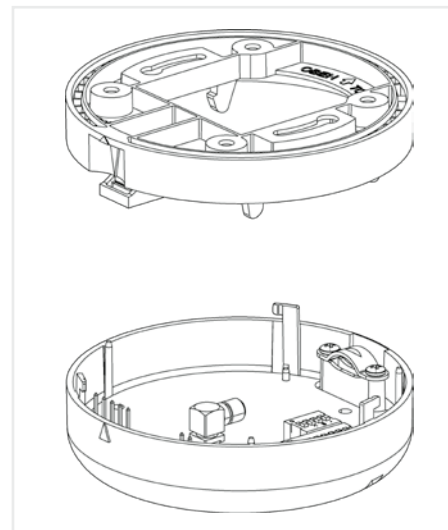
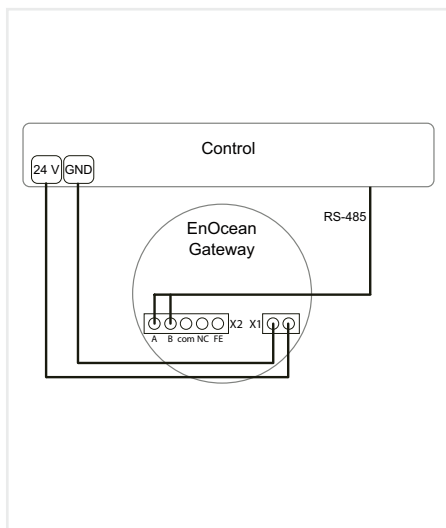
# Wireless Access Point



|   |   |
|---|---|
| <b>Item Description</b>                         | <b>Wireless Access Point</b>  |
| <b>Item No.</b>                                 | 758-919   |
| <b>Order Text</b>                               | Wireless Access Point   |
| <b>Technical Data</b>                           |   |
| Wireless technology                             | Bluetooth® 2.1; Bluetooth® 4.0 (Low Energy); WLAN: IEEE 802.11 a, b, g, n, d, r   |
| Frequency band                                  | ISM band, 2.4 GHz (Bluetooth®, WLAN); ISM band, 5 GHz (WLAN)  |
| ETHERNET protocols                              | IP; TCP; UDP; HTTP; LLDP; ARP; DHCP client/server; DNS support; transparent transmission of PROFINET IO; EtherNet/IP™; Modbus-TCP or another TCP/UDP-based protocol |
| Antenna   | Internal 2.4 GHz and 5 GHz broadband antenna  |
| Transmission range                              | Up to 200 m in open air*  |
| Supply voltage                                  | 19 ... 36 VDC   |
| Power consumption (max.)                        | 1.7 W   |
| Configuration                                   | Web-Based Management  |
| Maximum number of clients                       | 7   |
| WLAN  |   |
| Transmitter power                               | 15 dBm EIRP   |
| Operating modes                                 | Wireless access point, wireless client or gateway mode  |
| Communication standards                         | IEEE 802.11 a, b, g, n, d, r  |
| Data rate (net) (max.)                          | 65 Mbit/s   |
| Security  | WEP 64/128; WPA; WPA-PSK and WPA2; TKIP and AES/CCMP; LEAP; PEAP including MS-CHAP  |
| Bluetooth® 2.1                                  |   |
| Transmitter power                               | 11 dBm EIRP   |
| Supported profiles                              | PAN (PANU & NAP)  |
| Operating modes                                 | Access point, client or gateway mode  |
| Data rate (net)                                 | 1 Mbit/s  |
| Security  | NIST-compliant; FIPS-approved<br>(authentication and authorization, encryption and data security, privacy and discretion)   |
| Bluetooth® 4.0 (Low Energy)                     |   |
| Transmitter power                               | 7 dBm EIRP  |
| Supported profiles                              | GATT  |
| Operating modes                                 | Central device  |
| Data rate (net)                                 | 200 Kbit/s  |
| Security  | AES-CCM encryption  |
| Connector                                       | RJ-45; 10/100BASE-T (Auto MDI/MDIX & cross-over detection);<br>PoE supply: 44 ... 57 VDC; DTE type 1 per IEEE 802.3af   |
| Dimensions                                      | Height: 75 mm (91 mm with connector); Outside height: 41 mm; Diameter: 68 mm  |
| Weight  | 84 g  |
| Surrounding air temperature (operation)         | -40 ... +65 °C  |
| Protection type                                 | Top (outside of unit): IP66/IP67/UL NEMA 4X ; Base (inside of unit): IP21   |
| Mounting  | M50 through-panel installation (cut-out = 50.5 mm)  |
| Approvals                                       | CE; UL 61010 E198726; FCC; IC: 5325A-0965, for indoor use only (5 GHz)  |
| For data sheet and additional information, see: | <a href="http://wago.com/758-919">wago.com/758-919</a>  |

\*The maximum range in the field decreases within buildings and varies depending on building materials and spatial geometry. Therefore, range specifications within buildings can only represent a typical value that can normally be achieved. More detailed information is available in the manual.

## EnOcean® RS-485 Gateway; 868 MHz



### Item Description

Item No.

### Technical Data

Wireless technology

Frequency band

Transmission range

Antenna

Interface

Protocol

Transmission rate

Data width

Cable length

Power supply

Input current

Connection technology

### EnOcean® RS-485 Gateway; 868 MHz

750-940

EnOcean®

868 MHz

Approx. 30 m within buildings;  
>100 m in open space

Internal (external antenna optional via SMA socket)

RS-485

ESP3, Modbus®

9600 ... 115200 Baud

50 bytes

100 m (max.)

24 VDC (-25 ... +30 %)

2 A (max.)

RS-485 connection:

5-pole 2-conductor compact PCB connectors  
with PUSH WIRE® (252-155 is included)

Supply connection: 2-pole 2-conductor compact  
PCB connectors with PUSH WIRE® (252-152 is  
included)

Antenna: SMA socket for external antenna

Solid: 0.4 ... 0.8 mm<sup>2</sup> / 26 ... 20 AWG

6 ... 7 mm

95 × 36

103 g

IP30 (front side)

0 ... +55 °C

-20 ... +85 °C

EN 61000-6-2

EN 61000-6-3 + A1

CE

Data sheet and additional information, see:

[wago.com/750-940](http://wago.com/750-940)

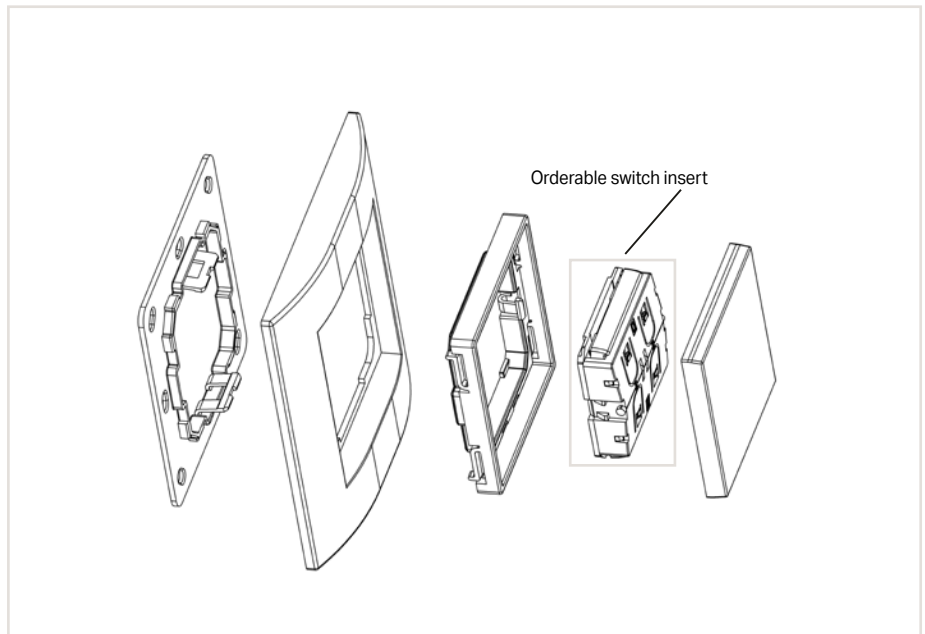
The EnOcean® RS-485 Gateway integrates maintenance-free, battery-free and wireless sensors/actuators based on EnOcean® wireless technology (ISO/IEC 14543-3-1x) into intelligent control systems such as the WAGO I/O System.

This gateway communicates with the remote station via RS-485 interface and ESP3 telegrams (EnOcean®) or via Modbus® protocol.

It may be mounted directly to the ceiling or wall. The device can also be mounted on a DIN-rail via an integrated adapter.

The gateway has an internal antenna and also has a connector for an optional external antenna.

# Radio Transmitter, EnOcean® easyfit PTM 250



| Item Description | Radio Transmitter, EnOcean® easyfit PTM 250                  |  |   |   |
|------------------|--|--|---|---|
| Version          | 2-Channel Lighting Control                                   | 4-Channel Lighting Control                                   | 2-Channel Sunblind Control                                      | 4-Channel Sunblind Control                                      |
| Item No.         | 758-940/001-000  | 758-940/003-000  | 758-940/002-000   | 758-940/004-000   |
| Order Text       | Radio Transmitter; EnOcean® easyfit PTM 250; 2-Channel Light | Radio Transmitter; EnOcean® easyfit PTM 250; 4-Channel Light | Radio Transmitter; EnOcean® easyfit PTM 250; 2-Channel Sunblind | Radio Transmitter; EnOcean® easyfit PTM 250; 4-Channel Sunblind |

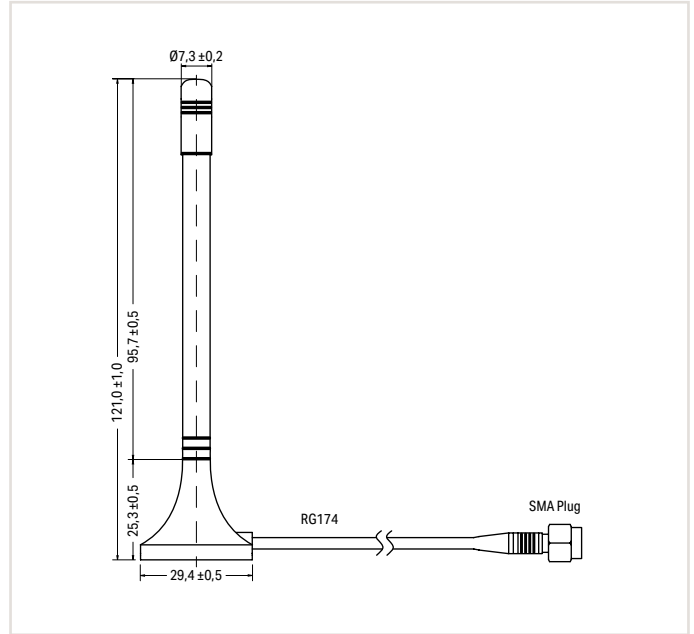
| Technical Data                                  | EnOcean® PTM 200   |                      |  |                      |
|---|--|----------------------|--|----------------------|
| Integrated radio transmitter module             | EnOcean® 868 MHz; RPS type 2   |                      |  |                      |
| Wireless technology                             | 300 m in open air; 30 m (typ.) within buildings*                     |                      |  |                      |
| Range   | Integrated   |                      |  |                      |
| Antenna   | 14 mm (frame lies directly on flat surface)                          |                      |  |                      |
| Total installation height                       | 50 x 50 mm / 55 x 55 mm / 71 x 71 mm                                 |                      |  |                      |
| Dimensions of rocker/frame cut-out/center plate | Flat surface; glued (double-sided mounting film enclosed) or screwed |                      |  |                      |
| Mounting  | Pure white   |                      |  |                      |
| Color   | Rocker switch with neutral middle position                           | Series rocker switch | Rocker switch with neutral middle position | Series rocker switch |
| Rocker switch variant                           | 95 % (non condensing)  |                      |  |                      |
| Relative humidity                               | -25 ... +65 °C   |                      |  |                      |
| Surrounding air temperature (operation)         | BERKER, GIRA, JUNG, MERTEN   |                      |  |                      |
| Compatibility                                   | R&TTE, C€  |                      |  |                      |
| Approvals                                       | wago.com/758-940   |                      |  |                      |
| For data sheet and additional information, see: |  |                      |  |                      |

WAGO's EnOcean® easyfit PTM 250 Radio Transmitter is a universal, extremely flat wireless switch insert with a maintenance-free energy generator. This universal switch insert fits in numerous frame types from various installation material suppliers. The base plate can be glued or screwed into position for easy attachment to glass as well as plaster. Integration into the frame is similar to universal inserts for antenna sockets.

The switch insert is delivered without frame. Frames must be ordered separately from the desired manufacturer!

\*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent a typical value that can normally be achieved. More detailed information is available in the manual.

## Magnetic-Mount Antenna; with 3 m cable and SMA plug; GSM/ UMTS; 850/ 900/ 1800/ 1900/ 2100 MHz



### Item Description

Item No.

### Technical Data

Wireless technology

Frequency band

Gain

### Mechanical Data

Connector

Connection cable length

Mounting type

Cable type

Weight

Surrounding air temperature (operation)

Magnetic-Mount Antenna; with 3 m cable and SMA plug;  
GSM/ UMTS; 850/ 900/ 1800/ 1900/ 2100 MHz

758-911

GSM; UMTS; EnOcean

824 ... 960 MHz; 1710 ... 2170 MHz

2 dBi

SMA-Stecker

3 m

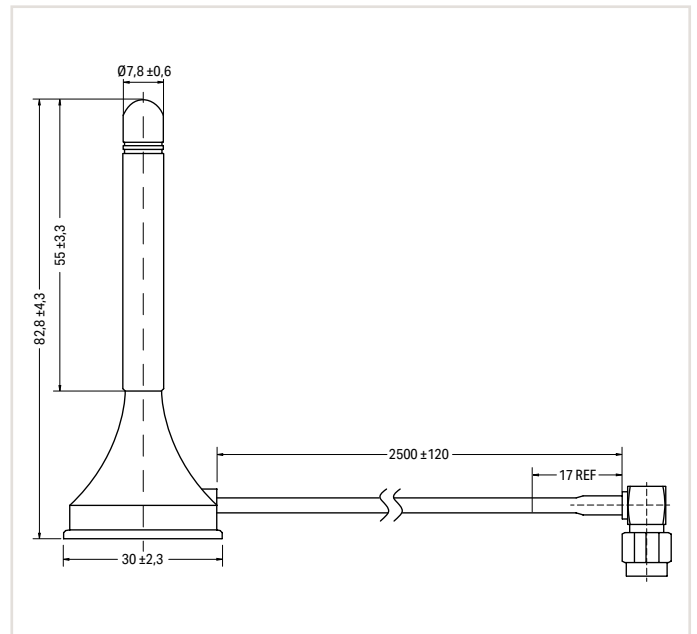
Magnetic stand

RG-174

44 g

-40 ... +85 °C

## Magnetic-Mount Antenna; GSM/UMTS/LTE/*Bluetooth*<sup>®</sup>/WLAN



### Item Description

### Item No.

### Technical Data

Wireless technology

Frequency band

Gain

### Mechanical Data

Connector

Connection cable length

Mounting type

Cable type

Weight

Surrounding air temperature (operation)

Magnetic-Mount Antenna; with 2.5 m cable and SMA angled plug;  
GSM/UMTS/LTE/*Bluetooth*<sup>®</sup>/WLAN; 698-960, 1400-1518, 1710-2700 MHz

758-975

GSM; UMTS; LTE; *Bluetooth*<sup>®</sup>; WLAN

B1 ... B23; B25 ... B30; B32 ... B42; B48; B66; B74 ... 76; B78

Frequency range: 698 ... 960 MHz; 1400 ... 1518 MHz; 1710 ... 2700 MHz

3 dBi

SMA angled plug

2.5 m

Magnetic stand

RG-174

44 g

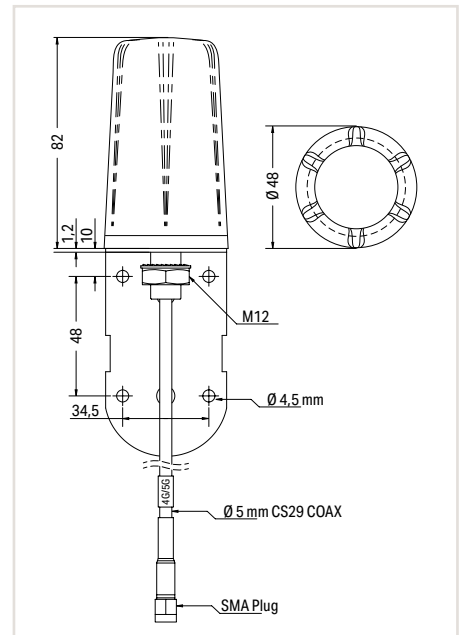
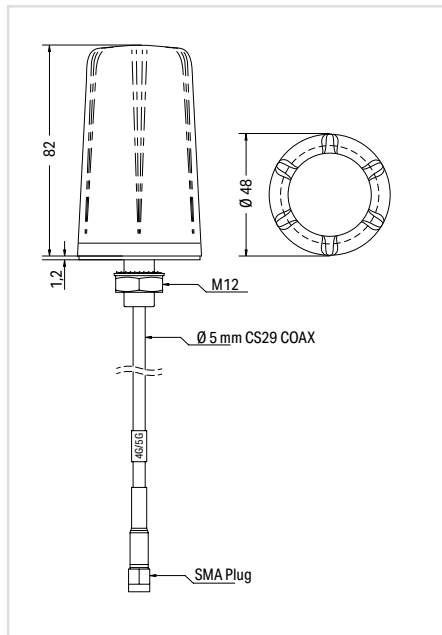
-40 ... +85 °C

# RF Antenna; GSM; UMTS; LTE; *Bluetooth*<sup>®</sup>; WLAN; 5G



758-974

758-974/000-001



|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Item No.</b>         |

|  |
|--|
| RF Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/ <i>Bluetooth</i> <sup>®</sup> /WLAN; 698-960, 1710-6000 MHz; 2G/ 3G/ 4G/ 5G |
| 758-974  |

|  |
|--|
| RF Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/ <i>Bluetooth</i> <sup>®</sup> /WLAN; 698-960, 1710-6000 MHz; 2G/ 3G/ 4G/ 5G |
| 758-974/000-001  |

|                         |   |
|-------------------------|---|
| <b>Technical Data</b>   |   |
| Wireless technology     | GSM; UMTS; LTE; <i>Bluetooth</i> <sup>®</sup> ; WLAN; 5G  |
| Frequency band          | 617 ... 960 MHz; 1710 ... 6000 MHz  |
| Gain                    | 617 ... 960 MHz: 1dBi;<br>1710 ... 2700 MHz: 4dBi;<br>3400 ... 3800 MHz: 8dBi;<br>4900 ... 6000 MHz: 9dBi |
| <b>Mechanical Data</b>  |   |
| Connectors              | SMA plug  |
| Connection cable length | 2 m   |
| Mounting type           | Enclosure installation; adhesive strips   |
| Cable type              | CS29  |
| Weight                  | 185 g   |
| Protection type         | IP66  |

|                         |   |
|-------------------------|---|
| <b>Technical Data</b>   |   |
| Wireless technology     | GSM; UMTS; LTE; <i>Bluetooth</i> <sup>®</sup> ; WLAN; 5G  |
| Frequency band          | 617 ... 960 MHz; 1710 ... 6000 MHz  |
| Gain                    | 617 ... 960 MHz: 1dBi;<br>1710 ... 2700 MHz: 4dBi;<br>3400 ... 3800 MHz: 8dBi;<br>4900 ... 6000 MHz: 9dBi |
| <b>Mechanical Data</b>  |   |
| Connectors              | SMA plug  |
| Connection cable length | 2 m   |
| Mounting type           | Wall-mount  |
| Cable type              | CS29  |
| Weight                  | 252 g   |
| Protection type         | IP66  |

- The antenna must be mounted on a conductive base plate measuring at least 40 x 40 cm.
- The distance of interfering sources to the antenna and antenna line must be at least 30 cm.
- The free space between the antenna and the next wall must be at least 35 cm.
- The antenna cable must not, under any circumstances, be bent sharply, or the antenna line may be irreversibly damaged.

- The distance of interfering sources to the antenna and antenna line must be at least 30 cm.
- The free space between the antenna and the next wall must be at least 35 cm.
- The antenna cable must not, under any circumstances, be bent sharply, or the antenna line may be irreversibly damaged.








# Sensor/Actuator Boxes

## Sensor/Actuator Boxes

- M8 and M12 Sensor/Actuator Boxes
- Passive signal acquisition and output at the machine level
- Fully encapsulated

# Sensor/Actuator Boxes

## Contents

|   |  |   | Seite           |     |
|---|--|---|-----------------|-----|
|   | <b>General Product Information</b>                     |   | 634             |     |
|   | <b>Item Number Key</b>                                 |   | 635             |     |
|   | <b>Standards and Rated Conditions</b>                  |   | 635             |     |
|   | <b>Approvals</b>                                       |   | 635             |     |
|   | <b>Interfaces and Types</b>                            |   | 636             |     |
|   |  | <b>Description</b>  | <b>Item No.</b> |     |
|    | <b>M12 Sensor/Actuator Boxes with Cable Connection</b> | M12 Sensor/Actuator Box; 4-Port, 4-Pole; 5 m Connection Cable                         | 757-244/000-005 | 638 |
|   |  | M12 Sensor/Actuator Box; 4-Port, 4-Pole; 10 m Connection Cable                        | 757-244/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 6-Port, 4-Pole; 5 m Connection Cable                         | 757-264/000-005 | 638 |
|   |  | M12 Sensor/Actuator Box; 6-Port, 4-Pole; 10 m Connection Cable                        | 757-264/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 8-Port, 4-Pole; 5 m Connection Cable                         | 757-284/000-005 | 639 |
|   |  | M12 Sensor/Actuator Box; 8-Port, 4-Pole; 10 m Connection Cable                        | 757-284/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 8-Port, 4-Pole; 25 m Connection Cable                        | 757-284/000-025 |     |
|   |  | M12 Sensor/Actuator Box; 4-Port, 5-Pole; 5 m Connection Cable                         | 757-245/000-005 | 640 |
|   |  | M12 Sensor/Actuator Box; 4-Port, 5-Pole; 10 m Connection Cable                        | 757-245/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 6-Port, 5-Pole; 5 m Connection Cable                         | 757-265/000-005 | 640 |
|   |  | M12 Sensor/Actuator Box; 6-Port, 5-Pole; 10 m Connection Cable                        | 757-265/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 8-Port, 5-Pole; 5 m Connection Cable                         | 757-285/000-005 | 641 |
|   |  | M12 Sensor/Actuator Box; 8-Port, 5-Pole; 10 m Connection Cable                        | 757-285/000-010 |     |
|   |  | M12 Sensor/Actuator Box; 8-Port, 5-Pole; 25 m Connection Cable                        | 757-285/000-025 |     |
|  | <b>M12 Sensor/Actuator Boxes with M23 Connection</b>   | M12 Sensor/Actuator Box; 4-Port; 4-Pole; M23 Connector                                | 757-144         | 642 |
|   |  | M12 Sensor/Actuator Box; 6-Port; 4-Pole; M23 Connector                                | 757-164         | 642 |
|   |  | M12 Sensor/Actuator Box; 8-Port; 4-Pole; M23 Connector                                | 757-184         | 643 |
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|   |  | M12 Sensor/Actuator Box; 6-Port; 5-Pole; M23 Connector                                | 757-165         | 644 |
|   |  | M12 Sensor/Actuator Box; 8-Port; 5-Pole; M23 Connector                                | 757-185         | 645 |
|   |  | M12 Sensor/Actuator Box; 8-Port; 5-Pole; M23 Connector; without LED                   | 757-185/100-000 |     |
|  | <b>M8 Sensor/Actuator Boxes with Cable Connection</b>  | M8 Sensor/Actuator Box; 4-Port, 3-Pole; 5 m Connection Cable                          | 757-443/000-005 | 646 |
|   |  | M8 Sensor/Actuator Box; 4-Port, 3-Pole; 10 m Connection Cable                         | 757-443/000-010 |     |
|   |  | M8 Sensor/Actuator Box; 6-Port, 3-Pole; 5 m Connection Cable                          | 757-463/000-005 | 646 |
|   |  | M8 Sensor/Actuator Box; 6-Port, 3-Pole; 10 m Connection Cable                         | 757-463/000-010 |     |
|   |  | M8 Sensor/Actuator Box; 8-Port, 3-Pole; 5 m Connection Cable                          | 757-483/000-005 | 647 |
|   |  | M8 Sensor/Actuator Box; 8-Port, 3-Pole; 10 m Connection Cable                         | 757-483/000-010 |     |
|   |  | M8 Sensor/Actuator Box; 10-Port, 3-Pole; 5 m Connection Cable                         | 757-403/000-005 | 647 |
|   |  | M8 Sensor/Actuator Box; 10-Port, 3-Pole; 10 m Connection Cable                        | 757-403/000-010 |     |
|  | <b>M8 Sensor/Actuator Boxes with M16 Connection</b>    | M8 Sensor/Actuator Box; 4-Port; 3-Pole; M16 Connector                                 | 757-343         | 648 |
|   |  | M8 Sensor/Actuator Box; 6-Port; 3-Pole; M16 Connector                                 | 757-363         | 648 |
|   |  | M8 Sensor/Actuator Box; 8-Port; 3-Pole; M16 Connector                                 | 757-383         | 649 |
|   |  | M8 Sensor/Actuator Box; 10-Port; 3-Pole; M16 Connector                                | 757-303         | 649 |
|  | <b>Accessories</b>                                     | Marker Cards, Marking Strips, Protective Caps, Spacer Modules, Interconnection Cables |                 | 650 |

## Sensor/Actuator Boxes

### General Product Information

#### For Signal Acquisition at the Machine Level

WAGO's passive M8/M12 Sensor/Actuator Boxes are placed close to the process and acquire signals at the machine level. They can be used under very harsh environmental conditions and establish the connection between sensors/actuators and the controller via molded or detachable cables. Use of standardized pluggable connections supports plug-and-play installation of sensors and actuators, while trunk cables replace the individual wiring of I/O signals to automation components in the control cabinet. Cabling is well-organized and minimized.

#### Signal Acquisition in Exceptionally Harsh Conditions

WAGO's Sensor/Actuator Boxes with molded cables have an extremely robust design and meet both IP67 and IP68 protection standards (72 hours at 1 m water depth). This design makes them ideal for applications where signals must be recorded in extreme environments (temperature, shock, vibration) without a control cabinet. They're also excellent alternatives when using an active IP67 I/O system would not be cost-effective due to a low signal count or the simple signal conditions (only digital signal acquisition/output).

#### Plug-&-Play Connection Technology

The IP67 Sensor/Actuator Boxes with a removable connection cable (M16 or M23 pluggable connector) are ideal for areas where frequent easy disconnection and reconnection are required (e.g., transport, modification, service).

#### Fixed Trunk Cable

The IP68 Sensor/Actuator Boxes with molded cables are preferred when challenging cable paths do not allow the installation of M16/M23 cable assemblies.

#### Extreme Mechanical Performance

A system/machine is exposed to severe mechanical and thermal influences. It is important to process its signals despite severe vibrations and shocks. WAGO's Sensor/Actuator Boxes are used at the machine level. Full encapsulation safeguards system operation, so even extreme vibration and temperature loads do not degrade signal acquisition and power supply via the connection cable to the controller or other automation components located in the non-critical control cabinet area.

#### Flexible Installation

WAGO's Sensor/Actuator Boxes can be directly mounted on machines. Extensive engineering ensures compliance with standardized specifications from CNOMO guidelines regarding the spacing of assembly drill holes that are often used in passive distribution boxes or sensor/actuator boxes. An optional adapter is available for seamlessly mounting two modules side by side. This has the advantage of maintaining a specified distance for properly routing the sensor/actuator cables and avoiding contamination points.

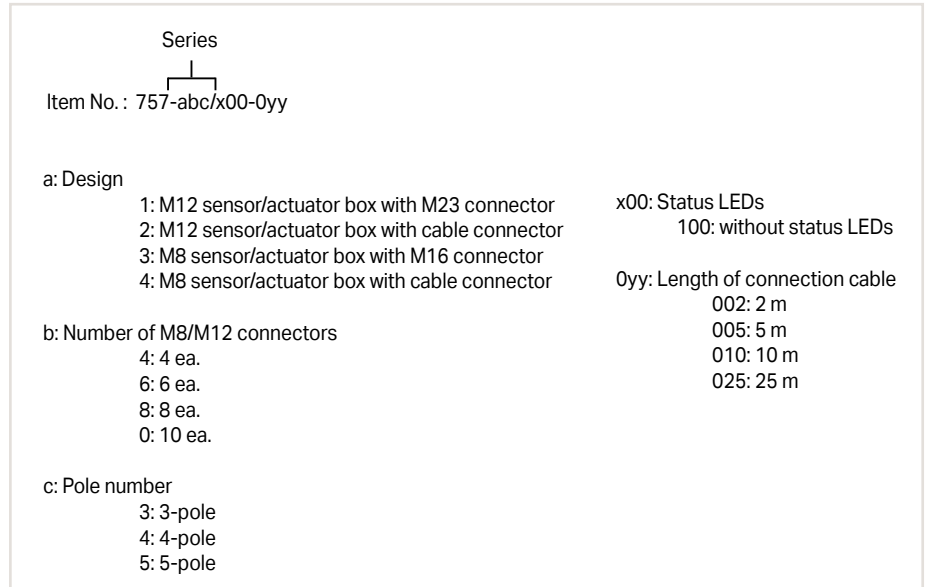
#### Advantages:

- Rugged, simple and compact extension for IP20 automation components
  - for stricter requirements on environmental conditions
  - for plug-and-play connector technology when needed
  - for simpler cable installation in the form of trunk cables
- High-quality PUR connection cables (drag chain compatible, halogen-free)
- Fully encapsulated (resistance and leak-proof)
- Flange sockets (metal design)
- Surrounding air temperature (operation): -25 ... +80 °C
- Status LEDs

## Sensor/Actuator Boxes

### Item Number Key

Explanation of an item number key's components:



## Standards and Rated Conditions

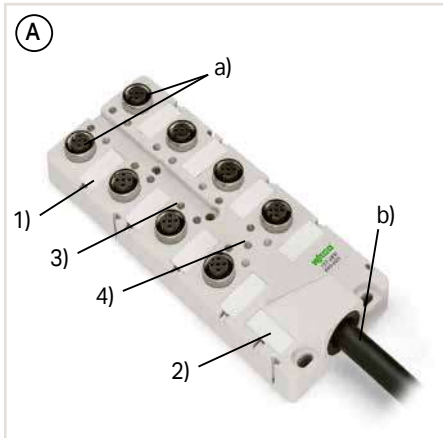
|  |  |
|--|--|
| General Specifications                         |  |
| Electrical Data                                |  |
| Contact resistance (max.)                      | 10 mΩ  |
| Supply voltage                                 | 10 ... 30 VDC  |
| Current carrying capacity (signal connections) | 2 A  |
| Current carrying capacity (supply connections) | 9 A (M12) or 6 A (M8)                                |
| Signal characteristics                         | PNP  |
| Mechanical Data                                |  |
| Protection type                                |  |
| Sensor/actuator boxes with cable connection    | IP68 (72 hours at 1 m water depth)                   |
| Sensor/actuator boxes with M16/M23 connection  | IP67   |
| Surrounding air temperature (operation)        | -25 ... +80 °C                                       |
| Mounting                                       | Screw mount  |
| Mounting position                              | Any  |
| Vibration resistance                           | 5g per IEC 60068-2-6                                 |
| Shock resistance                               | 49g per IEC 60068-2-27                               |
| Material Data                                  |  |
| Housing material                               | PA 66 (UL 94 V0); RAL 7035; silicon and halogen free |
| Encapsulation                                  | Fully encapsulated with conformal coating (UL 94 V0) |
| Connection cable                               | Drag chain compatible                                |

## Approvals

Overview of the approvals in the item comparison in Section 14, Technical Section, or online at [www.wago.com](http://www.wago.com)



## Sensor/Actuator Boxes Interfaces and Types



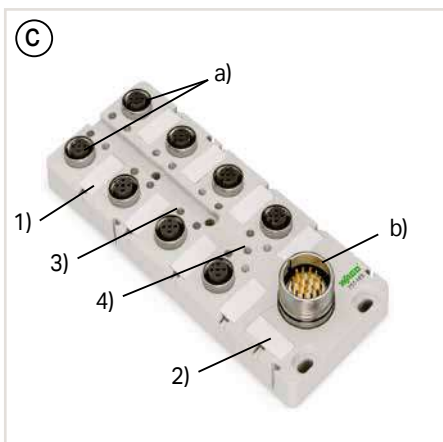
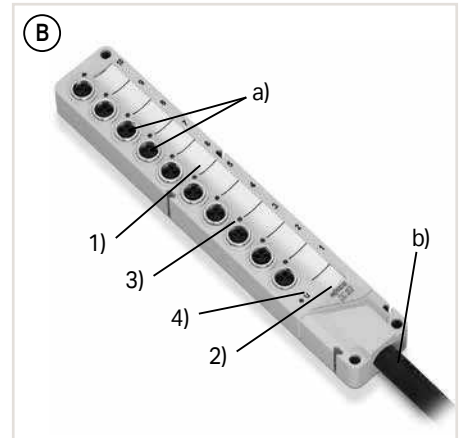
- (1) Sensor/actuator marking  
(2) Module marking  
(3) Yellow status LED (for each channel)  
(4) Green operating status LED (module)

### Housing Design (A)

- M12 sensor/actuator box with cable connection
- Sensor/actuator M12 sockets (a)
- Connection technology (trunk cable): fixed connection cable (b)

### Housing Design (B)

- M8 sensor/actuator box with cable connection
- Sensor/actuator M8 sockets (a)
- Connection technology (trunk cable): fixed connection cable (b)

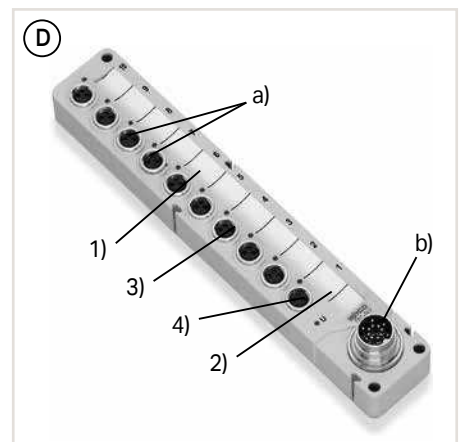


### Housing Design (C)

- M12 sensor/actuator box with M23 plug
- Sensor/actuator M12 sockets (a)
- Connection technology (trunk cable): M23 plug (b)

### Housing Design (D)

- M8 sensor/actuator box with M16 plug
- Sensor/actuator M8 sockets (a)
- Connection technology (trunk cable): M16 plug (b)

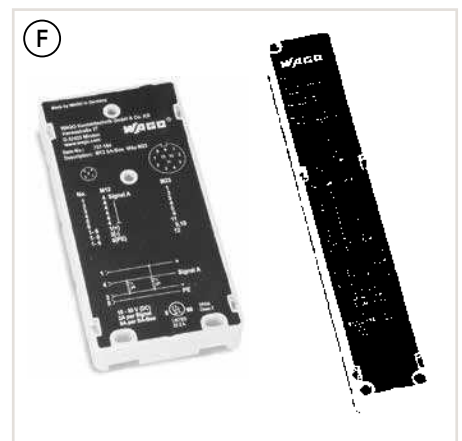


### Spacer Module (E)

- Optional accessory
- For seamless assembly of two side-by-side sensor/actuator boxes
- Specified distance for proper cable connection
- Covers contamination points
- W x H x D (mm):  
10-port: 20 x 16 x 175  
8-port: 20 x 16 x 152  
6-port: 20 x 16 x 123  
4-port: 20 x 16 x 117

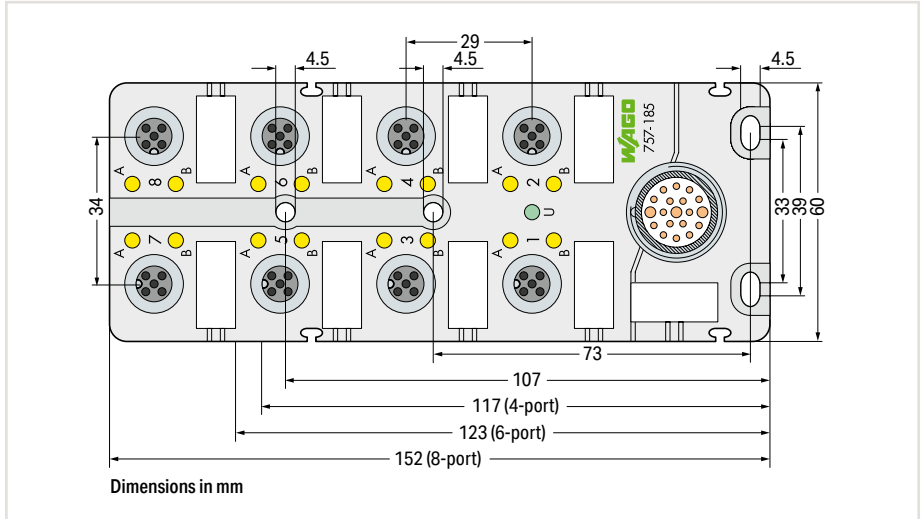
### Protection Type (F)

- Fully encapsulated modules
- IP67/68 protection type
- Back-side printing details  
pin assignment

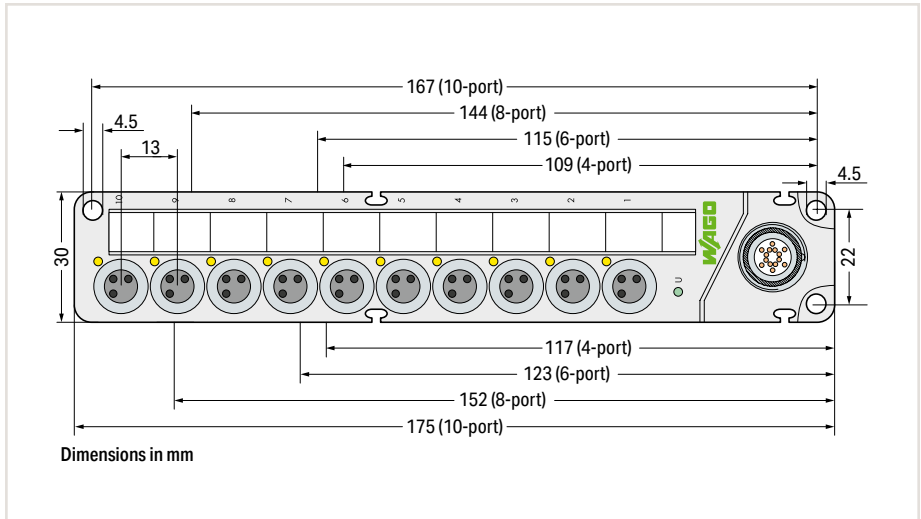


# Sensor/Actuator Boxes Interfaces and Types

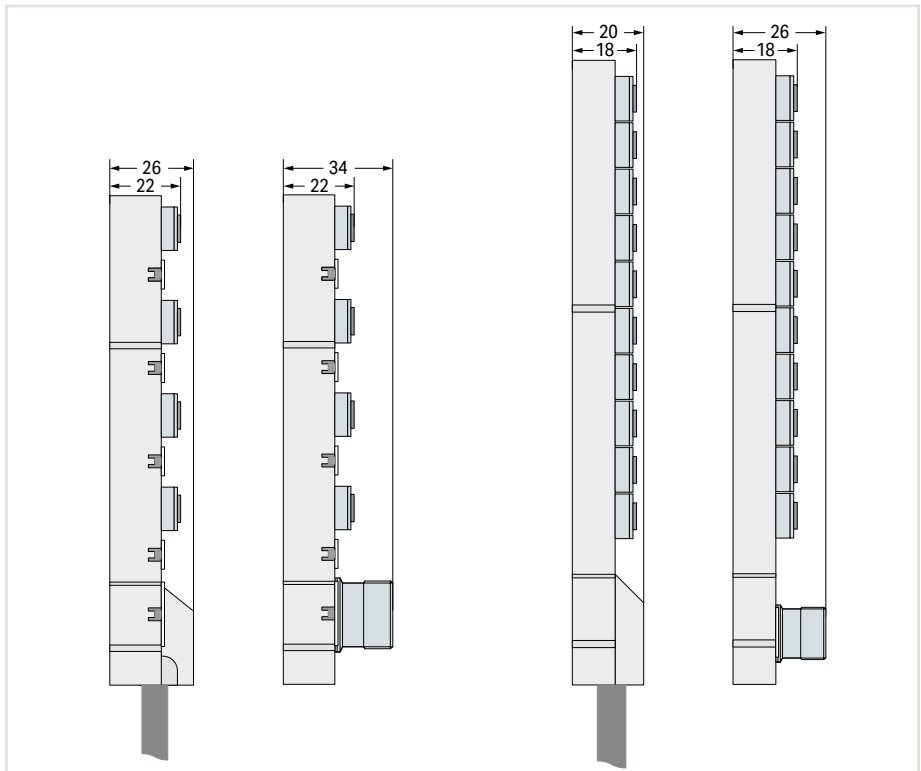
Dimensions and Mounting Dimensions of M12 Sensor/Actuator Boxes  
The dimensions also apply to M12 sensor/actuator boxes with cable connection.



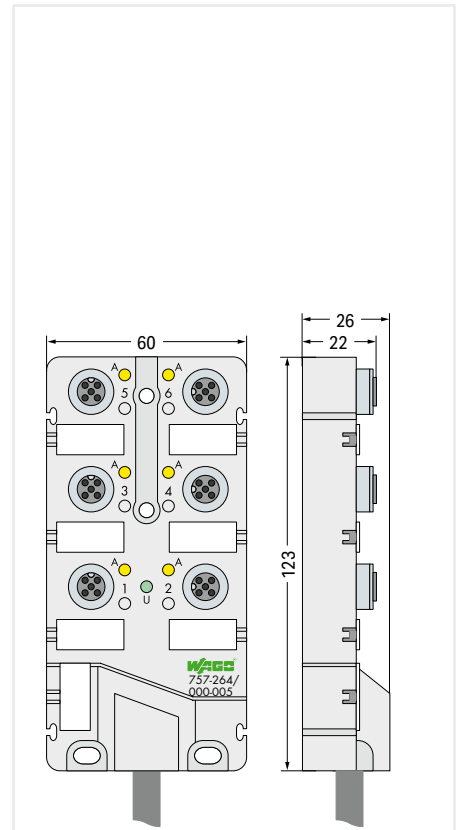
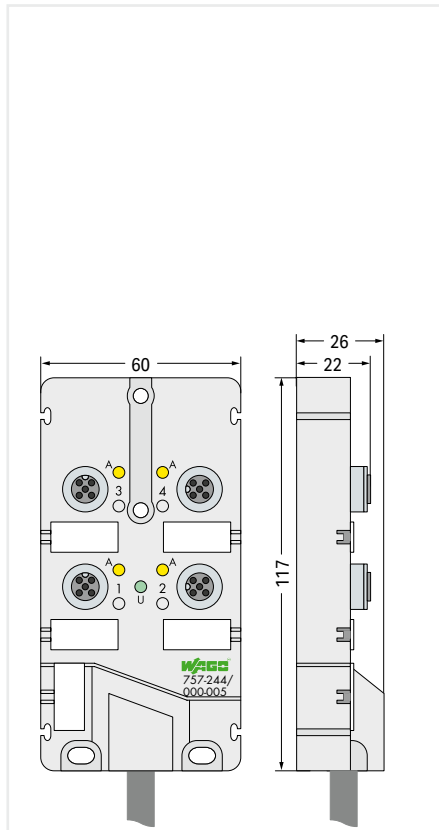
Dimensions and Mounting Dimensions of M8 Sensor/Actuator Boxes  
The dimensions also apply to M8 sensor/actuator boxes with cable connection.



Dimensions:  
Depth of M12 sensor/actuator boxes  
or M8 sensor/actuator boxes



## Sensor/actuator boxes ▶ M12 socket; 4-pole; incl. ground



|                                       |
|---------------------------------------|
| Connection technology: inputs/outputs |
| Item description                      |
| Version                               |
| Item no.                              |
| Order Text                            |

|  |                                |
|--|--------------------------------|
| <b>4 x M12 socket; 4-pole; incl. ground</b>    |                                |
| <b>M12 Sensor/Actuator Box; 4-port; 4-pole</b> |                                |
| 5 m connecting cable                           | 10 m connecting cable          |
| 757-244/000-005                                | 757-244/000-010                |
| M12 S/A-Box; 4port; 4pole; 5m                  | M12 S/A-Box; 4port; 4pole; 10m |

|  |                                |
|--|--------------------------------|
| <b>6 x M12 socket; 4-pole; incl. ground</b>    |                                |
| <b>M12 Sensor/Actuator Box; 6-port, 4-pole</b> |                                |
| 5 m connecting cable                           | 10 m connecting cable          |
| 757-264/000-005                                | 757-264/000-010                |
| M12 S/A-Box; 6port; 4pole; 5m                  | M12 S/A-Box; 6port; 4pole; 10m |

|                                       |   |
|---------------------------------------|---|
| Technical data                        |   |
| Connection technology: inputs/outputs | 4 x M12 socket; 4-pole; incl. ground  |
| Pole number                           | 4   |
| Connection technology: trunk cable    | 1 x Fixed connecting cable  |
| Length of connection cable            | 5 m   10 m  |
| Dimensions W x H x D                  | (60 x 26 x 117) mm  |
| Approvals                             | E 175199; Ⓢ OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |

|   |  |
|---|--|
| 4 x M12 socket; 4-pole; incl. ground  |  |
| 4   |  |
| 1 x Fixed connecting cable  |  |
| 5 m   10 m  |  |
| (60 x 26 x 117) mm  |  |
| E 175199; Ⓢ OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |  |

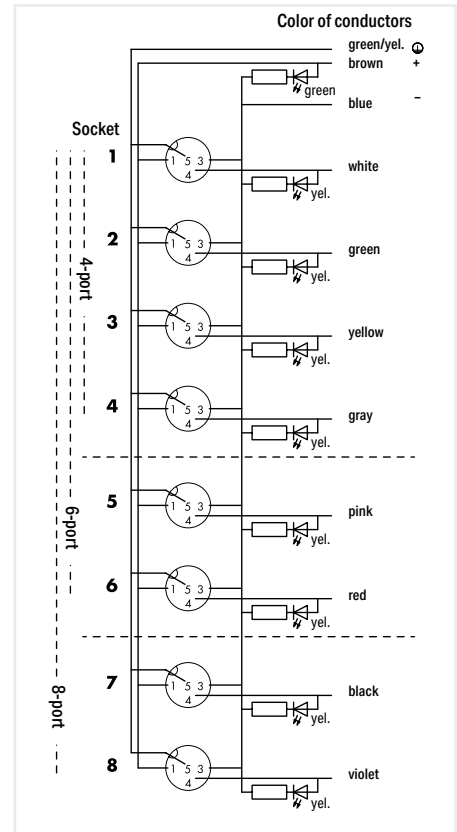
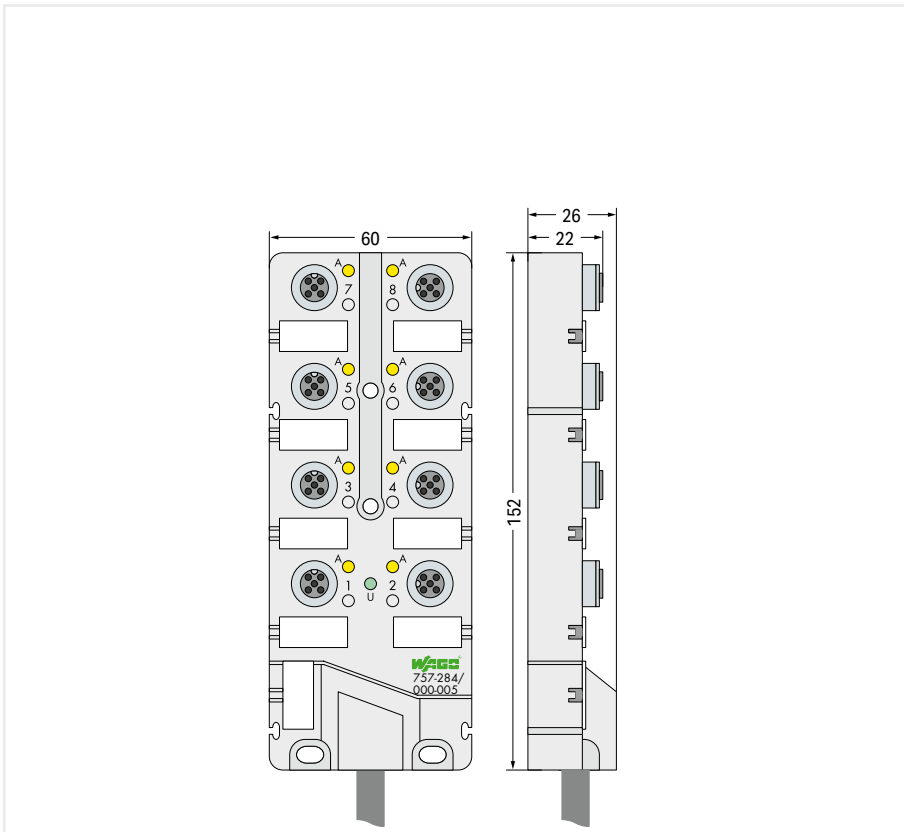
|   |  |
|---|--|
| 6 x M12 socket; 4-pole; incl. ground  |  |
| 4   |  |
| 1 x Fixed connecting cable  |  |
| 5 m   10 m  |  |
| (60 x 26 x 123) mm  |  |
| E 175199; Ⓢ OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |  |

|   |          |
|---|----------|
| For data sheet and additional information, see: |          |
| <b>Accessories</b>                              |          |
| Fiber-tip pen                                   | 210-110  |
| M12 protective cap; for unused sockets          | 756-8102 |
| Marker card; not stretchable; snap-on type      | 757-011  |
| Spacer module for sensor/actuator box; 4-way    | 757-040  |
| Spacer module for sensor/actuator box; 6-way    | -        |
| Spacer module for sensor/actuator box; 8-way    | -        |

|                          |                 |
|--------------------------|-----------------|
| wago.com/757-244/000-005 |                 |
| <b>Item no.</b>          | <b>Item no.</b> |
| 210-110                  | 210-110         |
| 756-8102                 | 756-8102        |
| 757-011                  | 757-011         |
| 757-040                  | 757-040         |
| -                        | -               |
| -                        | -               |

|                          |                 |
|--------------------------|-----------------|
| wago.com/757-264/000-005 |                 |
| <b>Item no.</b>          | <b>Item no.</b> |
| 210-110                  | 210-110         |
| 756-8102                 | 756-8102        |
| 757-011                  | 757-011         |
| -                        | -               |
| 757-060                  | 757-060         |
| -                        | -               |





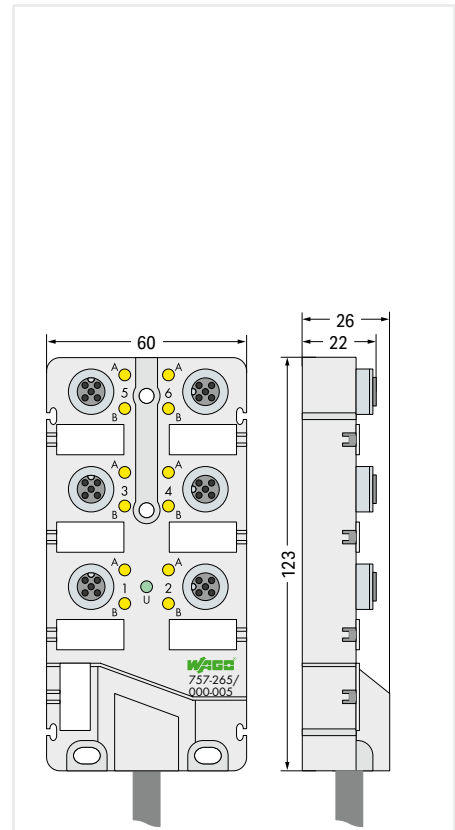
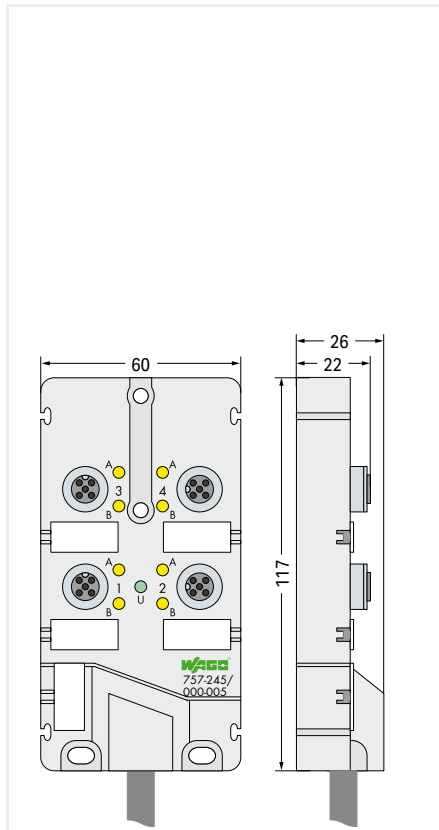
|   |                                |                                |
|---|--------------------------------|--------------------------------|
| 8 x M12 socket; 4-pole; incl. ground    |                                |                                |
| M12 Sensor/Actuator Box; 8-port, 4-pole |                                |                                |
| 5 m connecting cable                    | 10 m connecting cable          | 25 m connecting cable          |
| 757-284/000-005                         | 757-284/000-010                | 757-284/000-025                |
| M12 S/A-Box; 8port; 4pole; 5m           | M12 S/A-Box; 8port; 4pole; 10m | M12 S/A-Box; 8port; 4pole; 25m |

|                                      |      |      |
|--------------------------------------|------|------|
| 8 x M12 socket; 4-pole; incl. ground |      |      |
| 4                                    |      |      |
| 1 x Fixed connecting cable           |      |      |
| 5 m                                  | 10 m | 25 m |
| (60 x 26 x 152) mm                   |      |      |

E 175199; Ⓢ OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

| wago.com/757-284/000-005 |          |          |          |
|--------------------------|----------|----------|----------|
| Item no.                 | Item no. | Item no. | Item no. |
| 210-110                  | 210-110  | 210-110  | 210-110  |
| 756-8102                 | 756-8102 | 756-8102 | 756-8102 |
| 757-011                  | 757-011  | 757-011  | 757-011  |
| -                        | -        | -        | -        |
| 757-080                  | 757-080  | 757-080  | 757-080  |

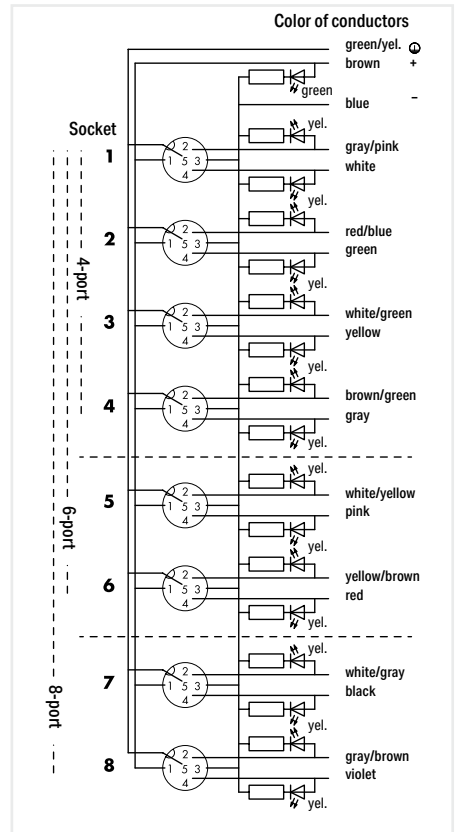
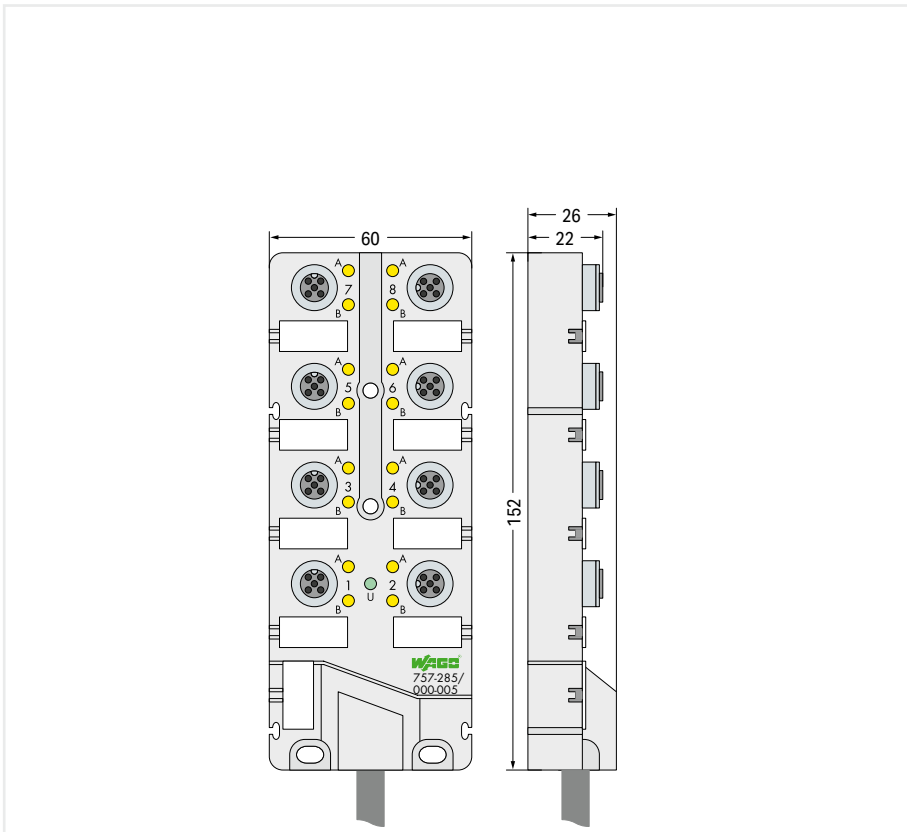
## Sensor/actuator boxes ▶ M12 socket; 5-pole; incl. ground



|                                       |   |                                |   |                                |
|---------------------------------------|---|--------------------------------|---|--------------------------------|
| Connection technology: inputs/outputs | 4 x M12 socket; 5-pole; incl. ground    |                                | 6 x M12 socket; 5-pole; incl. ground    |                                |
| Item description                      | M12 Sensor/Actuator Box; 4-port, 5-pole |                                | M12 Sensor/Actuator Box; 6-port, 5-pole |                                |
| Version                               | 5 m connecting cable                    | 10 m connecting cable          | 5 m connecting cable                    | 10 m connecting cable          |
| Item no.                              | 757-245/000-005                         | 757-245/000-010                | 757-265/000-005                         | 757-265/000-010                |
| Order Text                            | M12 S/A-Box; 4port; 5pole; 5m           | M12 S/A-Box; 4port; 5pole; 10m | M12 S/A-Box; 6port; 5pole; 5m           | M12 S/A-Box; 6port; 5pole; 10m |

|                                       |   |      |   |      |
|---------------------------------------|---|------|---|------|
| Technical data                        | 4 x M12 socket; 5-pole; incl. ground  |      | 6 x M12 socket; 5-pole; incl. ground  |      |
| Connection technology: inputs/outputs | 4 x M12 socket; 5-pole; incl. ground  |      | 6 x M12 socket; 5-pole; incl. ground  |      |
| Pole number                           | 5   |      | 5   |      |
| Connection technology: trunk cable    | 1 x Fixed connecting cable  |      | 1 x Fixed connecting cable  |      |
| Length of connection cable            | 5 m   | 10 m | 5 m   | 10 m |
| Dimensions W x H x D                  | (60 x 26 x 117) mm  |      | (60 x 26 x 123) mm  |      |
| Approvals                             | E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |      | E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |      |

|   |                          |          |                          |          |
|---|--------------------------|----------|--------------------------|----------|
| For data sheet and additional information, see: | wago.com/757-245/000-005 |          | wago.com/757-265/000-005 |          |
| Accessories                                     | Item no.                 | Item no. | Item no.                 | Item no. |
| Fiber-tip pen                                   | 210-110                  | 210-110  | 210-110                  | 210-110  |
| M12 protective cap; for unused sockets          | 756-8102                 | 756-8102 | 756-8102                 | 756-8102 |
| Marker card; not stretchable; snap-on type      | 757-011                  | 757-011  | 757-011                  | 757-011  |
| Spacer module for sensor/actuator box; 4-way    | 757-040                  | 757-040  | -                        | -        |
| Spacer module for sensor/actuator box; 6-way    | -                        | -        | 757-060                  | 757-060  |
| Spacer module for sensor/actuator box; 8-way    | -                        | -        | -                        | -        |



|   |                                |                                |
|---|--------------------------------|--------------------------------|
| 8 x M12 socket; 5-pole; incl. ground    |                                |                                |
| M12 Sensor/Actuator Box; 8-port, 5-pole |                                |                                |
| 5 m connecting cable                    | 10 m connecting cable          | 25 m connecting cable          |
| 757-285/000-005                         | 757-285/000-010                | 757-285/000-025                |
| M12 S/A-Box; 8port; 5pole; 5m           | M12 S/A-Box; 8port; 5pole; 10m | M12 S/A-Box; 8port; 5pole; 25m |

|                                      |      |      |
|--------------------------------------|------|------|
| 8 x M12 socket; 5-pole; incl. ground |      |      |
| 5                                    |      |      |
| 1 x Fixed connecting cable           |      |      |
| 5 m                                  | 10 m | 25 m |
| (60 x 26 x 152) mm                   |      |      |

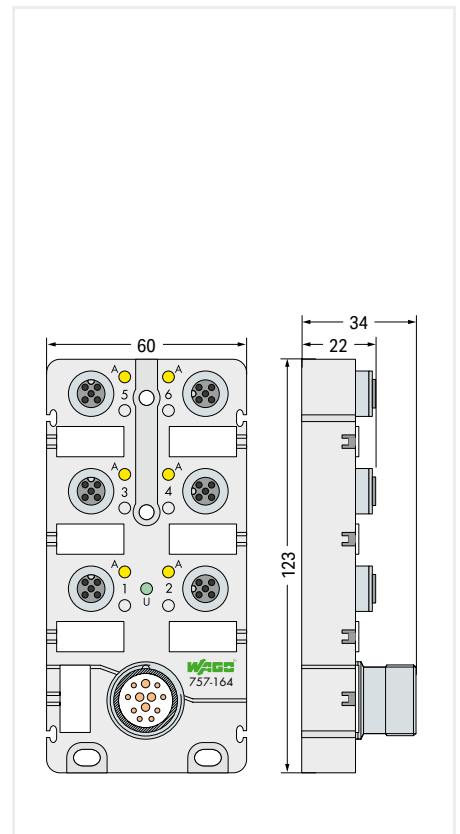
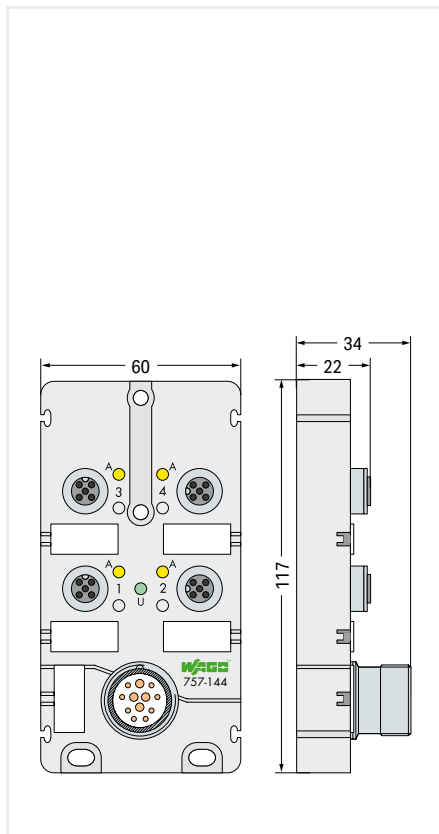
E 175199; Ⓞ- OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

| wago.com/757-285/000-005 |          |          |          |
|--------------------------|----------|----------|----------|
| Item no.                 | Item no. | Item no. | Item no. |
| 210-110                  | 210-110  | 210-110  | 210-110  |
| 756-8102                 | 756-8102 | 756-8102 | 756-8102 |
| 757-011                  | 757-011  | 757-011  | 757-011  |
| -                        | -        | -        | -        |
| -                        | -        | -        | -        |
| 757-080                  | 757-080  | 757-080  | 757-080  |

## Sensor/actuator boxes ▶ M12 socket; 4-pole; incl. ground



757-185



Connection technology: inputs/outputs

Item description

Item no.

Order Text

4 x M12 socket; 4-pole; incl. ground

M12 Sensor/Actuator Box; 4-port; 4-pole; M23 connector

757-144

M12 S/A-Box; 4port; 4pole; M23

6 x M12 socket; 4-pole; incl. ground

M12 Sensor/Actuator Box; 6-port; 4-pole; M23 connector

757-164

M12 S/A-Box; 6port; 4pole; M23

Technical data

Connection technology: inputs/outputs

Pole number

Connection technology: trunk cable

Dimensions W x H x D

Approvals

For data sheet and additional information, see:

Accessories

Fiber-tip pen

M12 protective cap; for unused sockets

Marker card; not stretchable; snap-on type

Spacer module for sensor/actuator box; 4-way

Spacer module for sensor/actuator box; 6-way

Spacer module for sensor/actuator box; 8-way

4 x M12 socket; 4-pole; incl. ground

4

1 x M23 plug; 12-pole

(60 x 34 x 117) mm

E 175199; Ⓢ- OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

wago.com/757-144

Item no.

210-110

756-8102

757-011

757-040

-

-

6 x M12 socket; 4-pole; incl. ground

4

1 x M23 plug; 12-pole

(60 x 34 x 123) mm

E 175199; Ⓢ- OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

wago.com/757-164

Item no.

210-110

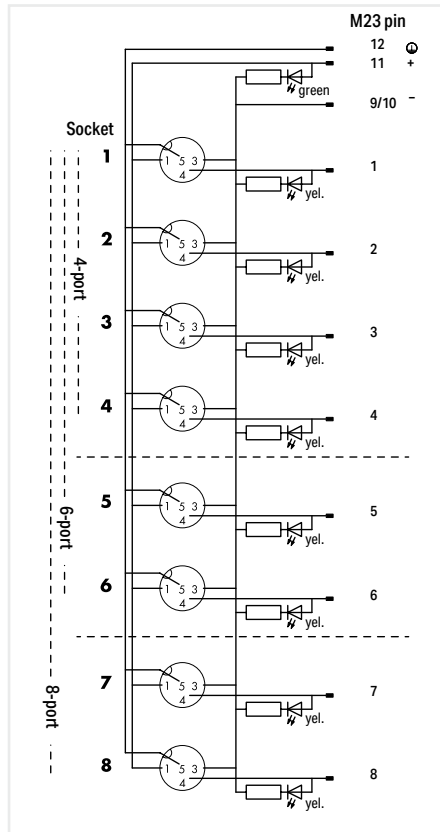
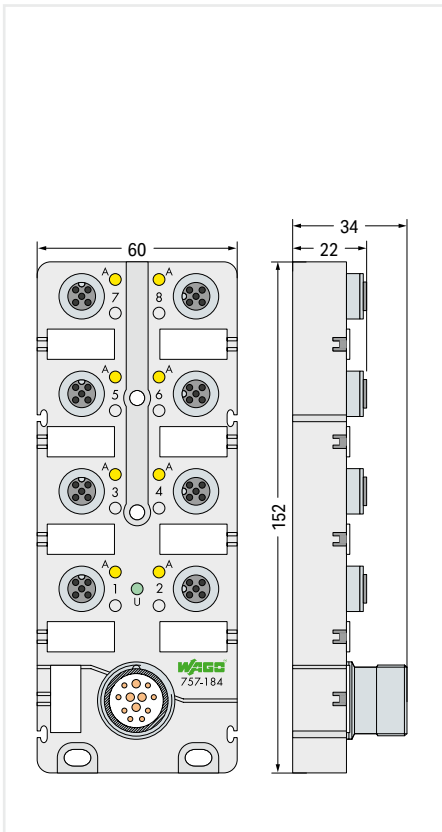
756-8102

757-011

-

757-060

-



8 x M12 socket; 4-pole; incl. ground  
 M12 Sensor/Actuator Box; 8-port; 4-pole; M23 connector  
 757-184  
 M12 S/A-Box; 8port; 4pole; M23

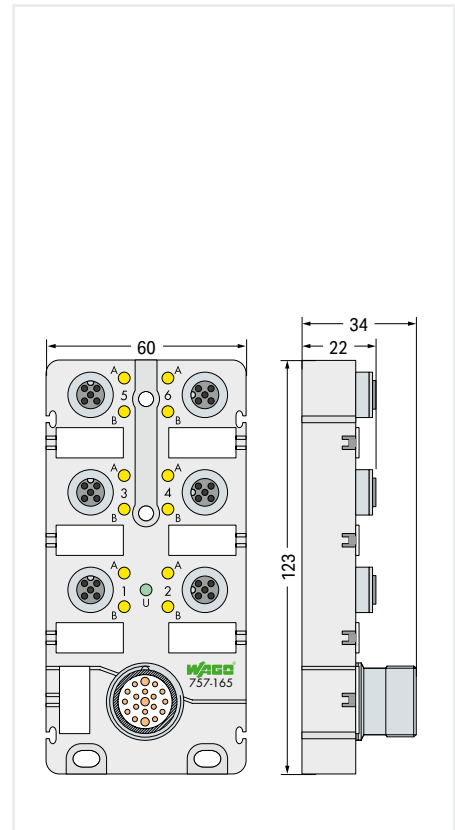
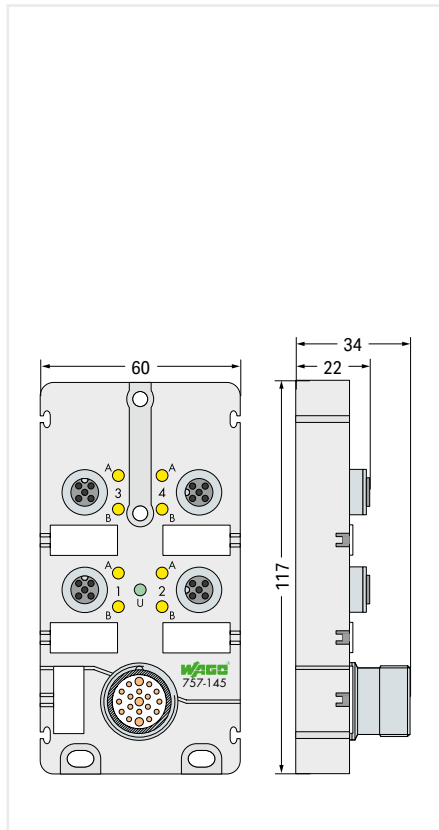
8 x M12 socket; 4-pole; incl. ground  
 4  
 1 x M23 plug; 12-pole  
 (60 x 34 x 152) mm  
 E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.  
 wago.com/757-184

| Item no. |
|----------|
| 210-110  |
| 756-8102 |
| 757-011  |
| -        |
| -        |
| 757-080  |

## Sensor/actuator boxes ▶ M12 socket; 5-pole; incl. ground



757-185



|                                       |
|---------------------------------------|
| Connection technology: inputs/outputs |
| Item description                      |
|                                       |
| Item no.                              |
| Order Text                            |

|   |
|---|
| <b>4 x M12 socket; 5-pole; incl. ground</b>                   |
| <b>M12 Sensor/Actuator Box; 4-port; 5-pole; M23 connector</b> |
|   |
| 757-145   |
| M12 S/A-Box; 4port; 5pole; M23                                |

|   |
|---|
| <b>6 x M12 socket; 5-pole; incl. ground</b>                   |
| <b>M12 Sensor/Actuator Box; 6-port; 5-pole; M23 connector</b> |
|   |
| 757-165   |
| M12 S/A-Box; 6port; 5pole; M23                                |

|   |
|---|
| <b>Technical data</b>                           |
| Connection technology: inputs/outputs           |
| Pole number                                     |
| Connection technology: trunk cable              |
| Dimensions W x H x D                            |
| Approvals                                       |
| For data sheet and additional information, see: |

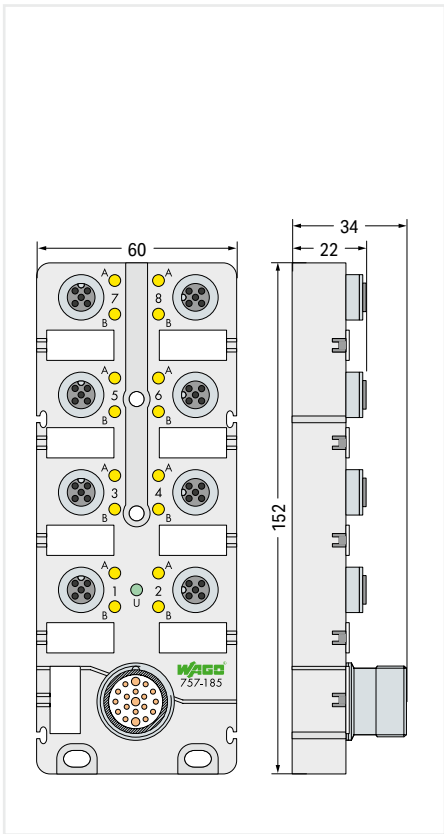
|  |
|--|
| 4 x M12 socket; 5-pole; incl. ground   |
| 5  |
| 1 x M23 plug; 19-pole<br>(60 x 34 x 117) mm  |
| E 175199; Ⓢ- OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |
| wago.com/757-145   |

|  |
|--|
| 6 x M12 socket; 5-pole; incl. ground   |
| 5  |
| 1 x M23 plug; 19-pole<br>(60 x 34 x 123) mm  |
| E 175199; Ⓢ- OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |
| wago.com/757-165   |

|  |
|--|
| <b>Accessories</b>                           |
| Fiber-tip pen                                |
| M12 protective cap; for unused sockets       |
| Marker card; not stretchable; snap-on type   |
| Spacer module for sensor/actuator box; 4-way |
| Spacer module for sensor/actuator box; 6-way |
| Spacer module for sensor/actuator box; 8-way |

|                 |
|-----------------|
| <b>Item no.</b> |
| 210-110         |
| 756-8102        |
| 757-011         |
| 757-040         |
| -               |
| -               |

|                 |
|-----------------|
| <b>Item no.</b> |
| 210-110         |
| 756-8102        |
| 757-011         |
| -               |
| 757-060         |
| -               |



|  |                                    |
|--|------------------------------------|
| 8 x M12 socket; 5-pole; incl. ground                   |                                    |
| M12 Sensor/Actuator Box; 8-port; 5-pole; M23 connector |                                    |
|  | without LED                        |
| 757-185  | 757-185/100-000                    |
| M12 S/A-Box; 8port; 5pole; M23                         | M12 S/A-Box; 8port; 5pole; M23; NL |

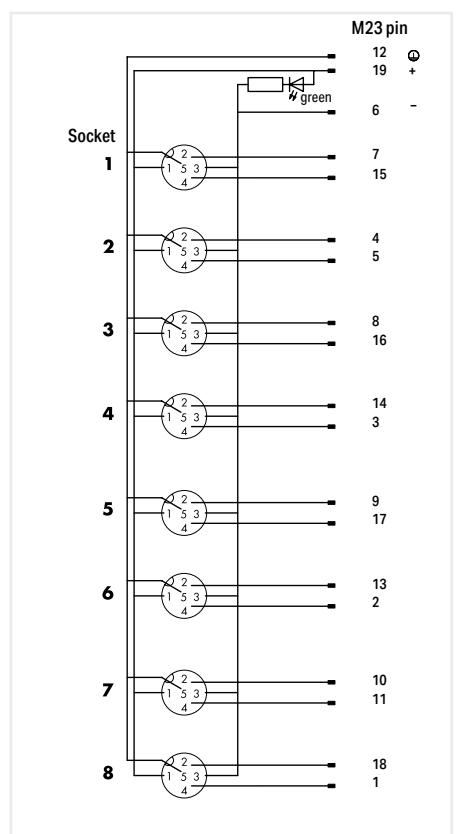
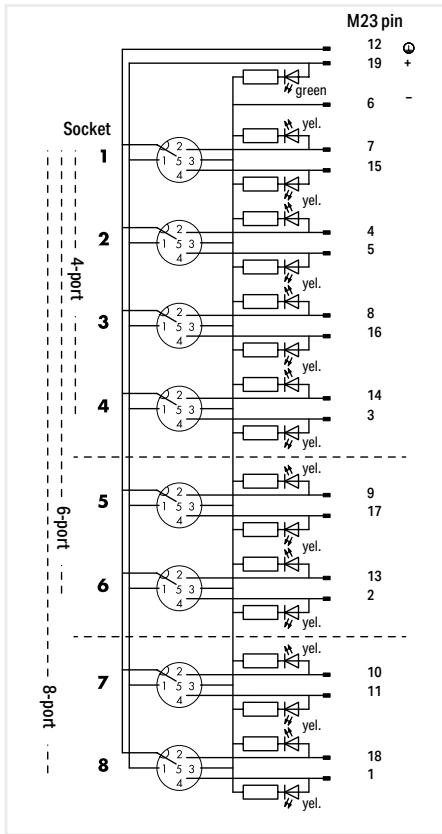
8 x M12 socket; 5-pole; incl. ground  
5

1 x M23 plug; 19-pole  
(60 x 34 x 152) mm

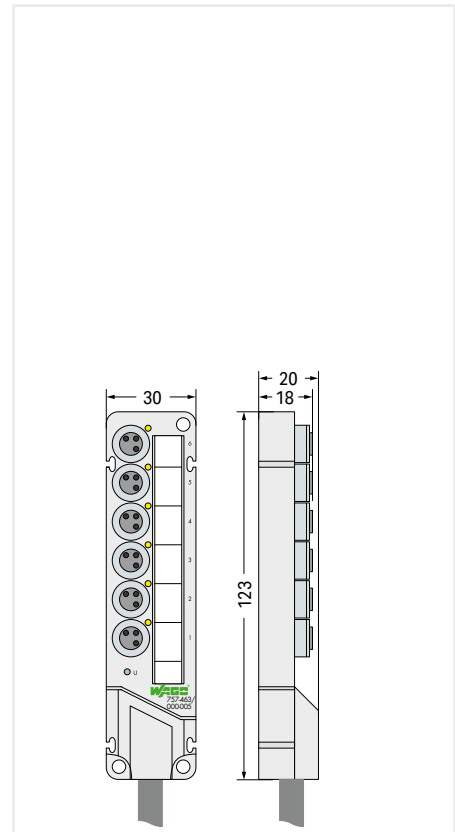
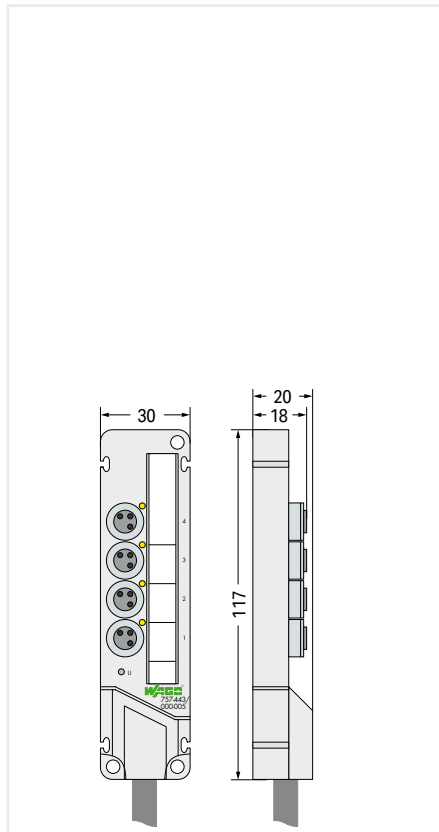
E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

wago.com/757-185

| Item no. | Item no. |
|----------|----------|
| 210-110  | 210-110  |
| 756-8102 | 756-8102 |
| 757-011  | 757-011  |
| -        | -        |
| -        | -        |
| 757-080  | 757-080  |



## Sensor/actuator boxes ▶ M8 socket; 3-pole



|                                       |
|---------------------------------------|
| Connection technology: inputs/outputs |
| Item description                      |
| Version                               |
| Item no.                              |
| Order Text                            |

|   |                               |
|---|-------------------------------|
| <b>4 x M8 socket; 3-pole</b>                  |                               |
| <b>M8 Sensor/Actuator Box; 4-port, 3-pole</b> |                               |
| 5 m connecting cable                          | 10 m connecting cable         |
| 757-443/000-005                               | 757-443/000-010               |
| M8 S/A-Box; 4port; 3pole; 5m                  | M8 S/A-Box; 4port; 3pole; 10m |

|   |                               |
|---|-------------------------------|
| <b>6 x M8 socket; 3-pole</b>                  |                               |
| <b>M8 Sensor/Actuator Box; 6-port, 3-pole</b> |                               |
| 5 m connecting cable                          | 10 m connecting cable         |
| 757-463/000-005                               | 757-463/000-010               |
| M8 S/A-Box; 6port; 3pole; 5m                  | M8 S/A-Box; 6port; 3pole; 10m |

|                                       |
|---------------------------------------|
| Technical data                        |
| Connection technology: inputs/outputs |
| Pole number                           |
| Connection technology: trunk cable    |
| Length of connection cable            |
| Dimensions W x H x D                  |
| Approvals                             |

|   |      |
|---|------|
| 4 x M8 socket; 3-pole   |      |
| 3   |      |
| 1 x Fixed connecting cable  |      |
| 5 m   | 10 m |
| (30 x 20 x 117) mm  |      |
| E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |      |

|   |      |
|---|------|
| 6 x M8 socket; 3-pole   |      |
| 3   |      |
| 1 x Fixed connecting cable  |      |
| 5 m   | 10 m |
| (30 x 20 x 123) mm  |      |
| E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |      |

For data sheet and additional information, see:

[wago.com/757-443/000-005](http://wago.com/757-443/000-005)

[wago.com/757-463/000-005](http://wago.com/757-463/000-005)

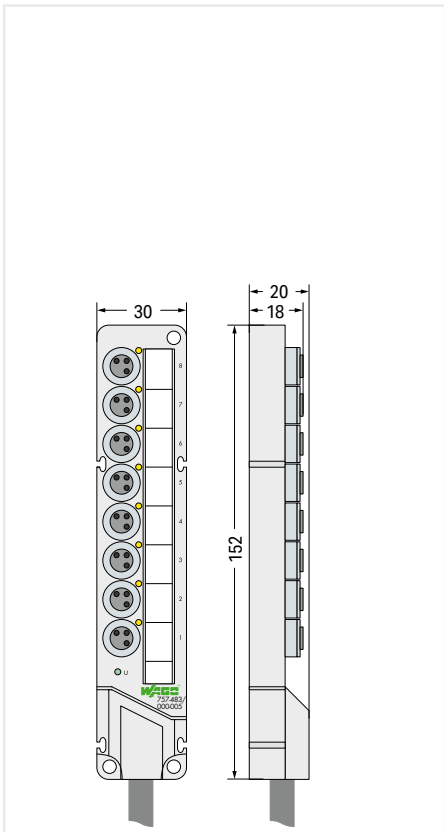
|   |
|---|
| <b>Accessories</b>  |
| Fiber-tip pen   |
| M8 protective cap; for unused sockets   |
| Spacer module for sensor/actuator box; 4-way                                  |
| Marking strips; cut to a defined length; not stretchable; plain; snap-on type |
| Spacer module for sensor/actuator box; 6-way                                  |
| Marking strips; cut to a defined length; not stretchable; plain; snap-on type |
| Spacer module for sensor/actuator box; 8-way                                  |
| Marking strips; cut to a defined length; not stretchable; plain; snap-on type |
| Spacer module for sensor/actuator box; 10-way                                 |
| Marking strips; not stretchable; snap-on type                                 |

| Item no. | Item no. |
|----------|----------|
| 210-110  | 210-110  |
| 756-8101 | 756-8101 |
| 757-040  | 757-040  |
| 757-041  | 757-041  |
| -        | -        |
| -        | -        |
| -        | -        |
| -        | -        |
| -        | -        |
| -        | -        |

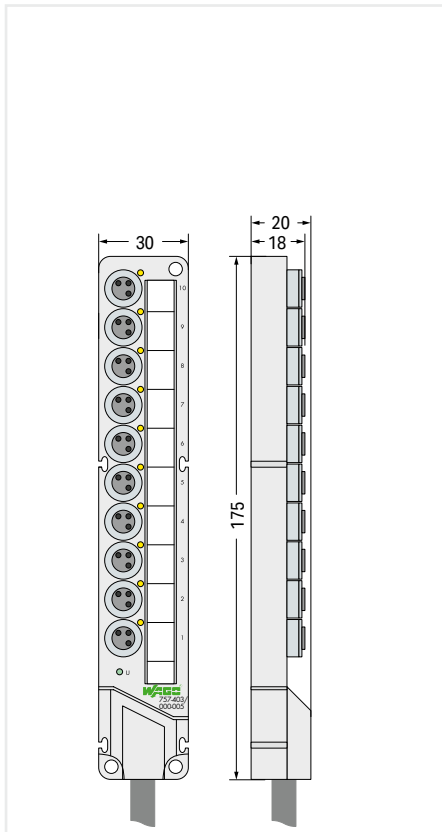
| Item no. | Item no. |
|----------|----------|
| 210-110  | 210-110  |
| 756-8101 | 756-8101 |
| -        | -        |
| -        | -        |
| 757-060  | 757-060  |
| 757-061  | 757-061  |
| -        | -        |
| -        | -        |
| -        | -        |
| -        | -        |

12

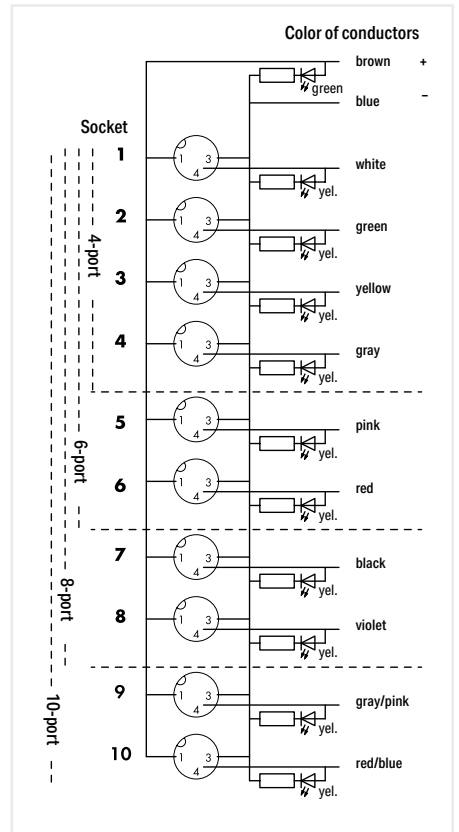




|   |                               |
|---|-------------------------------|
| <b>8 x M8 socket; 3-pole</b>                  |                               |
| <b>M8 Sensor/Actuator Box; 8-port, 3-pole</b> |                               |
| 5 m connecting cable                          | 10 m connecting cable         |
| 757-483/000-005                               | 757-483/000-010               |
| M8 S/A-Box; 8port; 3pole; 5m                  | M8 S/A-Box; 8port; 3pole; 10m |



|  |                                |
|--|--------------------------------|
| <b>10 x M8 socket; 3-pole</b>                  |                                |
| <b>M8 Sensor/Actuator Box; 10-port, 3-pole</b> |                                |
| 5 m connecting cable                           | 10 m connecting cable          |
| 757-403/000-005                                | 757-403/000-010                |
| M8 S/A-Box; 10port; 3pole; 5m                  | M8 S/A-Box; 10port; 3pole; 10m |



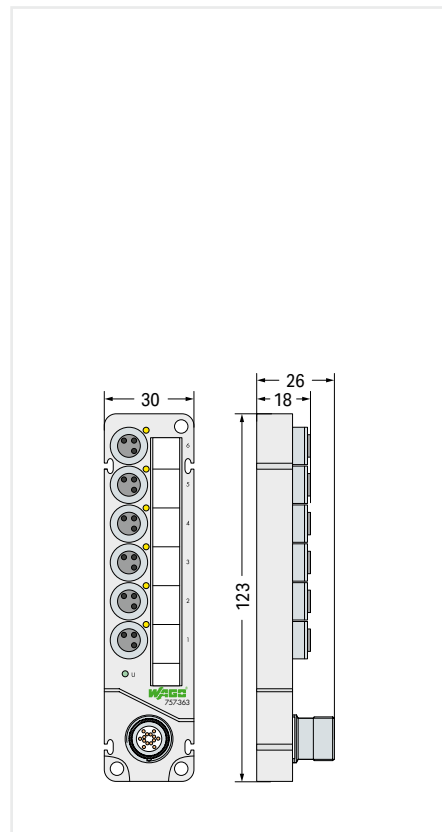
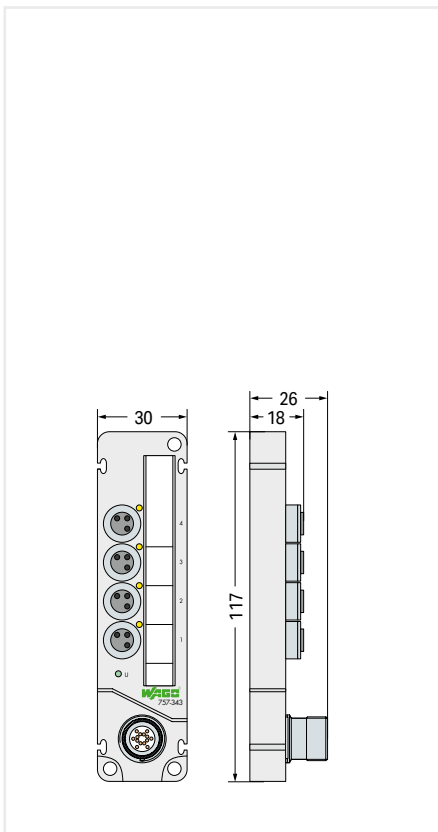
| 8 x M8 socket; 3-pole   |          |
|---|----------|
| 3   |          |
| 1 x Fixed connecting cable  |          |
| 5 m   | 10 m     |
| (30 x 20 x 152) mm  |          |
| E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |          |
| wago.com/757-483/000-005  |          |
| Item no.  | Item no. |
| 210-110   | 210-110  |
| 756-8101  | 756-8101 |
| -   | -        |
| -   | -        |
| -   | -        |
| -   | -        |
| 757-080   | 757-080  |
| 757-081   | 757-081  |
| -   | -        |
| -   | -        |

| 10 x M8 socket; 3-pole  |          |
|---|----------|
| 3   |          |
| 1 x Fixed connecting cable  |          |
| 5 m   | 10 m     |
| (30 x 20 x 175) mm  |          |
| E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. |          |
| wago.com/757-403/000-005  |          |
| Item no.  | Item no. |
| 210-110   | 210-110  |
| 756-8101  | 756-8101 |
| -   | -        |
| -   | -        |
| -   | -        |
| -   | -        |
| -   | -        |
| -   | -        |
| 757-000   | 757-000  |
| 757-001   | 757-001  |

## Sensor/actuator boxes ▶ M8 socket; 3-pole



757-303



Connection technology: inputs/outputs

Item description

Item no.

Order Text

4 x M8 socket; 3-pole

M8 Sensor/Actuator Box; 4-port; 3-pole; M16 connector

757-343

M8 S/A-Box; 4port; 3pole; M16

6 x M8 socket; 3-pole

M8 Sensor/Actuator Box; 6-port; 3-pole; M16 connector

757-363

M8 S/A-Box; 6port; 3pole; M16

Technical data

Connection technology: inputs/outputs

Pole number

Connection technology: trunk cable

Dimensions W x H x D

Approvals

For data sheet and additional information, see:

Accessories

Fiber-tip pen

M8 protective cap; for unused sockets

Spacer module for sensor/actuator box; 4-way

Marking strips; cut to a defined length; not stretchable; plain; snap-on type

Spacer module for sensor/actuator box; 6-way

Marking strips; cut to a defined length; not stretchable; plain; snap-on type

Spacer module for sensor/actuator box; 8-way

Marking strips; cut to a defined length; not stretchable; plain; snap-on type

Spacer module for sensor/actuator box; 10-way

Marking strips; not stretchable; snap-on type

4 x M8 socket; 3-pole

3

1 x M16 plug; 14-pole

(30 x 26 x 117) mm

E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

wago.com/757-343

Item no.

210-110

756-8101

757-040

757-041

-

-

-

-

-

-

6 x M8 socket; 3-pole

3

1 x M16 plug; 14-pole

(30 x 26 x 123) mm

E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.

wago.com/757-363

Item no.

210-110

756-8101

-

-

757-060

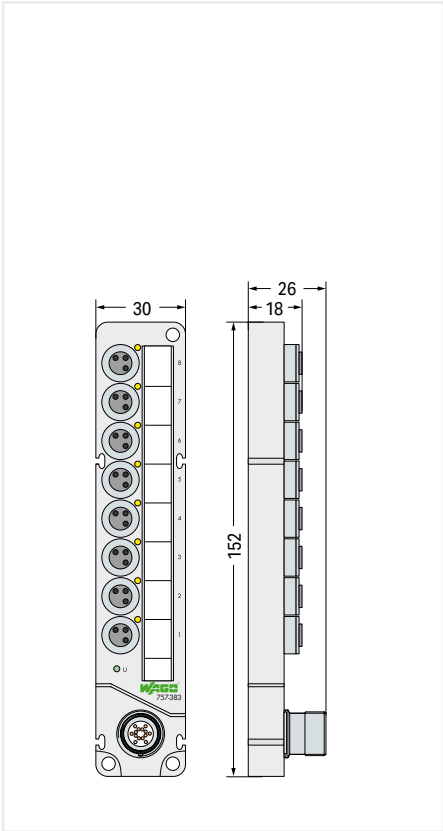
757-061

-

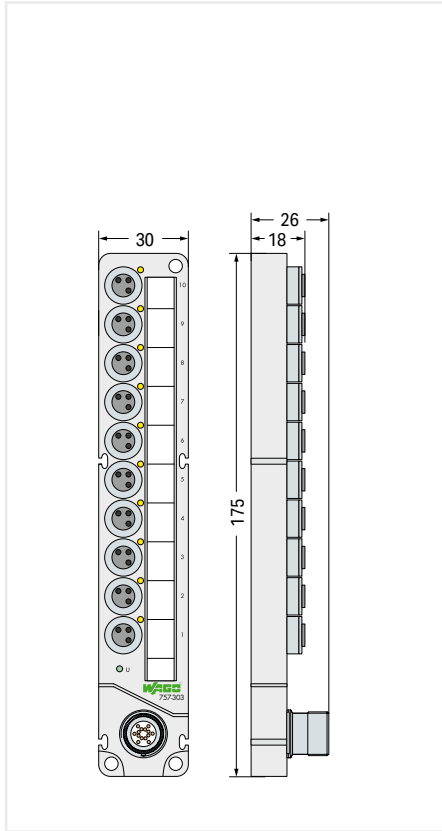
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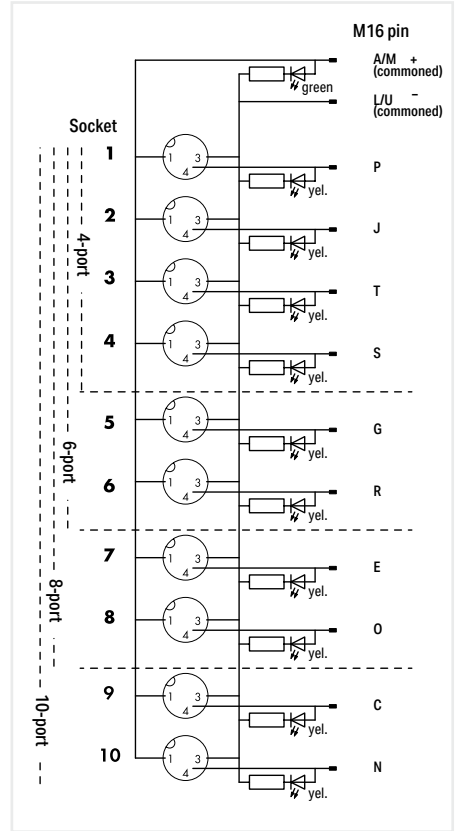
-



**8 x M8 socket; 3-pole**  
**M8 Sensor/Actuator Box; 8-port; 3-pole; M16 connector**  
**757-383**  
**M8 S/A-Box; 8port; 3pole; M16**



**10 x M8 socket; 3-pole**  
**M8 Sensor/Actuator Box; 10-port; 3-pole; M16 connector**  
**757-303**  
**M8 S/A-Box; 10port; 3pole; M16**



8 x M8 socket; 3-pole  
 3  
 1 x M16 plug; 14-pole  
 (30 x 26 x 152) mm  
 E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.  
[wago.com/757-383](http://wago.com/757-383)

| Item no. |
|----------|
| 210-110  |
| 756-8101 |
| -        |
| -        |
| -        |
| -        |
| 757-080  |
| 757-081  |
| -        |
| -        |

10 x M8 socket; 3-pole  
 3  
 1 x M16 plug; 14-pole  
 (30 x 26 x 175) mm  
 E 175199; OrdLoc; Class 2 Equipment; These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.  
[wago.com/757-303](http://wago.com/757-303)

| Item no. |
|----------|
| 210-110  |
| 756-8101 |
| -        |
| -        |
| -        |
| -        |
| -        |
| -        |
| 757-000  |
| 757-001  |

# Sensor/Actuator Boxes; Accessories



| Marker Card; not stretchable; snap-on type |          |    |
|--|----------|----|
|  | Item No. | PU |
| for M12 Sensor/Actuator Box                | 757-011  | 1  |



| Marking Strip; cut to specified length; not stretchable; plain; snap-on type |          |     |
|--|----------|-----|
| for M8 Sensor/Actuator Box   | Item No. | PU  |
| 4-port   | 757-041  | 100 |
| 6-port   | 757-061  | 100 |
| 8-port   | 757-081  | 100 |
| 10-port  | 757-001  | 100 |



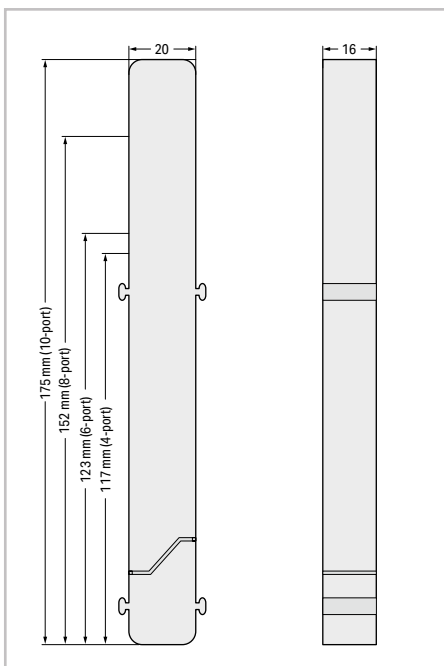
| Felt-Tip Pen          |          |    |
|-----------------------|----------|----|
|                       | Item No. | PU |
| for permanent marking | 210-110  | 1  |



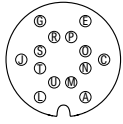
| Protective Caps (for covering unused sensor/actuator ports) |          |    |
|---|----------|----|
|   | Item No. | PU |
| M8 Protective Cap   | 756-8101 | 10 |
| M12 Protective Cap  | 756-8102 | 10 |



| Spacer Module for Sensor/Actuator Box |          |    |
|---------------------------------------|----------|----|
|                                       | Item No. | PU |
| 4-port                                | 757-040  | 10 |
| 6-port                                | 757-060  | 10 |
| 8-port                                | 757-080  | 10 |
| 10-port                               | 757-000  | 10 |





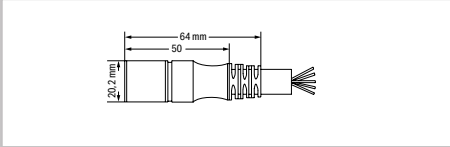
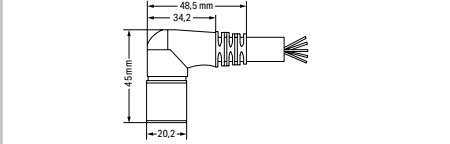
12



14-pole

Pin A, L: 0.75 mm<sup>2</sup>  
Pin C ... J, N ... T: 0.34 mm<sup>2</sup>

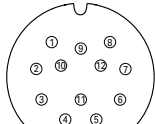
|   |                |   |                |
|---|----------------|---|----------------|
| A | brown          | N | pink-brown     |
| C | white-pink     | O | violet         |
| E | black          | P | white          |
| G | rose           | R | red            |
| J | green          | S | gray           |
| L | blue           | T | yellow         |
| M | bridged with A | U | bridged with L |

|   |  |
|---|--|
| Operating voltage                                 | 150 V  |
| Operating current                                 | 6 A (0.75 mm <sup>2</sup> ); 4 A (0.34 mm <sup>2</sup> ) |
| Rated surge voltage                               | 1.2 kV   |
| Drag chain suitability                            | ≥ 2 million bending cycles                               |
| Surrounding air (operating) temperature (dynamic) | -30 ... +90 °C   |
| Protection type                                   | IP67   |
| Cable diameter                                    | 9.1 mm ±0.2  |

| Interconnection Cable; 14-pole; M16 socket (straight) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3205/140-050 | 1  |
| 10 m  | 756-3205/140-100 | 1  |
| 15 m  | 756-3205/140-150 | 1  |



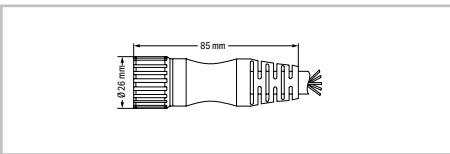
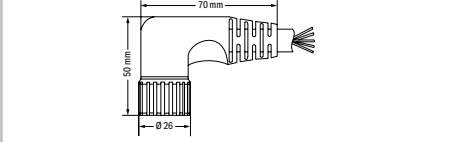
| Interconnection Cable; 14-pole; M16 socket (angled) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3206/140-050 | 1  |
| 10 m  | 756-3206/140-100 | 1  |
| 15 m  | 756-3206/140-150 | 1  |



12-pole

Pin 9, 11, 12: 1.00 mm<sup>2</sup>;  
Pin 1 ... 8: 0.34 mm<sup>2</sup>

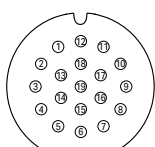
|   |        |    |                |
|---|--------|----|----------------|
| 1 | white  | 9  | blue           |
| 2 | green  | 10 | bridged with 9 |
| 3 | yellow | 11 | brown          |
| 4 | gray   | 12 | green-yellow   |
| 5 | rose   |    |                |
| 6 | red    |    |                |
| 7 | black  |    |                |
| 8 | violet |    |                |

|   |                            |
|---|----------------------------|
| Operating voltage (max.)                          | 300 V                      |
| Operating current                                 | 8 A                        |
| Rated surge voltage                               | ≥ 2.0 kV rms               |
| Drag chain suitability                            | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +80 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 9.3 mm ±0.3                |

| Interconnection Cable; 12-pole; M23 socket (straight) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3201/120-050 | 1  |
| 10 m  | 756-3201/120-100 | 1  |
| 15 m  | 756-3201/120-150 | 1  |



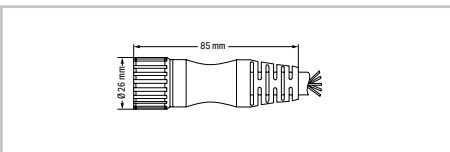
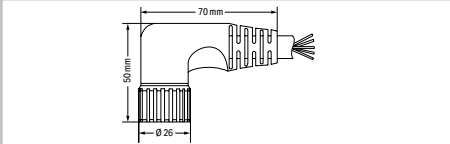
| Interconnection Cable; 12-pole; M23 socket (angled) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3202/120-050 | 1  |
| 10 m  | 756-3202/120-100 | 1  |
| 15 m  | 756-3202/120-150 | 1  |



19-pole

Pin 6, 12, 19: 1.00 mm<sup>2</sup>;  
Pin 1 ... 5, 7 ... 11, 13 ... 19: 0.34 mm<sup>2</sup>

|    |              |    |              |
|----|--------------|----|--------------|
| 1  | violet       | 11 | black        |
| 2  | red          | 12 | green-yellow |
| 3  | gray         | 13 | yellow-brown |
| 4  | red-blue     | 14 | brown-green  |
| 5  | green        | 15 | white        |
| 6  | blue         | 16 | yellow       |
| 7  | gray-pink    | 17 | rose         |
| 8  | white-green  | 18 | gray-brown   |
| 9  | white-yellow | 19 | brown        |
| 10 | white-gray   |    |              |

|   |  |
|---|--|
| Operating voltage (max.)                          | 300 V  |
| Operating current                                 | 10 A (contacts 6, 12, 19);<br>8 A (remaining contacts) |
| Rated surge voltage                               | ≥ 2.0 kV rms   |
| Drag chain suitability                            | ≥ 2 million bending cycles                             |
| Surrounding air (operating) temperature (dynamic) | -25 ... +80 °C   |
| Protection type                                   | IP67   |
| Cable diameter                                    | 11.6 mm ±0.3   |

| Interconnection Cable; 19-pole; M23 socket (straight) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3203/190-050 | 1  |
| 10 m  | 756-3203/190-100 | 1  |
| 15 m  | 756-3203/190-150 | 1  |

| Interconnection Cable; 19-pole; M23 socket (angled) |                  |    |
|---|------------------|----|
| Cable Length  | Item No.         | PU |
| 5 m   | 756-3204/190-050 | 1  |
| 10 m  | 756-3204/190-100 | 1  |
| 15 m  | 756-3204/190-150 | 1  |





## **Accessories and Tools**


## Accessories and Tools

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# WAGO Power Supplies Pro 2 – 2787 / 2789 Series

| Illustration   | Nominal Input Voltage     | Output Current | Efficiency | Derating (> +55 °C and U <sub>e</sub> < 230 VAC) | PowerBoost     | MTBF (per IEC 61709) | Dimensions (W x H x D in mm) | Item No.  |
|--|---------------------------|----------------|------------|--|----------------|----------------------|------------------------------|-----------|
| <b>1-phase; TopBoost + PowerBoost; DI/DO; communication interface; 12 VDC output voltage</b> |                           |                |            |  |                |                      |                              |           |
|  | 100 ... 240 VAC           | 10 A           | ≥ 93.8 %   | -3 %/K   | 15 ADC (5 s)   | > 1,200,000 h        | 35 x 130 x 130               | 2787-2134 |
|  | 100 ... 240 VAC           | 15 A           | ≥ 95.3 %   | -3 %/K   | 22.5 ADC (5 s) | > 1,200,000 h        | 70 x 130 x 130               | 2787-2135 |
| <b>1-phase; TopBoost + PowerBoost; DI/DO; communication interface; 24 VDC output voltage</b> |                           |                |            |  |                |                      |                              |           |
|             | 100 ... 240 VAC           | 5 A            | ≥ 93.8 %   | -3 %/K   | 7.5 ADC (5 s)  | > 1,200,000 h        | 35 x 130 x 130               | 2787-2144 |
|  | 100 ... 240 VAC           | 10 A           | ≥ 95.3 %   | -3 %/K   | 15 ADC (5 s)   | > 1,200,000 h        | 50 x 130 x 130               | 2787-2146 |
|  | 100 ... 240 VAC           | 20 A           | ≥ 95.4 %   | -3 %/K   | 30 ADC (5 s)   | > 900,000 h          | 70 x 130 x 130               | 2787-2147 |
|  | 200 ... 240 VAC           | 40 A           | ≥ 96 %     | -3 %/K   | 60 ADC (5 s)   | > 900,000 h          | 120 x 130 x 130              | 2787-2448 |
| <b>1-phase; TopBoost + PowerBoost; DI/DO; communication interface; 48 VDC output voltage</b> |                           |                |            |  |                |                      |                              |           |
|  | 100 ... 240 VAC           | 5 A            | ≥ 95.3 %   | -3 %/K   | 7.5 ADC (5 s)  | > 900,000 h          | 50 x 130 x 130               | 2787-2154 |
|  | 100 ... 240 VAC           | 10 A           | ≥ 95.3 %   | -3 %/K   | 15 ADC (5 s)   | > 800,000 h          | 70 x 130 x 130               | 2787-2157 |
| <b>3-phase; TopBoost + PowerBoost; DI/DO; communication interface; 24 VDC output voltage</b> |                           |                |            |  |                |                      |                              |           |
|             | (2 / 3) x 400 ... 500 VAC | 5 A            | ≥ 92,5%    | -3 %/K   | 7,5 ADC (5 s)  | > 1.400.000 h        | 40 x 130 x 130               | 2787-2344 |
|  | (2 / 3) x 400 ... 500 VAC | 10 A           | ≥ 93 %     | -3 %/K   | 15 ADC (5 s)   | > 1.000.000 h        | 50 x 130 x 130               | 2787-2346 |
|  | (2 / 3) x 400 ... 500 VAC | 20 A           | ≥ 95,9 %   | -3 %/K   | 30 ADC (5 s)   | > 800.000 h          | 70 x 130 x 130               | 2787-2347 |
|  | (2 / 3) x 400 ... 500 VAC | 40 A           | ≥ 96,1 %   | -3 %/K   | 60 ADC (5 s)   | > 800.000 h          | 120 x 130 x 130              | 2787-2348 |
| <b>3-phase; TopBoost + PowerBoost; DI/DO; communication interface; 48 VDC output voltage</b> |                           |                |            |  |                |                      |                              |           |
|  | (2/3) x 400 ... 500 VAC   | 10 A           | ≥ 95 %     | -3 %/K   | 15 ADC (5 s)   | > 900,000 h          | 70 x 130 x 130               | 2787-2357 |
|  | (2/3) x 400 ... 500 VAC   | 20 A           | ≥ 96 %     | -3 %/K   | 30 ADC (5 s)   | > 800,000 h          | 120 x 130 x 130              | 2787-2358 |

| Accessories  |   |           |
|--|---|-----------|
| Illustration   | Description   | Item No.  |
|  | IO-Link Communication Module                                | 2789-9080 |
|  | Modbus RTU Communication Module                             | 2789-9015 |
|  | Ethernet/Modbus® TCP/Modbus® UDP/MQTT Communication Module  | 2789-9052 |
|  | Communication module; EtherNet/IP; communication capability | 2789-9023 |



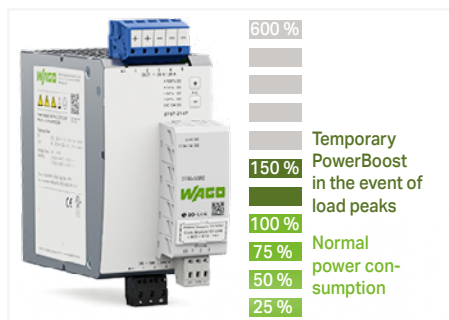
**WAGO Power Supplies Pro 2**  
This new generation of professional power supplies is for applications requiring high performance, efficiency and reliability. These devices also offer tremendous added value thanks to flexible configuration and comprehensive monitoring via optional communication interface – can be used with the WAGO USB Communication Cable and IO-Link Communication Module.



**Communication**  
The pluggable IO-Link communication modules allow continuous fieldbus communication, provide data (such as the current output current and voltage), and can also be configured or put in standby mode remotely.



**Configuration**  
WAGO's new Interface Configuration Software offers both local/remote configuration and parameter setting, allowing the power supplies to be quickly and easily tailored to system requirements. The configuration function can be used to parameterize the power supply as an ECB.



**Load Management**  
Rapidly switching capacitive loads and high start-up currents are no problem, thanks to 150 % output power (PowerBoost) for five seconds. Output current up to 600 % for 15 ms provides reserves for rapidly and reliably tripping miniature circuit breakers. The ability to allow a specified output current to be exceeded for a configurable amount of time allows the Pro 2 Power Supply to work like a single-channel ECB.









**Efficiency**  
Up to 96 % efficiency within a wide load range is the key to energy cost savings, reduced power losses and lower demand for control cabinet cooling. The CO2 footprint is also dramatically reduced. WAGO's Pro 2 Power Supply can be permanently connected to the PLC via the communication module or a digital signal, allowing the power supply output to be switched off via a signal and standby mode to be used to save energy.



**Robust Design**  
WAGO's Pro 2 Power Supplies can be started and operated from -40°C to +70°C, creating significant cost savings by reducing the need for control cabinet air conditioning. Featuring low derating capability above 60°C, the Pro 2 units are also highly robust, providing reliable operation in high-vibration and shock-prone applications. The power supplies can be operated at altitudes up to 5000 m, requiring no derating below 2000 m ASL.



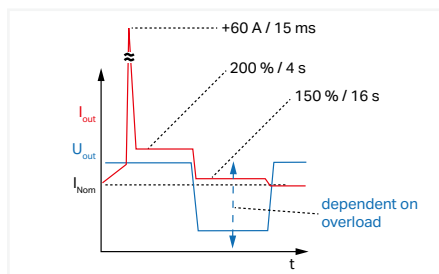
## WAGO Power Supplies Pro – 787 Series

| Illustration   | Nominal Input Voltage   | Output Current | Efficiency | Derating          | PowerBoost                    | MTBF (per IEC 61709) | Dimensions (W x H x D in mm) | Item No.       |
|--|-------------------------|----------------|------------|-------------------|-------------------------------|----------------------|------------------------------|----------------|
| <b>1-phase; TopBoost + PowerBoost; DC OK contact; 12 VDC output voltage</b>              |                         |                |            |                   |                               |                      |                              |                |
|         | 100 ... 240 VAC         | 6 A            | ≥ 83 %     | -3 %/K (> +50 °C) | 12 ADC (4 s); 9 ADC (8 s)     | > 500,000 h          | 40 x 163 x 163               | <b>787-819</b> |
|  | 100 ... 240 VAC         | 10 A           | ≥ 87.8 %   | -3 %/K (> +50 °C) | 20 ADC (4 s); 15 ADC (8 s)    | > 500,000 h          | 57 x 163 x 163               | <b>787-821</b> |
|  | 100 ... 240 VAC         | 15 A           | ≥ 87 %     | -3 %/K (> +50 °C) | 30 ADC (4 s); 22.5 ADC (8 s)  | > 500,000 h          | 57 x 163 x 179               | <b>787-831</b> |
| <b>1-phase; TopBoost + PowerBoost; DC OK contact; 24 VDC output voltage</b>              |                         |                |            |                   |                               |                      |                              |                |
|         | 100 ... 240 VAC         | 3 A            | ≥ 87.8 %   | -3 %/K (> +50 °C) | 6 ADC (4 s); 4.5 ADC (8 s)    | > 500,000 h          | 40 x 163 x 163               | <b>787-818</b> |
|  | 100 ... 240 VAC         | 5 A            | ≥ 87.8 %   | -3 %/K (> +50 °C) | 10 ADC (4 s); 7.5 ADC (8 s)   | > 500,000 h          | 57 x 163 x 163               | <b>787-822</b> |
|  | 100 ... 240 VAC         | 10 A           | ≥ 90 %     | -3 %/K (> +50 °C) | 20 ADC (4 s); 15 ADC (8 s)    | > 500,000 h          | 57 x 163 x 179               | <b>787-832</b> |
|  | 100 ... 240 VAC         | 20 A           | ≥ 91 %     | -3 %/K (> +50 °C) | 30 ADC (4 s); 55 ADC (8 s)    | > 500,000 h          | 97 x 171 x 187               | <b>787-834</b> |
| <b>1-phase; TopBoost + PowerBoost; DC OK contact; output voltage: 48 VDC</b>             |                         |                |            |                   |                               |                      |                              |                |
|         | 100 ... 240 VAC         | 5 A            | ≥ 91 %     | -3 %/K (> +50 °C) | 10 ADC (4 s); 7.5 ADC (8 s)   | > 500,000 h          | 57 x 163 x 179               | <b>787-833</b> |
|  | 100 ... 240 VAC         | 10 A           | ≥ 91 %     | -3 %/K (> +50 °C) | 17.5 ADC (4 s); 15 ADC (8 s)  | > 500,000 h          | 97 x 171 x 187               | <b>787-835</b> |
| <b>3-phase; TopBoost + PowerBoost; DC OK contact; 24 VDC output voltage</b>              |                         |                |            |                   |                               |                      |                              |                |
|         | (2/3) x 400 ... 500 VAC | 10 A           | ≥ 91.7 %   | -3 %/K (> +50 °C) | 20 ADC (4 s); 15 ADC (16 s)   | > 500,000 h          | 57 x 163 x 179               | <b>787-840</b> |
|  | (2/3) x 400 ... 500 VAC | 20 A           | ≥ 92.9 %   | -3 %/K (> +50 °C) | 40 ADC (4 s); 30 ADC (16 s)   | > 500,000 h          | 77 x 171 x 179               | <b>787-842</b> |
|  | (2/3) x 400 ... 500 VAC | 40 A           | ≥ 93.6 %   | -5 %/K (> +45 °C) | 60 ADC (4 s); 50 ADC (16 s)   | > 500,000 h          | 128 x 171 x 205              | <b>787-844</b> |
| <b>3-phase; TopBoost + PowerBoost; DC OK contact; 24 VDC output voltage; LineMonitor</b> |                         |                |            |                   |                               |                      |                              |                |
|        | (2/3) x 400 ... 500 VAC | 10 A           | ≥ 91.7 %   | -3 %/K (> +50 °C) | 20 ADC (4 s); 15 ADC (16 s)   | > 500,000 h          | 57 x 163 x 179               | <b>787-850</b> |
|  | (2/3) x 400 ... 500 VAC | 20 A           | ≥ 92.9 %   | -3 %/K (> +50 °C) | 40 ADC (4 s); 30 ADC (16 s)   | > 500,000 h          | 77 x 171 x 179               | <b>787-852</b> |
|  | (2/3) x 400 ... 500 VAC | 40 A           | ≥ 93.6 %   | -5 %/K (> +45 °C) | 60 ADC (4 s); 50 ADC (16 s)   | > 500,000 h          | 128 x 171 x 205              | <b>787-854</b> |
| <b>3-phase; TopBoost + PowerBoost; DC OK contact; output voltage: 48 VDC</b>             |                         |                |            |                   |                               |                      |                              |                |
|       | (2/3) x 400 ... 500 VAC | 10 A           | ≥ 93 %     | -3 %/K (> +50 °C) | 15 ADC (4 s); 12.5 ADC (16 s) | > 500,000 h          | 77 x 171 x 179               | <b>787-845</b> |
|  | (2/3) x 400 ... 500 VAC | 20 A           | ≥ 94.4 %   | -3 %/K (> +50 °C) | 30 ADC (4 s); 25 ADC (16 s)   | > 500,000 h          | 128 x 171 x 205              | <b>787-847</b> |



### TopBoost

- Multiplies the nominal current for up to 50 ms
- Fast and reliable triggering of the secondary-side fusing via miniature circuit breakers or melting fuses in the event of a short circuit or overload



### PowerBoost

- Provides 200 % of output power for 4 seconds
- Provides 150 % of output power for up to 16 seconds
- Ideal during start-up or switching of capacitive loads, valve clusters, motors, etc.
- Power reserve eliminates expensive oversizing



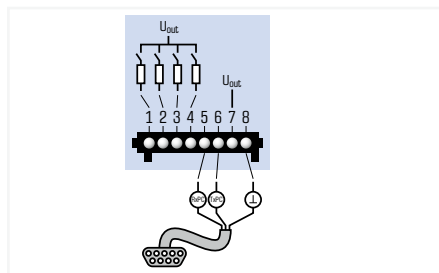
### Innovative Communication

- LineMonitor with display and function keys
- Variable monitoring, e.g., current, voltage, phase position, operating hours and more
- Output voltage and overload behavior can be parameterized
- Integrated fault memory



### RS-232 Serial Interface

- Front-side integrated interface communicates with a PC or PLC
- Free 759-850 Configuration Software and 759-851 Visualization Software can be downloaded at [www.wago.com](http://www.wago.com)
- Free function blocks are available for various PLC systems
- 787-890 Serial Communication Cable is available as an accessory



### Active Signal Contacts

- Four active signal outputs for watchdog functions
- Each unit features a separate collective message for warning/fault
- Features two individually configurable signal outputs
- Free configuration software (Item No. 759-850) at [www.wago.com](http://www.wago.com)

# WAGO Power Supplies Classic – 787 Series

| Illustration                                  | Nominal Input Voltage     | Output Current | Efficiency | Signal        | Features    | MTBF (per IEC 61709) | Dimensions (W x H x D in mm) | Item No.          |
|---|---------------------------|----------------|------------|---------------|-------------|----------------------|------------------------------|-------------------|
| <b>1-phase; 12 VDC output voltage</b>         |                           |                |            |               |             |                      |                              |                   |
|   | 100 ... 240 VAC           | 2 A            | ≥ 82 %     | DC OK signal  | NEC class 2 | > 500,000 h          | 22.5 x 90 x 107.5            | 787-1601          |
|   | 100 ... 240 VAC           | 4 A            | ≥ 86 %     | DC OK signal  | NEC class 2 | > 500,000 h          | 45 x 90 x 107.5              | 787-1611          |
|   | 100 ... 240 VAC           | 7 A            | ≥ 86 %     | DC OK signal  |             | > 500,000 h          | 52 x 90 x 119                | 787-1621          |
|   | 100 ... 240 VAC           | 15 A           | ≥ 90 %     | DC OK contact | TopBoost    | > 500,000 h          | 55 x 27 x 172                | 787-1631          |
| <b>1-phase; 24 VDC output voltage</b>         |                           |                |            |               |             |                      |                              |                   |
|   | 100 ... 240 VAC           | 1 A            | ≥ 86 %     | DC OK signal  | NEC class 2 | > 500,000 h          | 22.5 x 90 x 107.5            | 787-1602          |
|   | 100 ... 240 VAC           | 2 A            | ≥ 89 %     | DC OK signal  | NEC class 2 | > 500,000 h          | 45 x 90 x 107.5              | 787-1606          |
|   | 100 ... 240 VAC           | 4 A            | ≥ 89 %     | DC OK signal  |             | > 500,000 h          | 52 x 90 x 119.5              | 787-1616          |
|   | 100 ... 240 VAC           | 3.8 A          | ≥ 87 %     | DC OK signal  | NEC class 2 | > 500,000 h          | 52 x 90 x 119                | 787-1616/000-1000 |
|   | 100 ... 240 VAC           | 5 A            | ≥ 89 %     | DC OK contact | TopBoost    | > 500,000 h          | 42 x 127 x 137.5             | 787-1622          |
|   | 100 ... 240 VAC           | 10 A           | ≥ 91 %     | DC OK contact | TopBoost    | > 500,000 h          | 55 x 127 x 172               | 787-1632          |
|   | 100 ... 240 VAC           | 20 A           | ≥ 92 %     | DC OK contact | TopBoost    | > 500,000 h          | 95 x 127 x 170               | 787-1634          |
| <b>1-phase; 48 VDC output voltage</b>         |                           |                |            |               |             |                      |                              |                   |
|   | 100 ... 240 VAC           | 2 A            | ≥ 86 %     | DC OK contact |             | > 500,000 h          | 52 x 90 x 119                | 787-1623          |
|   | 100 ... 240 VAC           | 5 A            | ≥ 92 %     | DC OK contact | TopBoost    | > 500,000 h          | 55 x 127 x 172               | 787-1633          |
|   | 100 ... 240 VAC           | 10 A           | ≥ 93 %     | DC OK contact | TopBoost    | > 500,000 h          | 95 x 127 x 170               | 787-1635          |
| <b>1-phase/2-phase; 24 VDC output voltage</b> |                           |                |            |               |             |                      |                              |                   |
|   | (1 / 2) x 200 ... 500 VAC | 5 A            | ≥ 89 %     | DC OK contact | TopBoost    | > 500,000 h          | 42 x 127 x 143.5             | 787-1628          |
|   | (1 / 2) x 200 ... 500 VAC | 10 A           | ≥ 92.5 %   | DC OK contact | TopBoost    | > 500,000 h          | 55 x 127 x 146.5             | 787-1638          |
| <b>3-phase; 24 VDC output voltage</b>         |                           |                |            |               |             |                      |                              |                   |
|   | (2/3) x 400 ... 500 VAC   | 10 A           | ≥ 90 %     | DC OK contact | TopBoost    | > 500,000 h          | 55 x 127 x 171               | 787-1640          |
|   | (2/3) x 400 ... 500 VAC   | 20 A           | ≥ 92 %     | DC OK contact | TopBoost    | > 500,000 h          | 80 x 127 x 180               | 787-1642          |
|   | (2/3) x 400 ... 500 VAC   | 40 A           | ≥ 92 %     | DC OK contact | TopBoost    | > 500,000 h          | 126 x 127 x 198              | 787-1644          |



**Communicative**

- Green LED indicates output voltage availability
- Remote monitoring via DC OK signal or potential-free DC OK contact
- Easy commissioning and maintenance
- Quickly provides system information or machine status



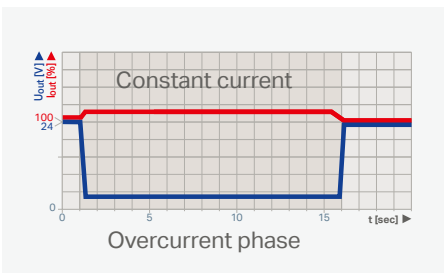
**Integrated TopBoost\***

- Multiplies the nominal current
  - Fast and reliable triggering of the secondary-side fusing via circuit breakers or melting fuses in the event of a short circuit and overload
- \* Only for 787-1622 ... -1628, -1631 ... -1638, -1640 ... -1644



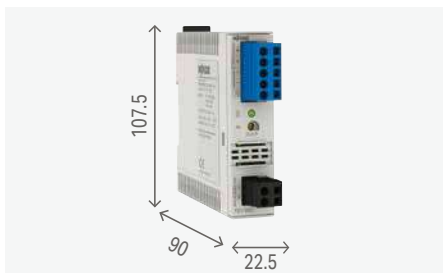
**Device Marking**

- Marking field for fast and securely attached device identification
- Supports WAGO's WMB Multi Marking System (5 mm pin spacing)
- Supports WAGO Marking Strips, 11 mm wide



**High Load-Carrying Capacity**

- Constant current characteristic under overload conditions
- 110 % of output current with a lowered output voltage – even during a short circuit
- High capacitive loads can be reliably started

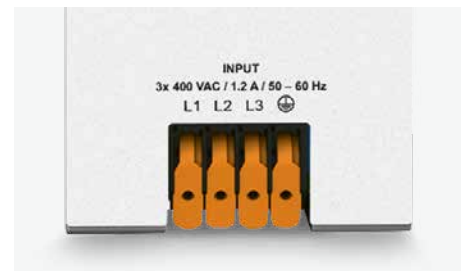
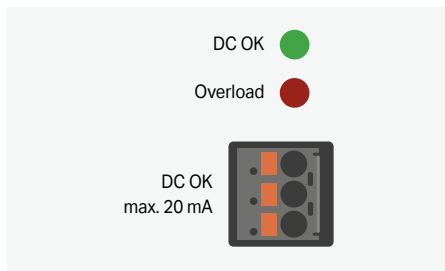
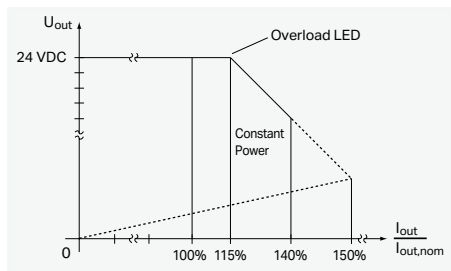


**Slim Design**

- Enclosure width reduced by up to 45% compared to previous Classic Power Supplies
- Saves valuable cabinet space

# WAGO Power Supplies Eco 2 – 2687 Series / Eco – 787 Series

| Illustration  | Nominal Input Voltage     | Output Current | Efficiency | Derating           | Signal        | MTBF (per IEC 61709) | Dimensions (W x H x D in mm) | Item No.  |
|---|---------------------------|----------------|------------|--------------------|---------------|----------------------|------------------------------|-----------|
| <b>1-phase; 24 VDC output voltage; Eco 2</b>                    |                           |                |            |                    |               |                      |                              |           |
|   | 100 ... 240 VAC           | 1.25 A         | ≥ 88 %     | -3 %/K (> +50 °C)  |               | > 1.000.000 h        | 25 x 90 x 100                | 2687-2142 |
|   | 100 ... 240 VAC           | 5 A            | ≥ 89 %     | -3 %/K (> +50 °C)  | DC OK contact | > 1.000.000 h        | 38 x 130 x 130               | 2687-2144 |
|   | 100 ... 240 VAC           | 10 A           | ≥ 93 %     | -3 %/K (> 50 °C)   | DC OK contact | > 1.000.000 h        | 50 x 130 x 130               | 2687-2146 |
| <b>1-phase; 12 VDC output voltage; several mounting options</b> |                           |                |            |                    |               |                      |                              |           |
|   | 100 ... 240 VAC           | 2 A            | ≥ 86 %     | -4 %/K (> +45 °C)  |               | > 300,000 h          | 30 x 90 x 99                 | 787-1701  |
|   | 100 ... 240 VAC           | 4 A            | ≥ 86 %     | -4 %/K (> +45 °C)  |               | > 300,000 h          | 40 x 90 x 99                 | 787-1711  |
|   | 100 ... 240 VAC           | 8 A            | ≥ 86 %     | -3 %/K (> +40 °C)  |               | > 300,000 h          | 60 x 130 x 99                | 787-1721  |
| <b>1-phase; 24 VDC output voltage</b>                           |                           |                |            |                    |               |                      |                              |           |
|   | 110 ... 240 VAC           | 2.5 A          | ≥ 86 %     | -3.3 %/K (> 50 °C) |               | 480,000 h            | 50 x 92 x 136                | 787-712   |
|   | 110 ... 240 VAC           | 5 A            | ≥ 86 %     | -5.3 %/K (> 45 °C) |               | 480,000 h            | 75 x 92 x 136                | 787-722   |
|   | 110 ... 240 VAC           | 10 A           | ≥ 86 %     | -2.3 %/K (> 40 °C) |               | 480,000 h            | 110 x 92 x 136               | 787-732   |
|   | 110 ... 240 VAC           | 20 A           | ≥ 90 %     | -2.7 %/K (> 55 °C) | DC OK signal  | > 250,000 h          | 115 x 136 x 144              | 787-734   |
|   | 110 ... 240 VAC           | 40 A           | ≥ 90 %     | -2.7 %/K (> 55 °C) | DC OK signal  | > 250,000 h          | 170 x 136 x 150              | 787-736   |
| <b>1-phase; 24 VDC output voltage; several mounting options</b> |                           |                |            |                    |               |                      |                              |           |
|   | 100 ... 240 VAC           | 1.25 A         | ≥ 87 %     | -4 %/K (> +45 °C)  |               | > 300,000 h          | 30 x 90 x 99                 | 787-1702  |
|   | 100 ... 240 VAC           | 2.5 A          | ≥ 88 %     | -4 %/K (> +45 °C)  |               | > 300,000 h          | 40 x 90 x 99                 | 787-1712  |
|   | 100 ... 240 VAC           | 5 A            | ≥ 88 %     | -3 %/K (> +45 °C)  |               | > 300,000 h          | 60 x 130 x 99                | 787-1722  |
|   | 100 ... 240 VAC           | 10 A           | ≥ 91 %     | -4 %/K (> +45 °C)  |               | > 300,000 h          | 70 x 165 x 99                | 787-1732  |
| <b>3-phase; 24 VDC output voltage</b>                           |                           |                |            |                    |               |                      |                              |           |
|   | (2/3) x 400 ... 500 VAC   | 6.25 A         | ≥ 87 %     | -2.5 %/K (> 50 °C) | DC OK contact | > 250,000 h          | 50 x 130 x 92                | 787-738   |
|   | (2/3) x 400 ... 500 VAC   | 10 A           | ≥ 89 %     | -1.3 %/K (> 50 °C) | DC OK contact | > 250,000 h          | 65 x 130 x 130               | 787-740   |
|   | (2 / 3) x 400 ... 480 VAC | 20 A           | ≥ 92 %     | -2 %/K (> 45 °C)   | DC OK contact | > 1,800,000 h        | 80 x 130 x 170               | 787-2742  |
|   | (2 / 3) x 400 ... 480 VAC | 40 A           | ≥ 92,3 %   | -2 %/K (> 45 °C)   | DC OK contact | > 1,300,000 h        | 140 x 130 x 170              | 787-2744  |



### High Load-Carrying Capacity

- Overload warning from 1.15 times the nominal output current\*
- Overload of up to 1.4 times the nominal current with a lowered output voltage (constant power)\*
- Output shutdown in case of a low-resistance short circuit; also includes automatic restart

\* Except for 787-17xx

### Status Monitoring

- Potential-isolated make contact signal, via bounce-free optocoupler\* or PhotoMOS\*\*
- Indicates whether an output voltage or an overload is present
- Ideal for remote monitoring

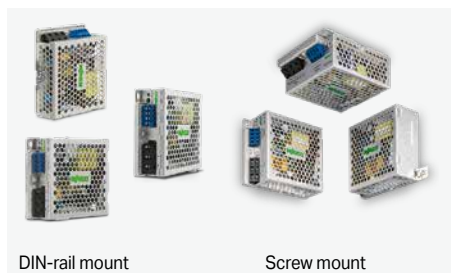
\* Only for 787-734 ... -740

\*\* Only for 787-2742, -2744

### Fast Wiring

- Convenient, tool-free wiring thanks to lever-actuated terminal strips\*
- Integrated test slot simplifies testing by eliminating conductor removal

\* Only for 787-734 ... -740, -2742, -2744



### Various Mounting Options

- Flexible mounting via DIN-rail adapter\*
- Flexible installation via screw-mount clips\*

\* Only for 787-17xx



### Highly Economical







- Triple the savings thanks to low purchase costs, easy installation and maintenance-free operation
- Budget-friendly for basic applications

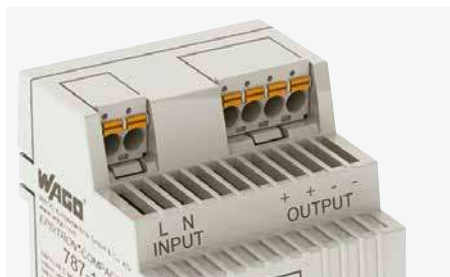


### EN 60335-1 Household Appliances Standard

- Power supplies with item numbers having the 787-17xx format meet the requirements of the household appliances standard

## WAGO Power Supplies Compact – 787 Series

| Illustration  | Nominal Input Voltage | Output Current | Efficiency | Signal       | MTBF (per IEC 61709) | Special Mounting Features | Dimensions (W x H x D in mm) | Item No. |
|---|-----------------------|----------------|------------|--------------|----------------------|---------------------------|------------------------------|----------|
| <b>1-phase; 5 VDC output voltage</b>  |                       |                |            |              |                      |                           |                              |          |
|      | 100 ... 240 VAC       | 5.5 A          | ≥ 75 %     |              | > 500,000 h          | Overhead mounting         | 72 x 89 x 59                 | 787-1020 |
| <b>1-phase; 12 VDC output voltage</b>   |                       |                |            |              |                      |                           |                              |          |
|      | 100 ... 240 VAC       | 2 A            | ≥ 80 %     |              | > 500,000 h          | Overhead mounting         | 54 x 89 x 59                 | 787-1001 |
|   | 100 ... 240 VAC       | 4 A            | ≥ 85 %     |              | > 500,000 h          | Overhead mounting         | 72 x 89 x 59                 | 787-1011 |
|   | 100 ... 240 VAC       | 6 A            | ≥ 87 %     |              | > 500,000 h          | Overhead mounting         | 90 x 89 x 59                 | 787-1021 |
| <b>1-phase; 12 VDC output voltage; with picoMAX connection technology (tool-free)</b> |                       |                |            |              |                      |                           |                              |          |
|      | 100 ... 240 VAC       | 2.5 A          | ≥ 88 %     |              | > 500,000 h          | Removable front panel     | 54 x 90 x 56                 | 787-1201 |
|   | 100 ... 240 VAC       | 5 A            | ≥ 88.5 %   |              | > 500,000 h          | Removable front panel     | 72 x 90 x 56                 | 787-1211 |
|   | 100 ... 240 VAC       | 8 A            | ≥ 91.5 %   |              | > 500,000 h          |                           | 108 x 90 x 56                | 787-1221 |
| <b>1-phase; 18 VDC output voltage</b>   |                       |                |            |              |                      |                           |                              |          |
|      | 100 ... 240 VAC       | 1,25 A         | ≥ 88 %     |              | > 2,500,000 h        |                           | 36 x 90 x 62                 | 787-2857 |
|   | 100 ... 240 VAC       | 2.4 A          | ≥ 84 %     |              | > 500,000 h          | Overhead mounting         | 72 x 89 x 59                 | 787-1017 |
| <b>1-phase; 24 VDC output voltage</b>   |                       |                |            |              |                      |                           |                              |          |
|      | 100 ... 240 VAC       | 1.3 A          | 82 %       |              | > 500,000 h          | Overhead mounting         | 54 x 89 x 59                 | 787-1002 |
|   | 100 ... 240 VAC       | 2.5 A          | 88 %       |              | > 500,000 h          | Overhead mounting         | 72 x 89 x 59                 | 787-1012 |
|   | 100 ... 240 VAC       | 4 A            | 88 %       |              | > 500,000 h          | Overhead mounting         | 90 x 89 x 59                 | 787-1022 |
| <b>1-phase; 24 VDC output voltage; with picoMAX connection technology (tool-free)</b> |                       |                |            |              |                      |                           |                              |          |
|    | 100 ... 240 VAC       | 0.5 A          | 83 %       |              | > 700,000 h          |                           | 18 x 90 x 55                 | 787-1200 |
|   | 110 ... 240 VAC       | 1.25 A         | 88 %       |              | > 500,000 h          |                           | 36 x 90 x 62                 | 787-2850 |
|   | 100 ... 240 VAC       | 1.3 A          | 87 %       | DC OK signal | > 700,000 h          | Removable front panel     | 54 x 90 x 56                 | 787-1202 |
|   | 100 ... 240 VAC       | 2.5 A          | 89 %       | DC OK signal | > 500,000 h          | Removable front panel     | 72 x 90 x 56                 | 787-1212 |
|   | 100 ... 240 VAC       | 4.2 A          | 90 %       | DC OK signal | > 500,000 h          | Removable front panel     | 108 x 90 x 56                | 787-1216 |
|   | 100 ... 240 VAC       | 6 A            | 90 %       | DC OK signal | > 500,000 h          | Removable front panel     | 144 x 90 x 56                | 787-1226 |



### Easy to Connect

- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections
- Pre-assembly via pluggable picoMAX® connection technology\*

\* Only for 787-11xx, 787-12xx



### DIN-Rail Built-In Installation

- Housing design per EN 43880, for installation in small distribution boards or meter panels



### Various Mounting Options

- Easy mounting on DIN-rail
- Flexible installation via screw-mount clips also possible\*

\* Only for 787-12xx



### Overhead Mounting

- Any type of mounting position is possible at reduced output power.
- Units can even be mounted overhead, e.g., in ceiling-mounted distribution boxes



### Highly Economical

- Triple the savings thanks to low purchase costs, easy installation and maintenance-free operation
- Budget-friendly for basic applications

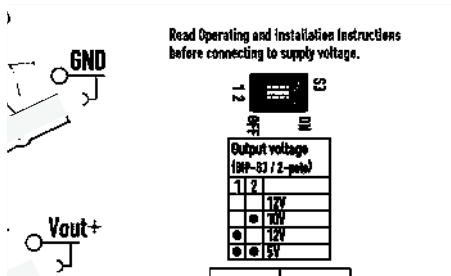


### EN 60335-1 Household Appliances Standard

- Power supplies with item numbers having the 787-12xx format meet the requirements of the household appliances standard

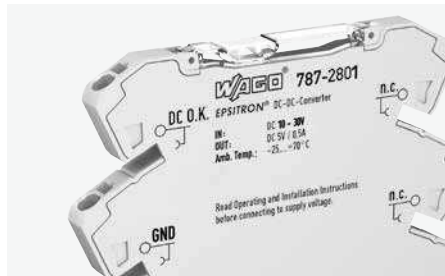
# WAGO DC/DC Converters – 787 / 288 Series

| Illustration                                    | Nominal Input Voltage | Nominal Output Voltage | Input Current | Output Current | Efficiency | Dimensions (W x H x D in mm) | Item No.         |
|---|-----------------------|------------------------|---------------|----------------|------------|------------------------------|------------------|
| <b>DC OK contact; in a compact 6 mm housing</b> |                       |                        |               |                |            |                              |                  |
|   | 24 VDC                | 5 VDC                  | ≤ 0.34 A      | 0.5 A          | ≥ 82.5 %   | 6 x 97.8 x 94                | 787-2801         |
|   | 24 VDC                | 10 VDC                 | ≤ 0.42 A      | 0.5 A          | ≥ 89 %     | 6 x 97.8 x 94                | 787-2802         |
|   | 24 VDC                | 12 VDC                 | ≤ 0.5 A       | 0.5 A          | ≥ 90 %     | 6 x 97.8 x 94                | 787-2805         |
|   | 48 VDC                | 24 VDC                 | ≤ 0.34 A      | 0.5 A          | ≥ 91 %     | 6 x 97.8 x 94                | 787-2803         |
|   | 24 VDC                | 5/10/12 VDC            | ≤ 0.5 A       | 0.5 A          | ≥ 82.5 %   | 6 x 97.8 x 94                | 787-2810         |
| <b>Output voltage: 12 VDC</b>                   |                       |                        |               |                |            |                              |                  |
|   | 24 VDC                | 12 VDC                 | ≤ 3.39 A      | 4 A            | ≥ 84 %     | 45 x 90 x 107.5              | 787-1650         |
|   | 72 VDC                | 12 VDC                 | ≤ 0.79 A      | 4 A            | ≥ 85 %     | 72 x 89 x 59                 | 787-1015/072-000 |
| <b>Output voltage: 18 VDC</b>                   |                       |                        |               |                |            |                              |                  |
|   | 24 VDC                | 18 VDC                 | ≤ 0.37 A      | 0.4 A          | 82 %       | 50 x 25 x 85                 | 288-895          |
| <b>Output voltage: 24 VDC</b>                   |                       |                        |               |                |            |                              |                  |
|   | 72 VDC                | 24 VDC                 | ≤ 0.79 A      | 2 A            | ≥ 84 %     | 72 x 89 x 59                 | 787-1014/072-000 |
|   | 110 VDC               | 24 VDC                 | ≤ 0.77 A      | 2 A            | ≥ 85 %     | 72 x 89 x 59                 | 787-1014         |



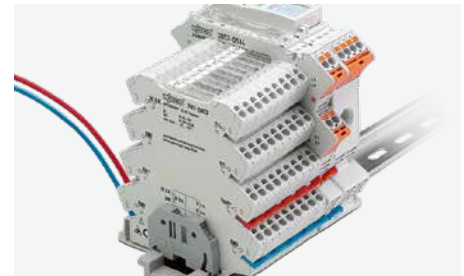
**One Device for Many Applications**

- Output voltage of the DC/DC Converter (787-2810) set via built-in DIP switch



**Communicative**

- Green LED indicates output voltage availability
- Remote monitoring via DC OK signal
- Easy commissioning and maintenance



**Can Be Commoned with 857/2857 Series**

- Full commoning of the supply voltage thanks to shared profile between the 787-28xx DC/DC Converters and the 857/2857 Series Relays and Signal Conditioners



**The Industry's Most Compact**

- "True" 6.0 mm (0.23 inch) width maximizes panel space





**Suitable for Railway Applications per EN 50155**

- Wide DC input voltage range
- Wide temperature range
- Protective coating

\* Only 787-1014 & 787-101x/072-000


## WAGO Electronic Circuit Breakers – 787 Series

| Illustration  | Output Current                              | Signaling                               | Features   | Dimensions<br>(W x H x D in mm) | Item No.          |
|---|---|---|--|---------------------------------|-------------------|
| <b>1 channel; 24 VDC input voltage</b>  |   |   |  |                                 |                   |
|    | 1 x 0.5 A (fixed setting)                   | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/050-000  |
|   | 1 x 1 A (fixed setting)                     | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/100-000  |
|   | 1 x 2 A (fixed setting)                     | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/200-000  |
|   | 1 x 4 A (fixed setting)                     | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/400-000  |
|   | 1 x 6 A (fixed setting)                     | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/600-000  |
|   | 1 x 8 A (fixed setting)                     | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/800-000  |
|   | 1 x 1 / 2 / 3 / 4 / 5 / 6 / 8 A             | 1 x status LED (green/yellow/red/blue)  | Communication capability   | 6 x 97.8 x 94                   | 787-2861/108-020  |
|   | 1 x 0,5 A (fixed setting)                   | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/050-000  |
|   | 1 x 1 A (fixed setting)                     | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/100-000  |
|   | 1 x 2 A (fixed setting)                     | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/200-000  |
|   | 1 x 4 A (fixed setting)                     | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/400-000  |
|   | 1 x 6 A (fixed setting)                     | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/600-000  |
|   | 1 x 8 A (fixed setting)                     | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/800-000  |
|   | 1 x 0,5 / 1 / 1,5 / 2 / 2,5 / 3 / 3,5 / 4 A | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/004-020  |
|   | 1 x 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 A         | 1 x LED Status (green/yellow/red)       | Communication capability   | 6 x 97,8 x 94                   | 787-3861/108-020  |
|   | <b>2 channels; 24 VDC input voltage</b>     |   |  |                                 |                   |
|    | 2 x 0.5 / 1 / 2 / 3 / 4 / 6 A               | 2 x LED status (green/red/orange)       | Active current limitation; communication capability              | 45 x 90 x 115.5                 | 787-1662/006-1000 |
|   | 2 x 3.8 A                                   | 2 x LED status (green/red/orange)       | Active current limitation; NEC class 2; communication capability | 45 x 90 x 115.5                 | 787-1662/004-1000 |
|   | 2 x 2 / 3 / 4 / 6 / 8 / 10 A                | 2 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1662          |
|   | 2 x 1 / 2 / 3 / 4 / 5 / 6 A                 | 2 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1662/106-000  |
|   | 2 x 2 / 3 / 4 / 6 / 8 / 10 A                | 2 x LED status (green/red/orange)       | Signal contact; special configuration                            | 45 x 90 x 115.5                 | 787-1662/000-054  |
| <b>2 channels; 48 VDC input voltage</b>   |   |   |  |                                 |                   |
|   | 2 x 2 / 3 / 4 / 6 / 8 / 10 A                | 2 x LED status (green/red/orange)       | Signal contact   | 45 x 90 x 115.5                 | 787-1662/000-250  |
| <b>4 channels; 12 VDC input voltage</b>   |   |   |  |                                 |                   |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1664/000-100  |
| <b>4 channels; 24 VDC input voltage</b>   |   |   |  |                                 |                   |
|  | 4 x 0.5 / 1 / 2 / 3 / 4 / 6 A               | 4 x LED status (green/red/orange)       | Active current limitation; communication capability              | 45 x 90 x 115.5                 | 787-1664/006-1000 |
|   | 4 x 3.8 A                                   | 4 x LED status (green/red/orange)       | Active current limitation; NEC class 2; communication capability | 45 x 90 x 115.5                 | 787-1664/004-1000 |
|   | 4 x 2 / 4 / 6 / 8 / 10 / 12 A               | 4 x LED status (green/red/orange)       | Active current limitation; communication capability              | 45 x 90 x 115.5                 | 787-1664/212-1000 |
|   | 4 x 0.5 / 1 / 2 / 3 / 4 / 6 A               | 4 x LED status (green/red/orange)       | Active current limitation; signal contact; special configuration | 45 x 90 x 115.5                 | 787-1664/006-1054 |
|   | 4 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A            | 4 x LED status (green/red/orange)       | IO-Link  | 45 x 90 x 115.5                 | 787-1664/000-080  |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1664          |
|   | 4 x 1 / 2 / 3 / 4 / 5 / 6 A                 | 4 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1664/106-000  |
|   | 4 x 1 / 2 / 3 / 4 / 5 / 6 A                 | 4 x LED status (green/red/orange)       | Communication capability; NPN signaling                          | 45 x 90 x 115.5                 | 787-1664/106-011  |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Communication capability; special configuration                  | 45 x 90 x 115.5                 | 787-1664/000-004  |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Signal contact; special configuration                            | 45 x 90 x 115.5                 | 787-1664/000-054  |
| 4 x 2 / 3 / 4 / 6 / 8 / 10 A  | 4 x LED status (green/red/orange)           | Communication capability; NPN signaling | 45 x 90 x 115.5  | 787-1664/000-011                |                   |
| <b>4 channels; 48 VDC input voltage</b>   |   |   |  |                                 |                   |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Communication capability   | 45 x 90 x 115.5                 | 787-1664/000-200  |
|   | 4 x 2 / 3 / 4 / 6 / 8 / 10 A                | 4 x LED status (green/red/orange)       | Signal contact   | 45 x 90 x 115.5                 | 787-1664/000-250  |
| <b>8 channels; 24 VDC input voltage</b>   |   |   |  |                                 |                   |
|  | 8 x 0.5 / 1 / 2 / 3 / 4 / 6 A               | 8 x LED status (green/red/orange)       | Active current limitation; communication capability              | 42 x 127 x 142.5                | 787-1668/006-1000 |
|   | 8 x 0.5 / 1 / 2 / 3 / 4 / 6 A               | 8 x LED status (green/red/orange)       | Active current limitation; signal contact; special configuration | 42 x 127 x 142.5                | 787-1668/006-1054 |
|   | 8 x 1 / 2 / 3 / 4 / 5 / 6 A                 | 8 x LED status (green/red/orange)       | Communication capability   | 42 x 127 x 142.5                | 787-1668/106-000  |
|   | 8 x 2 / 3 / 4 / 6 / 8 / 10 A                | 8 x LED status (green/red/orange)       | Communication capability   | 42 x 127 x 142.5                | 787-1668          |
|   | 8 x 2 / 3 / 4 / 6 / 8 / 10 A                | 8 x LED status (green/red/orange)       | Communication capability; special configuration                  | 42 x 127 x 142.5                | 787-1668/000-004  |
|   | 8 x 2 / 3 / 4 / 6 / 8 / 10 A                | 8 x LED status (green/red/orange)       | Signal contact; special configuration                            | 42 x 127 x 142.5                | 787-1668/000-054  |
|   | 8 x 1 / 2 / 3 / 4 / 5 / 6 A                 | 8 x LED status (green/red/orange)       | Signal contact   | 42 x 127 x 142.5                | 787-1668/106-054  |
|   | 8 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A            | 8 x LED status (green/red/orange)       | IO-Link  | 42 x 127 x 142.5                | 787-1668/000-080  |
| <b>8 channels; 48 VDC input voltage</b>   |   |   |  |                                 |                   |
|   | 8 x 2 / 3 / 4 / 6 / 8 / 10 A                | 8 x LED status (green/red/orange)       | Communication capability   | 42 x 127 x 142.5                | 787-1668/000-200  |
|   | 8 x 2 / 3 / 4 / 6 / 8 / 10 A                | 8 x LED status (green/red/orange)       | Signal contact   | 42 x 127 x 142.5                | 787-1668/000-250  |


# Uninterruptible Power Supplies (UPS); Battery Modules; Capacitive Buffer Modules; Redundancy Modules – 787 Series

| Illustration | Nominal Input Voltage | Output Current | Efficiency | Buffer Time | Features | Dimensions (W x H x D in mm) | Item No. |
|--------------|-----------------------|----------------|------------|-------------|----------|------------------------------|----------|
|--------------|-----------------------|----------------|------------|-------------|----------|------------------------------|----------|

**Power Supply with Integrated Charger and Controller; 1-phase; 24 VDC output voltage**


|   |                 |     |        |                |  |                  |          |
|---|-----------------|-----|--------|----------------|--|------------------|----------|
|  | 100 ... 240 VAC | 5 A | ≥ 88 % | 1 s ... 20 min | Communication capability; Charging current ≤ 1 A | 60 x 127 x 135.5 | 787-1675 |
|---|-----------------|-----|--------|----------------|--|------------------|----------|

**UPS Charger and Controller; 24 VDC output voltage**


|   |        |      |        |                |                                       |                |         |
|---|--------|------|--------|----------------|---------------------------------------|----------------|---------|
|  | 24 VDC | 10 A | ≥ 95 % | 10 ... 600 s   | LineMonitor; communication capability | 40 x 163 x 163 | 787-870 |
|   | 24 VDC | 20 A | ≥ 95 % | 10 ... 600 s   | LineMonitor; communication capability | 57 x 171 x 163 | 787-875 |
|   | 24 VDC | 40 A | ≥ 97 % | Load-dependent | Charging current ≤ 4 A                | 68 x 181 x 162 | 787-915 |

| Illustration | Nominal Input Voltage | Output Current | Capacitance | Charging Current | Features | Dimensions (W x H x D in mm) | Item No. |
|--------------|-----------------------|----------------|-------------|------------------|----------|------------------------------|----------|
|--------------|-----------------------|----------------|-------------|------------------|----------|------------------------------|----------|

**Pure Lead Battery Module; 24 VDC output voltage**


|   |        |      |        |       |                                |                   |                  |
|---|--------|------|--------|-------|--------------------------------|-------------------|------------------|
|  | 24 VDC | 20 A | 2.5 Ah | ≤ 5 A | Battery control -40 ... +60 °C | 86 x 186 x 160    | 787-878/000-2500 |
|   | 24 VDC | 40 A | 13 Ah  | ≤ 5 A | Battery control -40 ... +60 °C | 217 x 186 x 199.5 | 787-878/001-3000 |

**Lead Fleece Battery Module; 24 VDC output voltage**

|  |        |       |        |         |                                |                     |          |
|--|--------|-------|--------|---------|--------------------------------|---------------------|----------|
|  | 24 VDC | 7.5 A | 1.2 Ah | ≤ 0.3 A | Battery control -10 ... +40 °C | 55 x 153 x 126.6    | 787-876  |
|  | 24 VDC | 20 A  | 3.2 Ah | ≤ 0.8 A | Battery control                | 76.2 x 168 x 175.5  | 787-871  |
|  | 24 VDC | 40 A  | 7 Ah   | ≤ 1.8 A | Battery control                | 86 x 239 x 217.5    | 787-872  |
|  | 24 VDC | 40 A  | 12 Ah  | ≤ 3 A   | Battery control                | 120.5 x 239 x 217.5 | 787-873  |
|  | 24 VDC | 5 A   | 0.8 Ah | 0.2 A   | Battery control -10 ... +40 °C | 72 x 97 x 124       | 787-1671 |


| Illustration | Nominal Input Voltage | Output Current | Buffer Time | Charging Time (typ.) | Features | Dimensions (W x H x D in mm) | Item No. |
|--------------|-----------------------|----------------|-------------|----------------------|----------|------------------------------|----------|
|--------------|-----------------------|----------------|-------------|----------------------|----------|------------------------------|----------|

**Capacitive Buffer Module; 24 VDC output voltage**


|   |        |      |                 |         |                          |                |         |
|---|--------|------|-----------------|---------|--------------------------|----------------|---------|
|  | 24 VDC | 10 A | 0.06 ... 7.2 s  | 5 min   | Communication capability | 57 x 163 x 179 | 787-880 |
|   | 24 VDC | 20 A | 0.17 ... 16.5 s | 5 min   | Communication capability | 57 x 181 x 179 | 787-881 |
|   | 24 VDC | 40 A | 0.3 ... 6.6 s   | 2.5 min |                          | 68 x 181 x 162 | 787-916 |

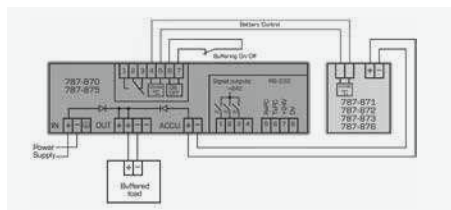
| Illustration | Nominal Input Voltage | Output Current | Efficiency | Signaling | Features | Dimensions (W x H x D in mm) | Item No. |
|--------------|-----------------------|----------------|------------|-----------|----------|------------------------------|----------|
|--------------|-----------------------|----------------|------------|-----------|----------|------------------------------|----------|

**Redundancy Module; 24 VDC output voltage**

|   |            |      |          |        |                          |                  |                 |
|---|------------|------|----------|--------|--------------------------|------------------|-----------------|
|  | 2 x 24 VDC | 25 A | ≥ 96 %   | Diode  |                          | 50 x 130 x 92    | 787-783         |
|   | 2 x 24 VDC | 25 A | ≥ 96 %   | Diode  | Ⓢ approval               | 50 x 130 x 92    | 787-783/000-040 |
|   | 2 x 24 VDC | 40 A | ≥ 99.5 % | MOSFET | Communication capability | 42 x 127 x 139.5 | 787-1685        |
|   | 2 x 24 VDC | 40 A | ≥ 97 %   | Diode  | Communication capability | 40 x 181 x 163   | 787-885         |
|   | 2 x 24 VDC | 76 A | ≥ 97 %   | Diode  |                          | 83 x 130 x 153   | 787-785         |
|   | 2 x 24 VDC | 76 A | ≥ 97 %   | Diode  | Ⓢ approval               | 83 x 130 x 153   | 787-785/000-040 |

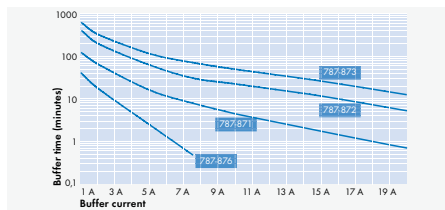
**Redundancy Module; 48 VDC output voltage**

|   |            |      |        |  |                          |                |         |
|---|------------|------|--------|--|--------------------------|----------------|---------|
|  | 2 x 48 VDC | 40 A | ≥ 97 % |  | Communication capability | 40 x 181 x 163 | 787-886 |
|---|------------|------|--------|--|--------------------------|----------------|---------|



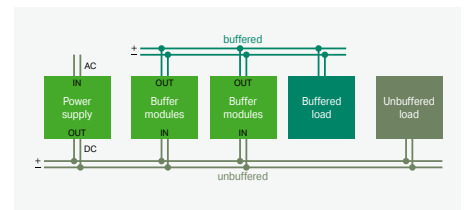
**Battery Control Technology**

- Allows continuous data exchange between intelligent Battery Modules (787-87x) and a UPS Charger/Controller
- Automatically detects a connected Battery Module (787-87x)
- Maximized battery life via temperature-controlled battery management



**Buffer Time vs. Load Current**

Different buffer times/currents can be achieved depending on the battery module selected. The example above shows a 7 A load current provided for approximately 30 seconds by a 787-870 UPS Charger/Controller (10 A) and 787-876 Battery Module.



**Parallel Connection Possible**

- Multiple buffer modules can be connected in parallel to increase buffer time or load current

## Backup Capacitor Module and DC/DC Converter



### Item Description

Item No.

### Technical Data

Nominal input voltage (DC) max.

Input current I<sub>i</sub> (max.)

Nominal capacity

Weight

Dimensions W x H x D

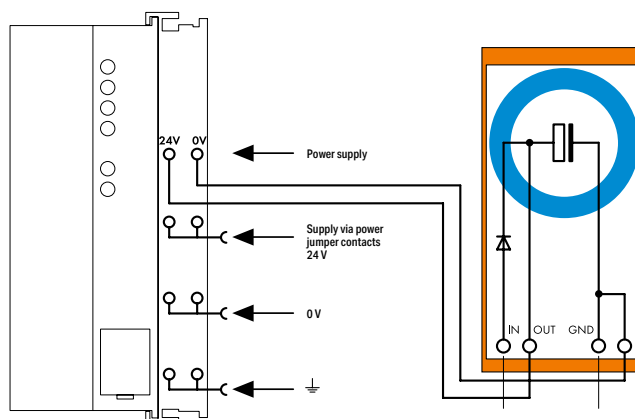
Conductor connection

Conductor cross-sections

Strip length

For data sheet and additional information, see:

Component module with capacitor; 1 module;  
Capacity: 10 mF; Nominal voltage: 24 VDC  
288-824



This back-up capacitor module smoothes unstable 24 VDC power supplies for electronic modules in case the voltage tolerances mentioned in our data sheets cannot be ensured.

Reasons for voltage transients could be:

- Power interruptions (switching transients) on primary side
- Overloads on secondary side
- Switching of inductive or capacitive loads
- The back-up capacitor module is connected between the 24 V power supply and the electronic device to be protected.

Notice:

Using insufficiently smoothed and unregulated single-phase power supplies may lead to voltage increases by the back-up capacitor module.



### Item Description

Item No.

### Technical Data

Nominal input voltage (DC) max.

Input voltage range

Nominal output voltage (DC)

Nominal output current

Efficiency

Short-circuit-protected

Surrounding air temperature (operation)

Weight

Dimensions W x H x D

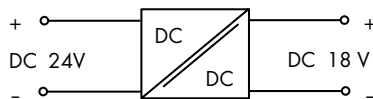
Conductor connection

Conductor cross-sections

Strip length

For data sheet and additional information, see:

DC/DC Converter; 24 VDC input voltage; 18 VDC  
output voltage; 0.4 A output current  
288-895





# WAGO System Wiring – 706 / 289 / 704 Series Interface Modules and Interface Cables

| PLC WAGO I/O System 750 |                  |      |                      |                   |                        |
|-------------------------|------------------|------|----------------------|-------------------|------------------------|
| PLC                     |                  |      | WAGO Interface Cable |                   | WAGO Interface Modules |
|                         | Item No.         | Qty. | Type                 | Qty.              |                        |
| DI                      | PLC I/O Assembly |      |                      |                   |                        |
|                         | 750-1400         | 16   | DI                   | 706-3057/300-XXXX | 1 T16ES 1              |
| DO                      | 750-1500         | 16   | DO                   | 706-3057/300-XXXX | 1 T16(E)S 1            |
|                         | 750-1502         | 8    | DI                   | 706-7753/302-XXXX | 1 T8ES 1               |
| DI/DO                   | 750-1502         | 8    | DO                   | 706-7753/302-XXXX | 1 T8(E)S 1             |
|                         | 750-1502         | 8    | DI                   | 706-3057/300-XXXX | 1 T16ES 1              |
| 8                       |                  | DO   |                      |                   |                        |

| PLC WAGO I/O System 753 |                  |      |                      |                   |                        |
|-------------------------|------------------|------|----------------------|-------------------|------------------------|
| PLC                     |                  |      | WAGO Interface Cable |                   | WAGO Interface Modules |
|                         | Item No.         | Qty. | Type                 | Qty.              |                        |
| DI                      | PLC I/O Assembly |      |                      |                   |                        |
|                         | 753-430 (x1)     | 8    | DI                   | 706-7753/300-XXXX | 1 T8ES 1               |
|                         | 753-430 (x2)     | 16   | DI                   | 706-7753/301-XXXX | 1 T16ES 1              |
|                         | 753-431 (x1)     | 8    | DI                   | 706-7753/300-XXXX | 1 T8ES 1               |
|                         | 753-431 (x2)     | 16   | DI                   | 706-7753/301-XXXX | 1 T16ES 1              |
| DO                      | 753-530 (x1)     | 8    | DO                   | 706-7753/300-XXXX | 1 T8(E)S 1             |
|                         | 753-530 (x2)     | 16   | DO                   | 706-7753/301-XXXX | 1 T16(E)S 1            |
| AI                      | 753-453 (x1)     | 4    | AI                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-453 (x2)     | 8    | AI                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-455 (x1)     | 4    | AI                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-455 (x2)     | 8    | AI                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-457 (x1)     | 4    | AI                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-457 (x2)     | 8    | AI                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-459 (x1)     | 4    | AI                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-459 (x2)     | 8    | AI                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-553 (x1)     | 4    | AO                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-553 (x2)     | 8    | AO                   | 706-7753/601-XXXX | 1 A8ES 1               |
| AO                      | 753-555 (x1)     | 4    | AO                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-555 (x2)     | 8    | AO                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-557 (x1)     | 4    | AO                   | 706-7753/602-XXXX | 1 A4ES 1               |
|                         | 753-557 (x2)     | 8    | AO                   | 706-7753/601-XXXX | 1 A8ES 1               |
|                         | 753-559 (x1)     | 4    | AO                   | 706-7753/602-XXXX | 1 A4ES 1               |
| 753-559 (x2)            | 8                | AO   | 706-7753/601-XXXX    | 1 A8ES 1          |                        |

| WAGO Interface Modules |   |          |
|------------------------|---|----------|
| Type                   | Description   | Item No. |
| T8ES                   | 10-pole; without supply   | 289-611  |
|                        | 10-pole; with LED; 3-wire   | 704-2003 |
| T8ESHT                 | 12-pole (MCS); without LED; 2-wire; up to 250 V   | 704-3003 |
| T8S                    | 10-pole; with LED; electrical isolation: 5 A relay  | 704-5003 |
|                        | 10-pole; with LED; electrical isolation: 5 A relay; manual operation                          | 704-5013 |
| T16ES                  | 20-pole; without supply   | 289-614  |
|                        | 20-pole; with LED; 1-wire   | 704-2004 |
|                        | 20-pole; with LED; 1-wire; channel isolation  | 704-2014 |
|                        | 20-pole; with LED; 2-wire   | 704-2024 |
|                        | 20-pole; with LED; 2-wire; channel fuse   | 704-2034 |
|                        | 20-pole; with LED; 2-wire; channel isolation  | 704-2044 |
|                        | 20-pole; with LED; 3-wire   | 704-2054 |
|                        | 20-pole; with LED; 3-wire; channel isolation  | 704-2064 |
|                        | 20-pole; with LED; 2-wire; 0 V/channel isolation  | 704-2074 |
|                        | 20-pole; without LED; 2-wire  | 704-2224 |
| T16ESHT                | 2 x 10-pole (MCS); without LED; 2-wire; up to 250 V   | 704-3004 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay  | 704-5004 |
| T16S                   | 20-pole; with LED; electrical isolation: 5 A relay  | 704-5024 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay; channel fuse                              | 704-5034 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay; manual operation                          | 704-5044 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay; 0 V isolation; channel fuse               | 704-5054 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay (2 u)                                      | 704-5064 |
|                        | 20-pole; with LED; electrical isolation: 5 A relay (1 a); 0 V/channel isolation; channel fuse | 704-5074 |
| A4/AO                  | 15-pole D-sub; 2- and 4-wire  | 704-8002 |
|                        | 15-pole D-sub; 2- and 4-wire; isolation   | 704-8012 |
|                        | 25-pole D-sub; 2- and 4-wire  | 704-8003 |
|                        | 25-pole D-sub; 2- and 4-wire; isolation   | 704-8013 |
| A8/TSX                 | 25-pole D-sub; current and voltage signal   | 704-8023 |

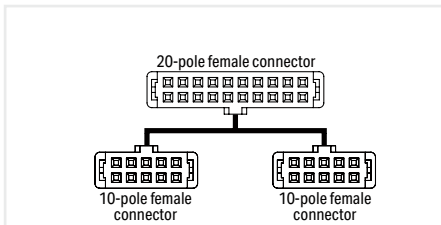


I/O modules equipped with a ribbon cable connector provide easy and fast connection of WAGO Interface Modules to the WAGO I/O System. WAGO's pre-assembled system cables eliminate discrete wiring, while reducing costs for system wiring applications. Additionally, modules can be pre-wired, allowing the connection level to be relocated.

# System Cables; for 750 Series WAGO I/O System 706 Series

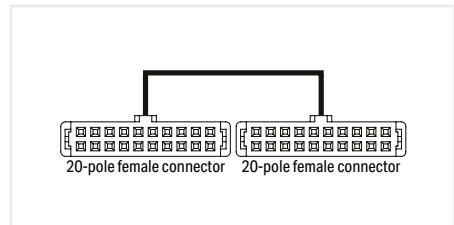


When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.



**System Cable; for 750 Series WAGO I/O System;  
8 digital inputs and 8 digital outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/302-100 | 1  |
| 2 m    | 706-7753/302-200 | 1  |
| 3 m    | 706-7753/302-300 | 1  |



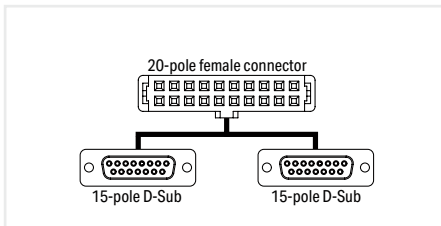
**System Cable; for Schneider TSX;  
16 digital inputs and 8 digital outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-3057/300-100 | 1  |
| 2 m    | 706-3057/300-200 | 1  |
| 3 m    | 706-3057/300-300 | 1  |

### Technical Data

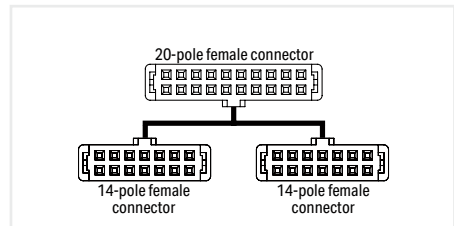
|   |   |
|---|---|
| Connectors (side 1)                     | 20-pole DIN 41651 connector; female connector / 2 x 10-pole DIN 41651 connector; female connector |
| Wire cross-section                      | 0.14 mm <sup>2</sup> LiYY   |
| Color code                              | Per DIN VDE 47100   |
| Current per wire (max.)                 | 1 A   |
| Operating voltage                       | ≤ 35 VAC/DC   |
| Surrounding air temperature (operation) | -20 ... +50 °C  |

|   |   |
|---|---|
| Connectors (side 1)                     | 20-pole DIN 41651 connector; female connector / 20-pole DIN 41651 connector; female connector |
| Wire cross-section                      | 0.14 mm <sup>2</sup> LiYY   |
| Color code                              | Per DIN VDE 47100   |
| Current per wire (max.)                 | 1 A   |
| Operating voltage                       | ≤ 35 VAC/DC   |
| Surrounding air temperature (operation) | -20 ... +50 °C  |



**System Cable; for 750 Series WAGO I/O System;  
2 x 8 digital inputs or outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/306-100 | 1  |
| 2 m    | 706-7753/306-200 | 1  |
| 3 m    | 706-7753/306-300 | 1  |



**System Cable; for 750 Series WAGO I/O System;  
2 x 8 analog inputs or outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/304-100 | 1  |
| 2 m    | 706-7753/304-200 | 1  |
| 3 m    | 706-7753/304-300 | 1  |

When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

### Technical Data

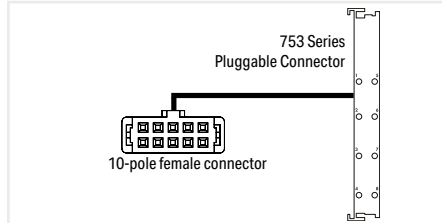
|   |   |
|---|---|
| Connectors                              | 20-pole DIN 41651 connector; female connector / 2 x 15-pole D-sub; socket |
| Wire cross-section                      | 0.14 mm <sup>2</sup> LiYY   |
| Color code                              | Per DIN VDE 47100   |
| Current per wire (max.)                 | 1 A   |
| Operating voltage                       | ≤ 35 VAC/DC   |
| Surrounding air temperature (operation) | -20 ... +50 °C  |

|   |   |
|---|---|
| Connectors (side 1)                     | 20-pole DIN 41651 connector; female connector / 2 x 14-pole DIN 41651 connector; female connector |
| Wire cross-section                      | 0.14 mm <sup>2</sup> LiYY   |
| Color code                              | Per DIN VDE 47100   |
| Current per wire (max.)                 | 1 A   |
| Operating voltage                       | ≤ 35 VAC/DC   |
| Surrounding air temperature (operation) | -20 ... +50 °C  |

# System Cables; for 753 Series WAGO I/O System 706 Series



When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

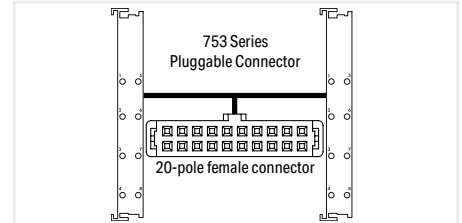


**System Cable; for 753 Series WAGO I/O System;  
8 digital inputs or outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/300-100 | 1  |
| 2 m    | 706-7753/300-200 | 1  |
| 3 m    | 706-7753/300-300 | 1  |

### Technical Data

|   |   |
|---|---|
| Connectors (side 1)                     | 8-pole male connector (753 Series) /<br>10-pole DIN 41651 connector; female connector |
| Wire cross-section                      | 0.14 mm <sup>2</sup> LiYY   |
| Color code                              | Per DIN VDE 47100   |
| Current per wire (max.)                 | 1 A   |
| Operating voltage                       | ≤ 35 VAC/DC   |
| Surrounding air temperature (operation) | -20 ... +50 °C  |



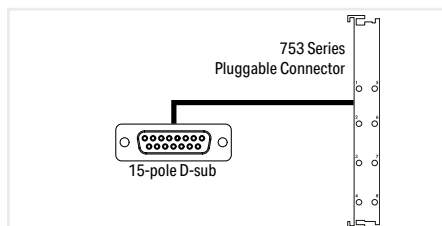
**System Cable; for 753 Series WAGO I/O System;  
2 x 8 digital inputs or outputs;  
Conductor cross-section: 0.14 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/301-100 | 1  |
| 2 m    | 706-7753/301-200 | 1  |
| 3 m    | 706-7753/301-300 | 1  |

|   |  |
|---|--|
| 2 x 8-pole male connector (753 Series) /<br>20-pole DIN 41651 connector; female connector |  |
| 0.14 mm <sup>2</sup> LiYY   |  |
| Per DIN VDE 47100   |  |
| 1 A   |  |
| ≤ 35 VAC/DC   |  |
| -20 ... +50 °C  |  |



When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

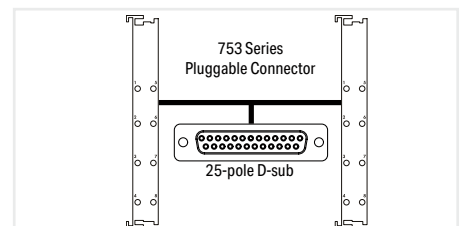


**System Cable; for 753 Series WAGO I/O System;  
4 analog inputs or outputs;  
Conductor cross-section: 0.25 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/602-100 | 1  |
| 2 m    | 706-7753/602-200 | 1  |
| 3 m    | 706-7753/602-300 | 1  |

### Technical Data

|   |  |
|---|--|
| Connectors                              | 8-pole male connector (753 Series) /<br>15-pole Mini D-sub; female connector |
| Wire cross-section                      | 0.25 mm <sup>2</sup> LiYCY   |
| Color code                              | Per DIN VDE 47100  |
| Current per wire (max.)                 | 2 A  |
| Operating voltage                       | ≤ 35 VAC/DC  |
| Surrounding air temperature (operation) | -20 ... +50 °C   |



**System Cable; for 753 Series WAGO I/O System;  
8 analog inputs or outputs;  
Conductor cross-section: 0.25 mm<sup>2</sup>**

| Length | Item No.         | PU |
|--------|------------------|----|
| 1 m    | 706-7753/601-100 | 1  |
| 2 m    | 706-7753/601-200 | 1  |
| 3 m    | 706-7753/601-300 | 1  |

|  |  |
|--|--|
| 2 x 8-pole male connector (753 Series) /<br>25-pole Mini D-sub; female connector |  |
| 0.25 mm <sup>2</sup> LiYCY   |  |
| Per DIN VDE 47100  |  |
| 2 A  |  |
| ≤ 35 VAC/DC  |  |
| -20 ... +50 °C   |  |

## IP67 Cables and Connectors




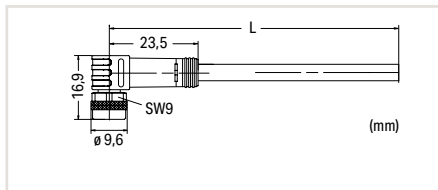
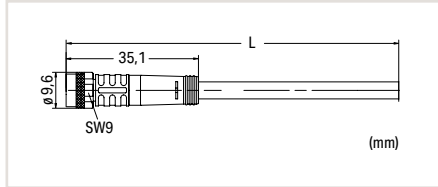
WAGO's 756 Series offers a wide range of accessories for connecting inductive or capacitive proximity switches, photoelectric sensors, flow monitors, limit switches, pressure switches and other devices.

The cables not only protect against the ingress of dust and water, but also protect against self-loosening due to vibration by working as a constructive "brake" thanks to the design of their coupling nuts. Injected cable entries also offer bend protection.

A distinction is made between cables assembled on one or both ends. Cables assembled on one end are often used where an exact cable length can not be determined or the installation of cables with connectors proves to be very difficult. These free-end cables can adapt to suit the installation's requirements. In contrast, cables assembled on both sides reduce assembly and installation times, cutting overall project costs.

## Sensor/Actuator Cable; Fitted on One End

| M8 Socket   |                                   |
|---|-----------------------------------|
|  | Pin 1 ... 4: 0.34 mm <sup>2</sup> |
|   | 1 brown (+)                       |
|   | 3 blue (-)                        |
|   | 4 black (S)                       |
| 3-pole  |                                   |



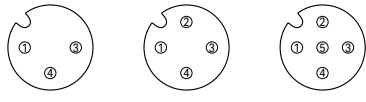
|   |                            |
|---|----------------------------|
| Operating voltage                                 | 60 VAC/DC                  |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 1.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 4.1 mm ±0.2                |

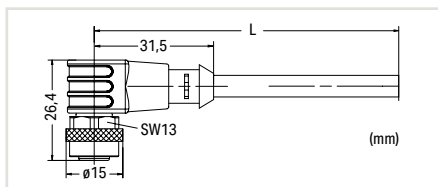
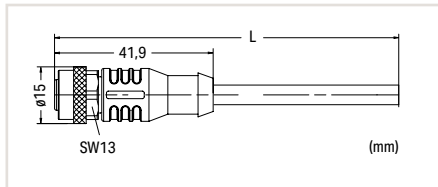
### Sensor/Actuator Cable; M8 socket (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1.5 m        | 756-5101/030-015 | 10 |
| 3-pole   | 5 m          | 756-5101/030-050 | 10 |
| 3-pole   | 10 m         | 756-5101/030-100 | 10 |

### Sensor/Actuator Cable; M8 socket (angled)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1.5 m        | 756-5102/030-015 | 10 |
| 3-pole   | 5 m          | 756-5102/030-050 | 10 |
| 3-pole   | 10 m         | 756-5102/030-100 | 10 |

| M12 Socket   |                                   |
|--|-----------------------------------|
|  | Pin 1 ... 5: 0.34 mm <sup>2</sup> |
|  | 1 brown (+)                       |
|  | 2 white (Ö)                       |
|  | 3 blue (-)                        |
|  | 4 black (S)                       |
|  | 5 gray                            |
| 3-pole   |                                   |
| 4-pole   |                                   |
| 5-pole   |                                   |



|   |   |
|---|---|
| Operating voltage                                 | 250 VAC/DC  |
| Operating current                                 | 4 A (max.)  |
| Rated surge voltage                               | 2.5 kV (3- and 4-pole); 1.5 kV (5-pole)   |
| Drag chain capability                             | ≥ 2 million bending cycles  |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C  |
| Protection type                                   | IP67  |
| Cable diameter                                    | 4.3 mm ±0.2 (3-pole);<br>4.7 mm ±0.2 (4-pole);<br>5.0 mm ±0.2 (5-pole);<br>6.5 mm ±0.2 (5-pole; shielded) |

### Sensor/Actuator Cable; M12 socket (straight)


| Pole No.         | Cable Length | Item No.         | PU |
|------------------|--------------|------------------|----|
| 3-pole           | 1.5 m        | 756-5301/030-015 | 10 |
| 3-pole           | 5 m          | 756-5301/030-050 | 10 |
| 3-pole           | 10 m         | 756-5301/030-100 | 10 |
| 4-pole           | 1.5 m        | 756-5301/040-015 | 10 |
| 4-pole           | 5 m          | 756-5301/040-050 | 10 |
| 4-pole           | 10 m         | 756-5301/040-100 | 10 |
| 5-pole           | 1.5 m        | 756-5301/050-015 | 10 |
| 5-pole           | 5 m          | 756-5301/050-050 | 10 |
| 5-pole           | 10 m         | 756-5301/050-100 | 10 |
| 5-pole; shielded | 1.5 m        | 756-5301/060-015 | 10 |
| 5-pole; shielded | 5 m          | 756-5301/060-050 | 10 |
| 5-pole; shielded | 10 m         | 756-5301/060-100 | 10 |

### Sensor/Actuator Cable; M12 socket (angled)

| Pole No.         | Cable Length | Item No.         | PU |
|------------------|--------------|------------------|----|
| 3-pole           | 1.5 m        | 756-5302/030-015 | 10 |
| 3-pole           | 5 m          | 756-5302/030-050 | 10 |
| 3-pole           | 10 m         | 756-5302/030-100 | 10 |
| 4-pole           | 1.5 m        | 756-5302/040-015 | 10 |
| 4-pole           | 5 m          | 756-5302/040-050 | 10 |
| 4-pole           | 10 m         | 756-5302/040-100 | 10 |
| 5-pole           | 1.5 m        | 756-5302/050-015 | 10 |
| 5-pole           | 5 m          | 756-5302/050-050 | 10 |
| 5-pole           | 10 m         | 756-5302/050-100 | 10 |
| 5-pole; shielded | 1.5 m        | 756-5302/060-015 | 10 |
| 5-pole; shielded | 5 m          | 756-5302/060-050 | 10 |
| 5-pole; shielded | 10 m         | 756-5302/060-100 | 10 |

## Sensor/Actuator Cable; Fitted on One End

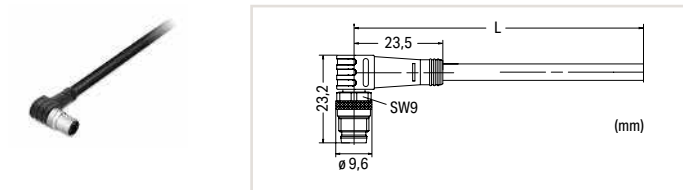
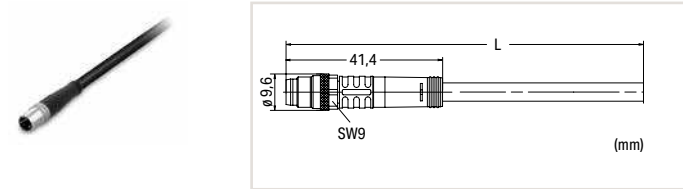
**M8 Plug**



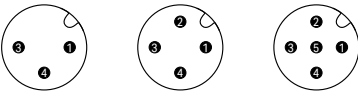
3-pole

Pin 1 ... 4: 0.34 mm<sup>2</sup>

- 1 brown (+)
- 3 blue (-)
- 4 black (S)



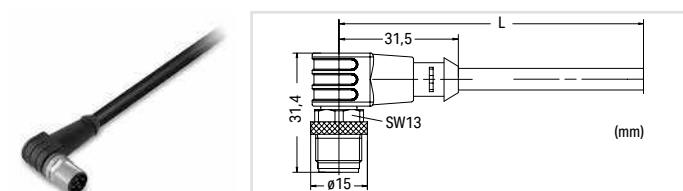
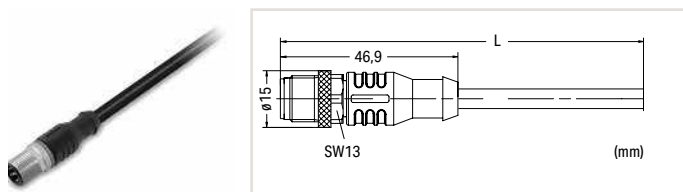
**M12 Plug**



3-pole      4-pole      5-pole

Pin 1 ... 5: 0.34 mm<sup>2</sup>

- 1 brown (+)
- 2 white (Ö)
- 3 blue (-)
- 4 black (S)
- 5 gray



|   |                            |
|---|----------------------------|
| Operating voltage                                 | 60 VAC/DC                  |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 1.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 4.1 mm ±0.2                |

| Sensor/Actuator Cable; M8 plug (straight) |              |                  |    |
|---|--------------|------------------|----|
| Pole No.                                  | Cable Length | Item No.         | PU |
| 3-pole                                    | 1.5 m        | 756-5111/030-015 | 10 |
| 3-pole                                    | 5 m          | 756-5111/030-050 | 10 |
| 3-pole                                    | 10 m         | 756-5111/030-100 | 10 |


| Sensor/Actuator Cable; M8 plug (angled) |              |                  |    |
|---|--------------|------------------|----|
| Pole No.                                | Cable Length | Item No.         | PU |
| 3-pole                                  | 1.5 m        | 756-5112/030-015 | 10 |
| 3-pole                                  | 5 m          | 756-5112/030-050 | 10 |
| 3-pole                                  | 10 m         | 756-5112/030-100 | 10 |

|   |   |
|---|---|
| Operating voltage                                 | 250 VAC/DC  |
| Operating current                                 | 4 A (max.)  |
| Rated surge voltage                               | 2.5 kV (3- and 4-pole); 1.5 kV (5-pole)   |
| Drag chain capability                             | ≥ 2 million bending cycles  |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C  |
| Protection type                                   | IP67  |
| Cable diameter                                    | 4.3 mm ±0.2 (3-pole);<br>4.7 mm ±0.2 (4-pole);<br>5.0 mm ±0.2 (5-pole);<br>6.5 mm ±0.2 (5-pole; shielded) |

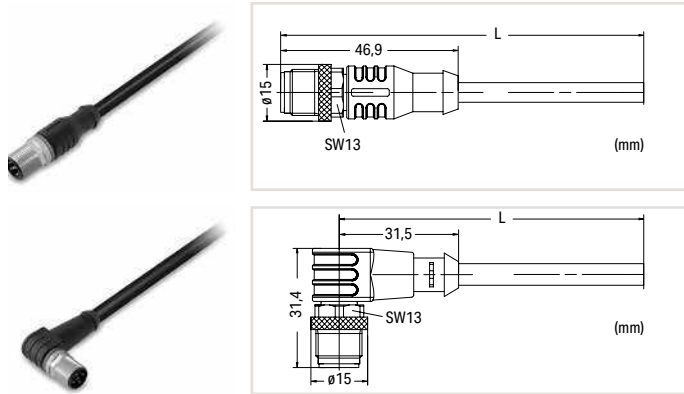
| Sensor/Actuator Cable; M12 plug (straight) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.                                   | Cable Length | Item No.         | PU |
| 3-pole                                     | 1.5 m        | 756-5311/030-015 | 10 |
| 3-pole                                     | 5 m          | 756-5311/030-050 | 10 |
| 3-pole                                     | 10 m         | 756-5311/030-100 | 10 |
| 4-pole                                     | 1.5 m        | 756-5311/040-015 | 10 |
| 4-pole                                     | 5 m          | 756-5311/040-050 | 10 |
| 4-pole                                     | 10 m         | 756-5311/040-100 | 10 |
| 5-pole                                     | 1.5 m        | 756-5311/050-015 | 10 |
| 5-pole                                     | 5 m          | 756-5311/050-050 | 10 |
| 5-pole                                     | 10 m         | 756-5311/050-100 | 10 |
| 5-pole; shielded                           | 1.5 m        | 756-5311/060-015 | 10 |
| 5-pole; shielded                           | 5 m          | 756-5311/060-050 | 10 |
| 5-pole; shielded                           | 10 m         | 756-5311/060-100 | 10 |

| Sensor/Actuator Cable; M12 plug (angled) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.                                 | Cable Length | Item No.         | PU |
| 3-pole                                   | 1.5 m        | 756-5312/030-015 | 10 |
| 3-pole                                   | 5 m          | 756-5312/030-050 | 10 |
| 3-pole                                   | 10 m         | 756-5312/030-100 | 10 |
| 4-pole                                   | 1.5 m        | 756-5312/040-015 | 10 |
| 4-pole                                   | 5 m          | 756-5312/040-050 | 10 |
| 4-pole                                   | 10 m         | 756-5312/040-100 | 10 |
| 5-pole                                   | 1.5 m        | 756-5312/050-015 | 10 |
| 5-pole                                   | 5 m          | 756-5312/050-050 | 10 |
| 5-pole                                   | 10 m         | 756-5312/050-100 | 10 |
| 5-pole; shielded                         | 1.5 m        | 756-5312/060-015 | 10 |
| 5-pole; shielded                         | 5 m          | 756-5312/060-050 | 10 |
| 5-pole; shielded                         | 10 m         | 756-5312/060-100 | 10 |

## Sensor/Actuator Cable; Fitted on One End

| M12 Plug  | Pin 1 ... 8: 0.25 mm <sup>2</sup> |
|---|-----------------------------------|
|  <p>8-pole, shielded</p> | 1 white                           |
|   | 2 brown                           |
|   | 3 green                           |
|   | 4 yellow                          |
|   | 5 gray                            |
|   | 6 rose                            |
|   | 7 blue                            |
|   | 8 red                             |
|   | Shield                            |

|   |                            |
|---|----------------------------|
| Operating voltage                                 | 250 VAC/DC                 |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 1.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 6.3 mm ±0.2                |



| Sensor/Actuator Cable; M12 plug (straight) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.                                   | Cable Length | Item No.         | PU |
| 8-pole; shielded                           | 1.5 m        | 756-5311/090-015 | 10 |
| 8-pole; shielded                           | 5 m          | 756-5311/090-050 | 10 |
| 8-pole; shielded                           | 10 m         | 756-5311/090-100 | 10 |

| Sensor/Actuator Cable; M12 plug (angled) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.                                 | Cable Length | Item No.         | PU |
| 8-pole; shielded                         | 1.5 m        | 756-5312/090-015 | 10 |
| 8-pole; shielded                         | 5 m          | 756-5312/090-050 | 10 |
| 8-pole; shielded                         | 10 m         | 756-5312/090-100 | 10 |

## Sensor/Actuator Cable; Fitted on Both Ends

**M8 Socket**      **M8 Plug**

3-pole

Pin 1 ... 4: 0.34 mm<sup>2</sup>

- 1 brown (+)
- 3 blue (-)
- 4 black (S)

Technical drawings show dimensions in mm:

- Straight-to-straight: SW9 socket length 35.1, SW9 plug length 41.4, cable diameter  $\varnothing 9.6$ .
- Straight-to-angled: SW9 socket length 35.1, angled plug length 23.5, angled plug body length 23.2, cable diameter  $\varnothing 9.6$ .
- Angled-to-straight: angled socket length 16.9, SW9 plug length 41.4, cable diameter  $\varnothing 9.6$ .
- Angled-to-angled: angled socket length 16.9, angled plug length 23.5, angled plug body length 23.2, cable diameter  $\varnothing 9.6$ .

|   |                                 |
|---|---------------------------------|
| Operating voltage                                 | 60 VAC/DC                       |
| Operating current                                 | 4 A (max.)                      |
| Rated surge voltage                               | 1.5 kV                          |
| Drag chain capability                             | $\geq 2$ million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C                  |
| Protection type                                   | IP67                            |
| Cable diameter                                    | 4.1 mm $\pm 0.2$                |

**Sensor/Actuator Cable; M8 socket (straight) – M8 plug (straight)**

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5201/030-010 | 10 |
| 3-pole   | 2 m          | 756-5201/030-020 | 10 |

**Sensor/Actuator Cable; M8 socket (straight) – M8 plug (angled)**

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5202/030-010 | 10 |
| 3-pole   | 2 m          | 756-5202/030-020 | 10 |

**Sensor/Actuator Cable; M8 socket (angled) – M8 plug (straight)**

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5203/030-010 | 10 |
| 3-pole   | 2 m          | 756-5203/030-020 | 10 |

**Sensor/Actuator Cable; M8 socket (angled) – M8 plug (angled)**

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5204/030-010 | 10 |
| 3-pole   | 2 m          | 756-5204/030-020 | 10 |

**M8 Socket**      **M12 Plug**

3-pole

4-pole

Pin 1 ... 4: 0.34 mm<sup>2</sup>

- 1 brown (+)
- 2 white (Ö)
- 3 blue (-)
- 4 black (S)

Technical drawings show dimensions in mm:

- Straight-to-straight: SW9 socket length 35.1, SW13 plug length 46.9, plug body length 15, cable diameter  $\varnothing 9.6$ .
- Straight-to-angled: SW9 socket length 35.1, angled plug length 31.5, angled plug body length 31.4, cable diameter  $\varnothing 9.6$ .

|   |                                 |
|---|---------------------------------|
| Operating voltage                                 | 60 VAC/DC                       |
| Operating current                                 | 4 A (max.)                      |
| Rated surge voltage                               | 1.5 kV                          |
| Drag chain capability                             | $\geq 2$ million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C                  |
| Protection type                                   | IP67                            |
| Cable diameter                                    | 4.1 mm $\pm 0.2$                |

**Sensor/Actuator Cable; M8 socket (straight) – M12 plug (straight)**

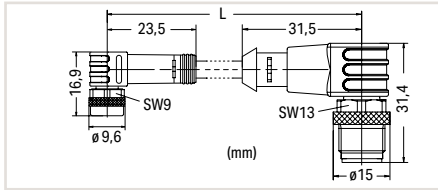
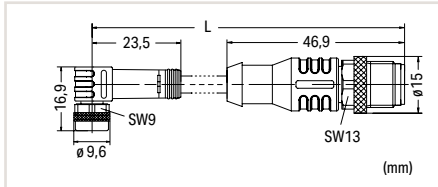
| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5507/030-010 | 10 |
| 3-pole   | 2 m          | 756-5507/030-020 | 10 |
| 4-pole   | 1 m          | 756-5507/040-010 | 10 |
| 4-pole   | 2 m          | 756-5507/040-020 | 10 |

**Sensor/Actuator Cable; M8 socket (straight) – M12 plug (angled)**

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5508/030-010 | 10 |
| 3-pole   | 2 m          | 756-5508/030-020 | 10 |
| 4-pole   | 1 m          | 756-5508/040-010 | 10 |
| 4-pole   | 2 m          | 756-5508/040-020 | 10 |



## Sensor/Actuator Cable; Fitted on Both Ends



### Sensor/Actuator Cable; M8 socket (angled) – M12 plug (straight)

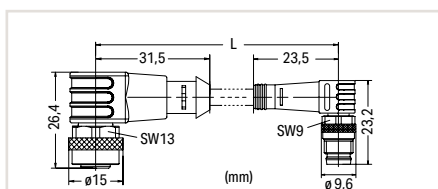
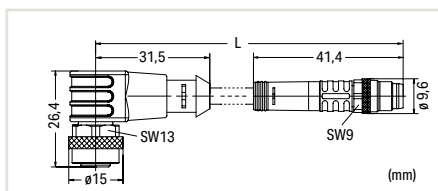
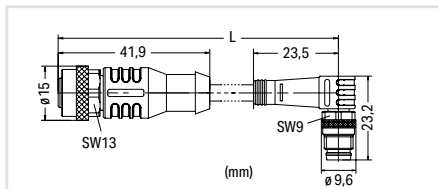
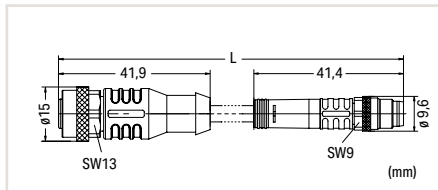
| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5509/030-010 | 10 |
| 3-pole   | 2 m          | 756-5509/030-020 | 10 |
| 4-pole   | 1 m          | 756-5509/040-010 | 10 |
| 4-pole   | 2 m          | 756-5509/040-020 | 10 |

### Sensor/Actuator Cable; M8 socket (angled) – M12 plug (angled)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5510/030-010 | 10 |
| 3-pole   | 2 m          | 756-5510/030-020 | 10 |
| 4-pole   | 1 m          | 756-5510/040-010 | 10 |
| 4-pole   | 2 m          | 756-5510/040-020 | 10 |

| M12 Socket | M8 Plug |                                   |
|------------|---------|-----------------------------------|
|            |         | Pin 1 ... 4: 0.34 mm <sup>2</sup> |
|            |         | 1 brown (+)                       |
|            |         | 3 blue (-)                        |
|            |         | 4 black (S)                       |

|   |                            |
|---|----------------------------|
| Operating voltage                                 | 60 VAC/DC                  |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 1.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 4.1 mm ±0.2                |



### Sensor/Actuator Cable; M12 socket (straight) – M8 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5501/030-010 | 10 |
| 3-pole   | 2 m          | 756-5501/030-020 | 10 |

### Sensor/Actuator Cable; M12 socket (straight) – M8 plug (angled)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5502/030-010 | 10 |
| 3-pole   | 2 m          | 756-5502/030-020 | 10 |

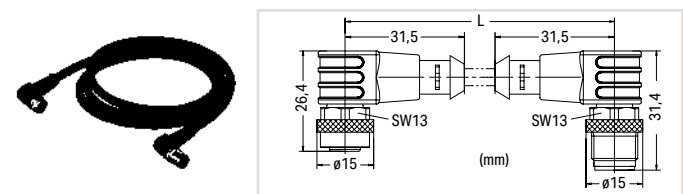
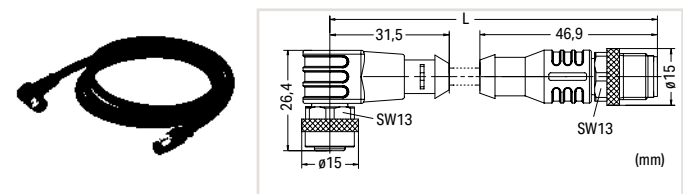
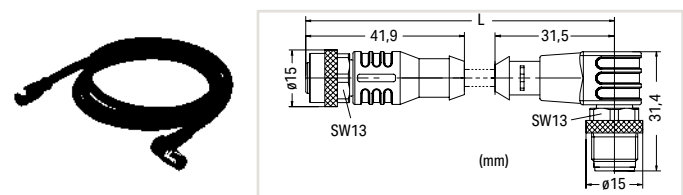
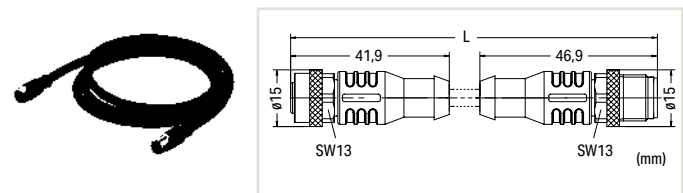
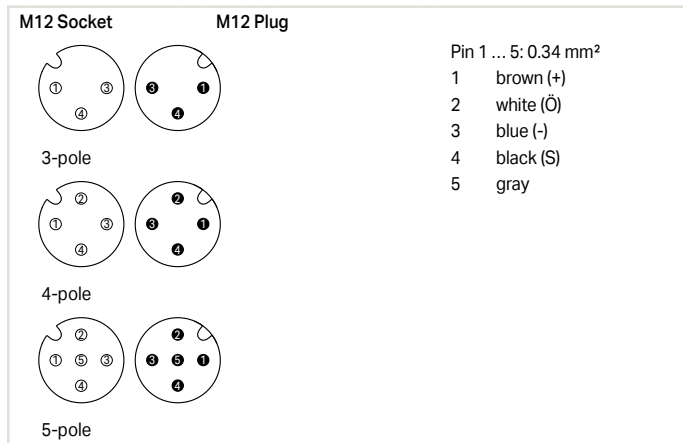
### Sensor/Actuator Cable; M12 socket (angled) – M8 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5503/030-010 | 10 |
| 3-pole   | 2 m          | 756-5503/030-020 | 10 |

### Sensor/Actuator Cable; M12 socket (angled) – M8 plug (angled)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 3-pole   | 1 m          | 756-5504/030-010 | 10 |
| 3-pole   | 2 m          | 756-5504/030-020 | 10 |

## Sensor/Actuator Cable; Fitted on Both Ends



|   |   |
|---|---|
| Operating voltage                                 | 250 VAC/DC  |
| Operating current                                 | 4 A (max.)  |
| Rated surge voltage                               | 2.5 kV (3- and 4-pole); 1.5 kV (5-pole)   |
| Drag chain capability                             | ≥ 2 million bending cycles  |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C  |
| Protection type                                   | IP67  |
| Cable diameter                                    | 4.3 mm ±0.2 (3-pole);<br>4.7 mm ±0.2 (4-pole);<br>5.0 mm ±0.2 (5-pole);<br>6.5 mm ±0.2 (5-pole; shielded) |

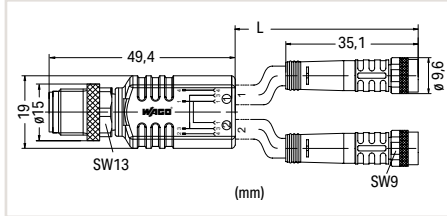
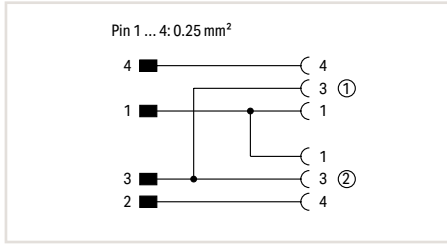
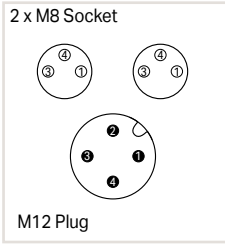
| Sensor/Actuator Cable; M12 socket (straight) – M12 plug (straight) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.   | Cable Length | Item No.         | PU |
| 3-pole   | 1 m          | 756-5401/030-010 | 10 |
| 3-pole   | 2 m          | 756-5401/030-020 | 10 |
| 4-pole   | 1 m          | 756-5401/040-010 | 10 |
| 4-pole   | 2 m          | 756-5401/040-020 | 10 |
| 5-pole   | 1 m          | 756-5401/050-010 | 10 |
| 5-pole   | 2 m          | 756-5401/050-020 | 10 |
| 5-pole; shielded   | 1 m          | 756-5401/060-010 | 10 |
| 5-pole; shielded   | 2 m          | 756-5401/060-020 | 10 |

| Sensor/Actuator Cable; M12 socket (straight) – M12 plug (angled) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.   | Cable Length | Item No.         | PU |
| 3-pole   | 1 m          | 756-5402/030-010 | 10 |
| 3-pole   | 2 m          | 756-5402/030-020 | 10 |
| 4-pole   | 1 m          | 756-5402/040-010 | 10 |
| 4-pole   | 2 m          | 756-5402/040-020 | 10 |
| 5-pole   | 1 m          | 756-5402/050-010 | 10 |
| 5-pole   | 2 m          | 756-5402/050-020 | 10 |
| 5-pole; shielded   | 1 m          | 756-5402/060-010 | 10 |
| 5-pole; shielded   | 2 m          | 756-5402/060-020 | 10 |

| Sensor/Actuator Cable; M12 socket (angled) – M12 plug (straight) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.   | Cable Length | Item No.         | PU |
| 3-pole   | 1 m          | 756-5403/030-010 | 10 |
| 3-pole   | 2 m          | 756-5403/030-020 | 10 |
| 4-pole   | 1 m          | 756-5403/040-010 | 10 |
| 4-pole   | 2 m          | 756-5403/040-020 | 10 |
| 5-pole   | 1 m          | 756-5403/050-010 | 10 |
| 5-pole   | 2 m          | 756-5403/050-020 | 10 |
| 5-pole; shielded   | 1 m          | 756-5403/060-010 | 10 |
| 5-pole; shielded   | 2 m          | 756-5403/060-020 | 10 |

| Sensor/Actuator Cable; M12 socket (angled) – M12 plug (angled) |              |                  |    |
|--|--------------|------------------|----|
| Pole No.   | Cable Length | Item No.         | PU |
| 3-pole   | 1 m          | 756-5404/030-010 | 10 |
| 3-pole   | 2 m          | 756-5404/030-020 | 10 |
| 4-pole   | 1 m          | 756-5404/040-010 | 10 |
| 4-pole   | 2 m          | 756-5404/040-020 | 10 |
| 5-pole   | 1 m          | 756-5404/050-010 | 10 |
| 5-pole   | 2 m          | 756-5404/050-020 | 10 |
| 5-pole; shielded   | 1 m          | 756-5404/060-010 | 10 |
| 5-pole; shielded   | 2 m          | 756-5404/060-020 | 10 |

## Sensor/Actuator Cable; Fitted on Both Ends; Distribution Connector



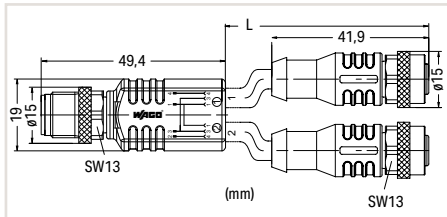
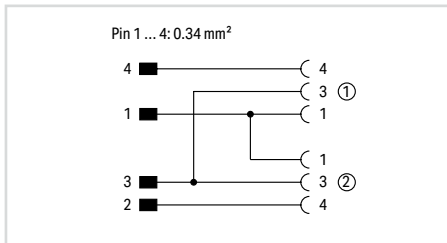
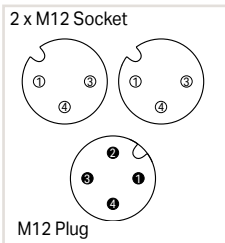
|   |                            |
|---|----------------------------|
| Operating voltage                                 | 60 VAC/DC                  |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 1.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 4.1 mm ±0.2                |

### Sensor/Actuator Cable; 2 x M8 socket (straight) – M12 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 4-pole   | 1 m          | 756-5513/040-010 | 10 |
| 4-pole   | 2 m          | 756-5513/040-020 | 10 |

### Sensor/Actuator Cable; 2 x M8 socket (angled) – M12 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 4-pole   | 1 m          | 756-5514/040-010 | 10 |
| 4-pole   | 2 m          | 756-5514/040-020 | 10 |



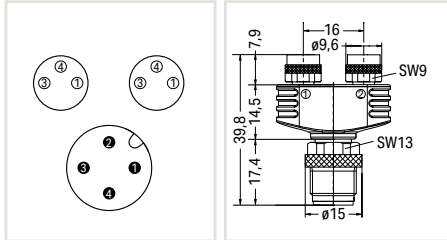
|   |                            |
|---|----------------------------|
| Operating voltage                                 | 250 VAC/DC                 |
| Operating current                                 | 4 A (max.)                 |
| Rated surge voltage                               | 2.5 kV                     |
| Drag chain capability                             | ≥ 2 million bending cycles |
| Surrounding air (operating) temperature (dynamic) | -25 ... +90 °C             |
| Protection type                                   | IP67                       |
| Cable diameter                                    | 4.7 mm ±0.2                |

### Sensor/Actuator Cable; 2 x M12 socket (straight) – M12 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 4-pole   | 1 m          | 756-5516/040-010 | 10 |
| 4-pole   | 2 m          | 756-5516/040-020 | 10 |

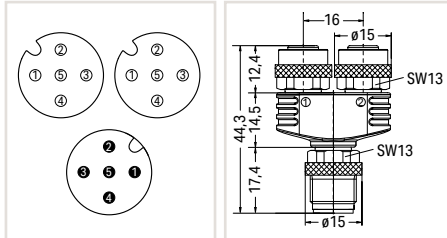
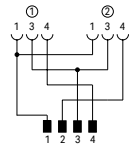
### Sensor/Actuator Cable; 2 x M12 socket (angled) – M12 plug (straight)

| Pole No. | Cable Length | Item No.         | PU |
|----------|--------------|------------------|----|
| 4-pole   | 1 m          | 756-5517/040-010 | 10 |
| 4-pole   | 2 m          | 756-5517/040-020 | 10 |



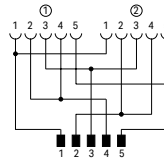
### Distribution Connector M8/M12

|  | Item No.         | PU |
|--|------------------|----|
| Accessories; M12/M8 Distribution Connector | 756-9301/040-000 | 1  |



### Distribution Connector M12/M12

|   | Item No.         | PU |
|---|------------------|----|
| Accessories; M12/M12 Distribution Connector | 756-9301/050-000 | 1  |



# Configurable Connector



Connectable cable:  
 Ø 4 ... 5 mm  
 0.14 ... 0.34 mm<sup>2</sup>

3-pole

| M8 Plug, Straight and Angled                                       |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| Configurable Connector; 3-pole; M8 plug (straight); IDC technology | 756-9102/030-000 | 5  |
| Configurable Connector; 3-pole; M8 plug (angled); IDC technology   | 756-9105/030-000 | 5  |



Connectable cable:  
 Ø 4 ... 5 mm  
 0.14 ... 0.34 mm<sup>2</sup>

3-pole

| M8 Socket, Straight and Angled                                       |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| Configurable Connector; 3-pole; M8 socket (straight); IDC technology | 756-9112/030-000 | 5  |
| Configurable Connector; 3-pole; M8 socket (angled); IDC technology   | 756-9115/030-000 | 5  |



Connectable cable:  
 Ø 4 ... 6 mm/0.25 ... 0.75 mm<sup>2</sup>  
 (Screw clamp technology)  
 Ø 4 ... 6 mm/0.14 ... 0.50 mm<sup>2</sup>  
 (Spring clamp technology)

4-pole  
5-pole

| M12 Plug, Straight and Angled  |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| Configurable Connector; 4-pole; M12 plug (straight); Screw connection technology | 756-9201/040-000 | 5  |
| Configurable Connector; 4-pole; M12 plug (angled); Screw connection technology   | 756-9204/040-000 | 5  |
| Configurable Connector; 4-pole; M12 plug (straight); Spring clamp technology     | 756-9202/040-000 | 5  |
| Configurable Connector; 4-pole; M12 plug (angled); Spring clamp technology       | 756-9205/040-000 | 5  |
| Configurable Connector; 5-pole; M12 plug (straight); Screw connection technology | 756-9201/050-000 | 5  |
| Configurable Connector; 5-pole; M12 plug (angled); Screw connection technology   | 756-9204/050-000 | 5  |
| Configurable Connector; 5-pole; M12 plug (straight); Spring clamp technology     | 756-9202/050-000 | 5  |
| Configurable Connector; 5-pole; M12 plug (angled); Spring clamp technology       | 756-9205/050-000 | 5  |

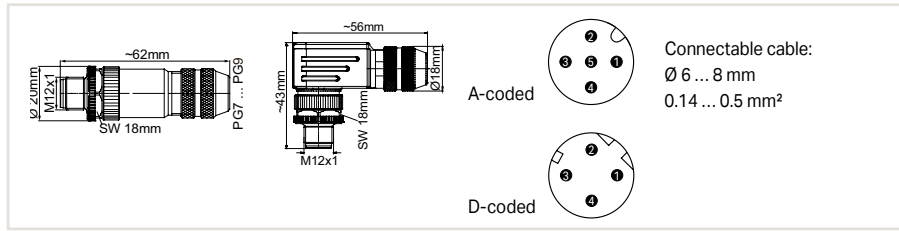


Connectable cable:  
 Ø 4 ... 6 mm/0.25 ... 0.75 mm<sup>2</sup>  
 (Screw clamp technology)  
 Ø 4 ... 6 mm/0.14 ... 0.50 mm<sup>2</sup>  
 (Spring clamp technology)

4-pole  
5-pole

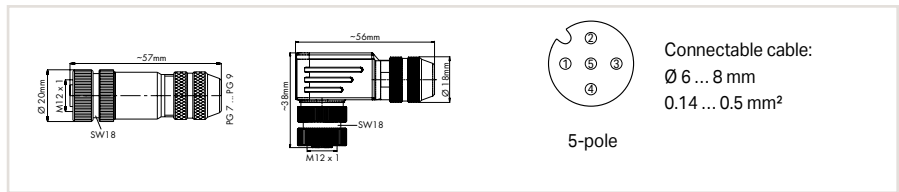
| M12 Socket, Straight and Angled  |                  |    |
|--|------------------|----|
|  | Item No.         | PU |
| Configurable Connector; 4-pole; M12 socket (straight); Screw connection technology | 756-9211/040-000 | 5  |
| Configurable Connector; 4-pole; M12 socket (angled); Screw connection technology   | 756-9214/040-000 | 5  |
| Configurable Connector; 4-pole; M12 socket (straight); Spring clamp technology     | 756-9212/040-000 | 5  |
| Configurable Connector; 4-pole; M12 socket (angled); Spring clamp technology       | 756-9215/040-000 | 5  |
| Configurable Connector; 5-pole; M12 socket (straight); Spring clamp technology     | 756-9212/050-000 | 5  |
| Configurable Connector; 5-pole; M12 socket (angled); Spring clamp technology       | 756-9215/050-000 | 5  |

# Configurable Shielded Connector; ETHERNET, PROFINET Accessories



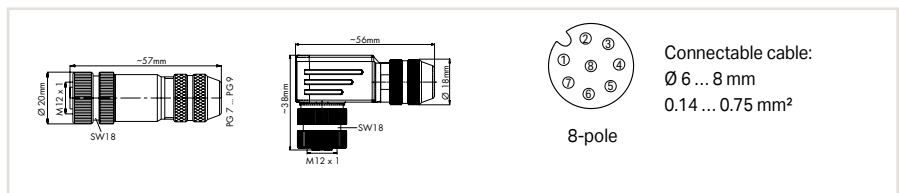
### M12 Plug, Straight and Angled

|   | Item No.         | PU |
|---|------------------|----|
| Configurable Connector; 5-pole; shielded; M12 plug (straight); A-coded; Spring clamp technology | 756-9207/060-000 | 1  |
| Configurable Connector; 4-pole; shielded; M12 plug (straight); D-coded; Spring clamp technology | 756-9501/060-000 | 1  |
| Configurable Connector; 5-pole; shielded; M12 plug (angled); A-coded; Spring clamp technology   | 756-9211/060-000 | 1  |
| Configurable Connector; 4-pole; shielded; M12 plug (angled); D-coded; Spring clamp technology   | 756-9501/040-000 | 1  |



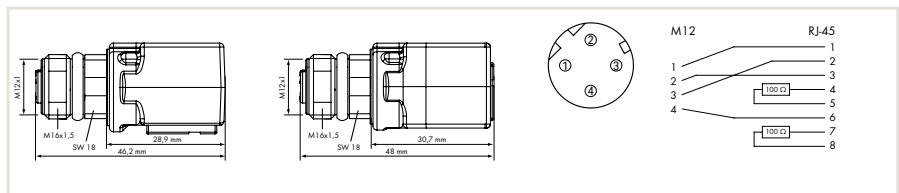
### M12 Socket, Straight and Angled

|  | Item No.         | PU |
|--|------------------|----|
| Configurable Connector; 5-pole; shielded; M12 socket (straight); Spring clamp technology | 756-9208/060-000 | 1  |
| Configurable Connector; 5-pole; shielded; M12 socket (angled); Spring clamp technology   | 756-9210/060-000 | 1  |



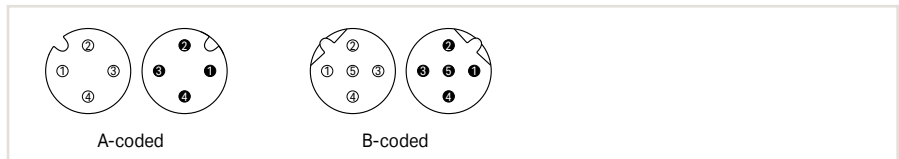
### M12 Socket, Straight and Angled

|  | Item No.         | PU |
|--|------------------|----|
| Configurable Connector; 8-pole; shielded; M12 socket (straight); Screw connection technology | 756-9211/090-000 | 1  |
| Configurable Connector; 8-pole; shielded; M12 socket (angled); Screw connection technology   | 756-9214/090-000 | 1  |



### M12 Socket, Straight - RJ-45 Socket

|   | Item No.         | PU |
|---|------------------|----|
| Socket; 4-pole, M12-socket (straight); D-coded; RJ-45 socket (angled)   | 756-9503/040-000 | 1  |
| Socket; 4-pole, M12-socket (straight); D-coded; RJ-45 socket (straight) | 756-9504/040-000 | 1  |



### M12 Panel Feed-Through Connector

|  | Item No.         | PU |
|--|------------------|----|
| M12 Panel Feed-Through Connector; 4-pole; M12 socket (straight); A-coded | 756-9217/050-000 | 1  |
| M12 Panel Feed-Through Connector; 5-pole; M12 socket (straight); B-coded | 756-9406/050-000 | 1  |

## Torque Wrench M8 and M12; Assembly Kit



Assembly kit for pre-assembled IP67 cables and hex nut connectors (756 Series) consists of:

- Tool kit
- Torque screwdriver with adjustable torque (window scale)
- Adjustment tool for changing the torque
- Socket wrench SW9 (for M8 cable assemblies)
- Socket wrench SW13 (for M12 cable assemblies)

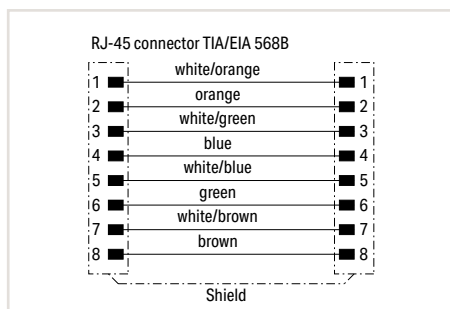
A torque specification of 0.6 Nm for M8 connectors and 1.0 Nm for M12 connectors is required for both 756 Series Cables and Connectors.

| Torque Wrench M8 and M12; Assembly Kit |          |    |
|--|----------|----|
|  | Item No. | PU |
|  | 206-701  | 1  |

|                          |   |
|--------------------------|---|
| Torque range             | 0,4 ... 1 Nm $\pm$ 6 %  |
| Material                 |   |
| Handle                   | Polypropylene (PP) for hard zone; thermoplastic elastomers (TPE) for soft zone            |
| Allen key                | Polyamide (PA), glass-fiber-reinforced; chrome-vanadium-molybdenum steel (CrMoV) (1.2381) |
| Adjustment tool          | Cellulose acetate; chrome-vanadium-molybdenum steel (CrMoV) (1.2381)                      |
| Color                    | Black   |
| Standards/specifications | EN ISO 6789; BS EN 26789; ASME B107.14.M  |

## ETHERNET Cable; Cat. 6A S/FTP



| Item Description |
|------------------|
| Version          |

| ETHERNET Cable; Cat. 6A; RJ-45; RJ-45 |                   |    |
|---------------------------------------|-------------------|----|
| Cable Length                          | Item No.          | PU |
| 0.5 m                                 | 756-1250/1013-005 | 1  |
| 1 m                                   | 756-1250/1013-010 | 1  |
| 2 m                                   | 756-1250/1013-020 | 1  |
| 3 m                                   | 756-1250/1013-030 | 1  |
| 5 m                                   | 756-1250/1013-050 | 1  |
| 7.5 m                                 | 756-1250/1013-075 | 1  |
| 10 m                                  | 756-1250/1013-100 | 1  |

| ETHERNET Cable; Cat. 6A; RJ-45; RJ-45 |                   |    |
|---------------------------------------|-------------------|----|
| Axial unlocking                       |                   |    |
| Cable Length                          | Item No.          | PU |
| 0.5 m                                 | 756-1250/1023-005 | 1  |
| 1 m                                   | 756-1250/1023-010 | 1  |
| 2 m                                   | 756-1250/1023-020 | 1  |
| 3 m                                   | 756-1250/1023-030 | 1  |
| 5 m                                   | 756-1250/1023-050 | 1  |
| 7.5 m                                 | 756-1250/1023-075 | 1  |
| 10 m                                  | 756-1250/1023-100 | 1  |

### Technical Data

|   |  |
|---|--|
| Transmission                                    | 10 Gbit/s (500 MHz)  |
| Operating voltage                               | 80 V   |
| Operating current                               | 720 mA   |
| Rated surge voltage                             | 500 V (wire/wire/shield rms 50 Hz 1 min)   |
| Insulation resistance                           | ≥ 1x108 Ωxkm   |
| Resistance of conductor                         | < 142 Ω/km   |
| Surrounding air temperature (operation)         | -40 ... +80 °C (static and moving)   |
| Bending radius                                  | 10 mm (min.)   |
| Bending cycles                                  | ≥ 8500   |
| Cable   | S/FTP 4x2xAWG26/7  |
| Overall shield                                  | Overlapped aluminum-laminated foil and tinned copper braid (PiMF)                                |
| Conductor                                       | Bare copper wire (7 x 0.16 mm)   |
| Conductor insulation                            | Halogen-free PE  |
| Outer jacket                                    | LSOH TPE; halogen-free per IEC 60754-2; flame-retardant per IEC 60332-1; low-smoke per IEC 61034 |
| Color   | Green (RAL 6018)   |
| Cable diameter                                  | Ø 6.2 mm ±0.2  |
| Plug  | 2 x Cat. 6A RJ-45  |
| Contact material                                | CuZn   |
| Contact plating                                 | CuNi/Au; 50 µin gold plating   |
| Mech. service life                              | > 1200 mating cycles   |
| For data sheet and additional information, see: | <a href="http://wago.com/756-1250">wago.com/756-1250</a>   |

### Short description:

- Halogen-free TPE
- Cat. 6A S/FTP
- Highly flexible
- 50 µin gold plating in the contact area
- Mechanically/electrically tested
- 4C Channel Link Test
- Wrap-around label for clear traceability
- Easy plug unlocking (756-1250/1023-xxx)

## Communication Cables and Antennas



|  |   |
|--|---|
| <b>Item Description</b>                                | <b>RS-232 Communication Cable; RS-232 (D-Sub; 9-pole); I/O System 750 Service Interface</b> |
| <b>Item No.</b>  | 750-920   |
| <b>Order Text</b>                                      | Communication Cable   |
| <b>Technical Data</b>                                  |   |
| <b>Connectors</b>                                      | 4-pole service connector  |
| <b>Cable length</b>                                    | 2.5 m   |
| <b>Surrounding air temperature (operation)</b>         | 0 ... +55 °C  |
| <b>Protection type</b>                                 | IP20  |
| <b>For data sheet and additional information, see:</b> | <a href="http://wago.com/750-920">wago.com/750-920</a>                                      |

|   |                        |
|---|------------------------|
| <b>USB Communication Cable; USB-A; I/O System 750 Service Interface</b>         |                        |
| <b>750-923</b>  | <b>750-923/000-001</b> |
| CONF-CABLE; USB; 2.5m   | CONF-CABLE; USB; 5m    |
| <b>Technical Data</b>   |                        |
| USB interface: Type A/m;<br>USB specification: 2.0 compatible/full-speed device |                        |
| 2.5 m   | 5 m                    |
| -25 ... +70 °C  |                        |
| IP20  |                        |
| <a href="http://wago.com/750-923">wago.com/750-923</a>                          |                        |

This communication cable connects the engineering software to the controller or fieldbus coupler.

This USB communication cable connects the engineering software to the controller or fieldbus coupler.

Notice: The communication cable must not be connected or removed when energized.

Notice: A specific firmware version is required to connect the 759-923 USB Communication Cable to some particular controllers.



|  |   |
|--|---|
| <b>Magnetic-Mount Antenna; with 2.5 m cable and SMA angled plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 698-960, 1400-1518, 1710-2700 MHz</b> |   |
| <b>Item No.</b>  | 758-975   |
| <b>Technical Data</b>  |   |
| <b>Frequency band</b>  | 698 ... 960 MHz;<br>1400 ... 1518 MHz;<br>1710 ... 2700 MHz |
| <b>Connection cable length</b>   | 2.5 m   |
| <b>Mounting type</b>   | Magnetic stand  |
| <b>Cable type</b>  | RG-174  |
| <b>Connector</b>   | SMA angled plug   |

|  |  |
|--|--|
| <b>RF Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 698-960, 1710-6000 MHz; 2G/ 3G/ 4G/ 5G</b> |  |
| <b>Item No.</b>  | 758-974                                    |
| <b>Technical Data</b>  |  |
| <b>Frequency band</b>  | 617 ... 960 MHz;<br>1710 ... 6000 MHz      |
| <b>Connection cable length</b>   | 2.5 m                                      |
| <b>Mounting type</b>   | Enclosure installation;<br>Adhesive strips |
| <b>Cable type</b>  | CS29                                       |
| <b>Connector</b>   | SMA plug                                   |

|  |                                       |
|--|---------------------------------------|
| <b>RF Antenna; with 2.5 m cable and SMA plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 698-960, 1710-6000 MHz; 2G/ 3G/ 4G/ 5G</b> |                                       |
| <b>Item No.</b>  | 758-974/000-001                       |
| <b>Technical Data</b>  |                                       |
| <b>Frequency band</b>  | 617 ... 960 MHz;<br>1710 ... 6000 MHz |
| <b>Connection cable length</b>   | 2.5 m                                 |
| <b>Mounting type</b>   | Wall-mount                            |
| <b>Cable type</b>  | CS29                                  |
| <b>Connector</b>   | SMA plug                              |



## Memory Cards

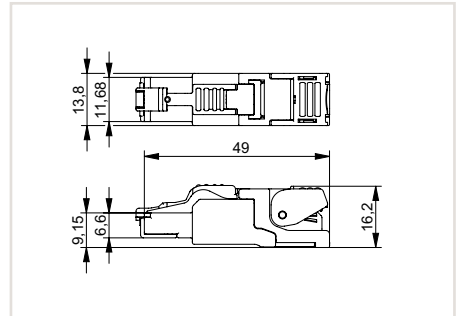
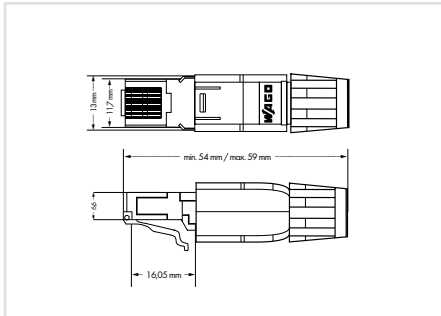
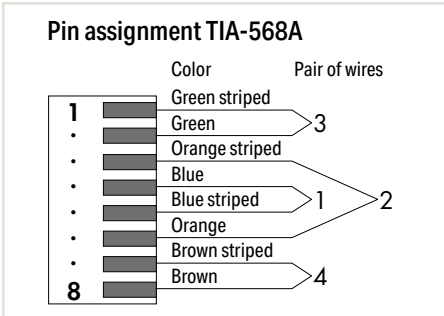


| Item Description                        | microSD Memory Card;<br>Temperature range: -40 ... +90 °C | microSD Memory Card;<br>Temperature range: -40 ... +90 °C |
|---|---|---|
| Version                                 | SLC-NAND; 2 GB  | pSLC-NAND; 8 GB   |
| Item No.                                | 758-879/000-3102  | 758-879/000-3108  |
| <b>Technical Data</b>                   |   |   |
| Memory                                  | 2 GB (SLC)  | 8 GB (pSLC)   |
| Read/write cycles (max.)                | 20 MB/s / 17 MB/s   | 48 MB/s / 45 MB/s   |
| MTBF                                    | 4,000,000 h   | 2,000,000 h   |
| Service life                            | 100,000 write cycles (per cell)                           | 20,000 write cycles (per cell)                            |
| Data storage                            | 10 years  | 10 years  |
| Surrounding air temperature (operation) | -40 ... +90 °C  | -40 ... +90 °C  |
| Surrounding air temperature (storage)   | -40 ... +90 °C  | -40 ... +90 °C  |
| Relative humidity                       | 95 %; non condensing                                      | 95 %; non condensing                                      |
| Dimensions W x H x D                    | 15 x 11 x 1 mm  | 15 x 11 x 1 mm  |
| Vibration resistance                    | 15g   | 15g   |
| Shock resistance                        | 50g   | 50g   |



| Item Description                        | SD Memory Card;<br>Temperature range: -40 ... +90 °C | SD Memory Card;<br>Temperature range: -40 ... +90 °C |
|---|--|--|
| Version                                 | SLC-NAND; 2 GB                                       | pSLC-NAND; 8 GB                                      |
| Item No.                                | 758-879/000-001                                      | 758-879/000-2108                                     |
| <b>Technical Data</b>                   |  |  |
| Memory                                  | 2 GB (SLC)   | 8 GB (pSLC)  |
| Read/write cycles (max.)                | 22 MB/s / 16 MB/s                                    | 50 MB/s / 45 MB/s                                    |
| MTBF                                    | 4,000,000 h  | 2,000,000 h  |
| Service life                            | 100,000 write cycles (per cell)                      | 20,000 write cycles (per cell)                       |
| Data storage                            | 10 years   | 10 years   |
| Surrounding air temperature (operation) | -40 ... +90 °C                                       | -40 ... +90 °C                                       |
| Surrounding air temperature (storage)   | -40 ... +90 °C                                       | -40 ... +90 °C                                       |
| Relative humidity                       | 95 %; non condensing                                 | 95 %; non condensing                                 |
| Dimensions W x H x D                    | 24 x 32 x 2.1 mm                                     | 24 x 32 x 2.1 mm                                     |
| Vibration resistance                    | 15g  | 15g  |
| Shock resistance                        | 50g  | 50g  |

# ETHERNET Connectors; Code T568A



|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Version</b>          |
| <b>Item No.</b>         |
| <b>Order Text</b>       |

|  |
|--|
| <b>ETHERNET Connector; RJ-45; Cat. 5; Straight; Code T568A</b> |
| <b>AWG 22</b>  |
| 750-975  |
| Connector ETHERNET; RJ-45; Cat.5; 180°; T568A; AWG22           |

|   |   |
|---|---|
| <b>ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568A</b> |   |
| <b>AWG 22</b>   | <b>AWG 24</b>   |
| 750-977/000-011   | 750-977/000-021                                       |
| Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AWG22           | Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AWG24 |

| Technical Data                          |   |
|---|---|
| Cable category                          | Cat. 5e   |
| Data transmission rate (max.)           | 1 GBit/s  |
| Code                                    | TiA-568A  |
| Cable exit                              | 180°  |
| Pole number                             | 8   |
| Housing material                        | Plastic   |
| Mating cycles                           | > 1000  |
| Conductor connection                    | IDC contact   |
| Conductor cross-sections                | Solid: 0.13 ... 0.24 mm <sup>2</sup> / AWG 26/1 ... 23/1; Stranded: 0.14 ... 0.36 mm <sup>2</sup> / AWG 26/7 ... 22/7 |
| Cable jacket diameter                   | 4.5 ... 8 mm  |
| Cable strain relief                     | Screw clamp connection  |
| Shield connection                       | > 180°  |
| Surrounding air temperature (operation) | -20 ... +70 °C  |
| Surrounding air temperature (storage)   | -40 ... +70 °C  |
| Relative humidity                       | 95 %; non condensing  |
| Protection type                         | IP20  |
| Standards/specifications                | Basic standard: IEC 60603-7 RJ-45 Category 5; CD ISO/IEC 11801: 2002; - EN 50173: 2002; EIA/TIA 568A: 2002; UL 1863   |

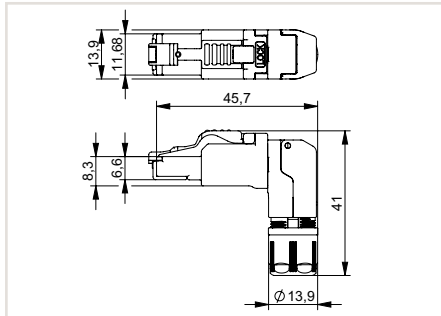
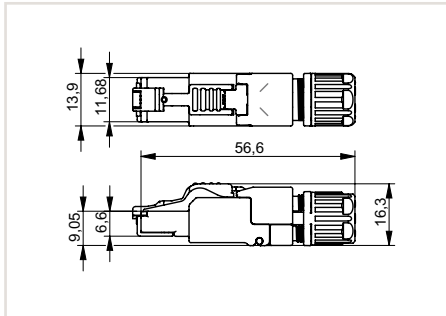
|  |   |
|--|---|
|  | Cat. 6A   |
|  | 10 GBit/s   |
|  | TiA-568A  |
|  | 180°  |
|  | 8   |
|  | Zinc die-cast   |
|  | > 750   |
|  | IDC contact   |
|  | Solid: 0.21 ... 0.32 mm <sup>2</sup> / AWG 24/1 ... 22/1; Stranded: 0.11 ... 0.36 mm <sup>2</sup> / AWG 27/7 ... 22/7 |
|  | Solid: 0.13 ... 0.21 mm <sup>2</sup> / AWG 26/1 ... 24/1; Stranded: 0.11 ... 0.23 mm <sup>2</sup> / AWG 27/7 ... 24/7 |
|  | 5.5 ... 9 mm  |
|  | 360°  |
|  | -40 ... +85 °C  |
|  | -40 ... +85 °C  |
|  | 95 %; non condensing  |
|  | IP20  |
|  | IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043                         |

| Approvals  |  |
|--|--|
| For data sheet and additional information, see:                        |  |
| <a href="http://wago.com/750-975">wago.com/750-975</a>                 | <a href="http://wago.com/750-977/000-011">wago.com/750-977/000-011</a> |
| <a href="http://wago.com/750-977/000-021">wago.com/750-977/000-021</a> |  |

|  |
|--|
| <b>Approvals</b>                                       |
| <b>For data sheet and additional information, see:</b> |

|  |
|--|
| Marine   |
| <a href="http://wago.com/750-975">wago.com/750-975</a> |

|  |  |
|--|--|
| <a href="http://wago.com/750-977/000-011">wago.com/750-977/000-011</a> | <a href="http://wago.com/750-977/000-021">wago.com/750-977/000-021</a> |
|--|--|



|  |  |
|--|--|
| <b>ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568A; Strain relief</b> |  |
| <b>AWG 22</b>  | <b>AWG 24</b>  |
| 750-978/000-011  | 750-978/000-021  |
| Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AWG22; Strain relief           | Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AWG24; Strain relief |

|  |   |
|--|---|
| <b>ETHERNET Connector; RJ-45; Cat. 6A; Angled; Code T568A; Strain relief</b> |   |
| <b>AWG 22</b>  | <b>AWG 24</b>   |
| 750-979/000-011  | 750-979/000-021   |
| Connector ETHERNET; RJ-45; Cat.6A; 90°; T568A; AWG22; Strain relief          | Connector ETHERNET; RJ-45; Cat.6A; 90°; T568A; AWG24; Strain relief |

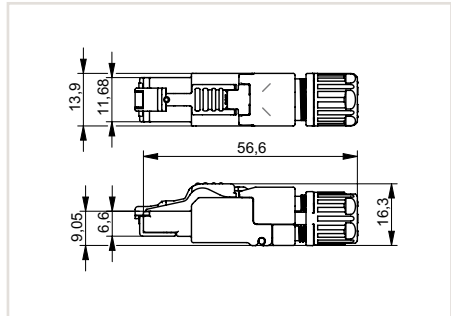
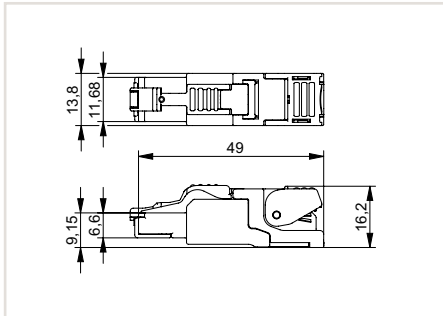
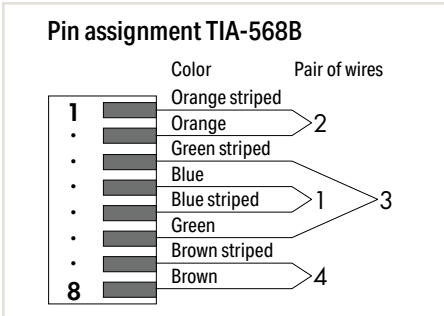
|   |   |
|---|---|
| Cat. 6A   |   |
| 10 GBit/s   |   |
| TiA-568A  |   |
| 180°  |   |
| 8   |   |
| Zinc die-cast   |   |
| > 750   |   |
| IDC contact   |   |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;                                     | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7                                   | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| 5.5 ... 10 mm   |   |
| Screw clamp connection  |   |
| 360°  |   |
| -40 ... +85 °C  |   |
| -40 ... +85 °C  |   |
| 95 %; non condensing  |   |
| IP20  |   |
| IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;<br>EIA/TIA 568-C.2; DIN EN 50173-1;<br>UL 1863; UL 2043 |   |

|   |   |
|---|---|
| Cat. 6A   |   |
| 10 GBit/s   |   |
| TiA-568A  |   |
| 90°; selectable position  |   |
| 8   |   |
| Zinc die-cast   |   |
| > 750   |   |
| IDC contact   |   |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;                                     | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7                                   | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| 5.5 ... 10 mm   |   |
| Screw clamp connection  |   |
| 360°  |   |
| -40 ... +85 °C  |   |
| -40 ... +85 °C  |   |
| 95 %; non condensing  |   |
| IP20  |   |
| IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;<br>EIA/TIA 568-C.2; DIN EN 50173-1;<br>UL 1863; UL 2043 |   |

|   |   |
|---|---|
| <a href="http://wago.com/750-978/000-011">wago.com/<br/>750-978/000-011</a> | <a href="http://wago.com/750-978/000-021">wago.com/<br/>750-978/000-021</a> |
|---|---|

|   |   |
|---|---|
| <a href="http://wago.com/750-979/000-011">wago.com/<br/>750-979/000-011</a> | <a href="http://wago.com/750-979/000-021">wago.com/<br/>750-979/000-021</a> |
|---|---|

# ETHERNET Connectors; Code T568B



|                         |
|-------------------------|
| <b>Item Description</b> |
| <b>Version</b>          |
| <b>Item No.</b>         |
| <b>Order Text</b>       |

|   |   |
|---|---|
| <b>ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568B</b> |   |
| <b>AWG 22</b>   | <b>AWG 24</b>   |
| 750-977/000-012   | 750-977/000-022                                       |
| Connector ETHERNET; RJ-45; Cat.6A; 180°; T568B; AWG22           | Connector ETHERNET; RJ-45; Cat.6A; 180°; T568B; AWG24 |

|  |  |
|--|--|
| <b>ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568B; Strain relief</b> |  |
| <b>AWG 22</b>  | <b>AWG 24</b>  |
| 750-978/000-012  | 750-978/000-022  |
| Connector ETHERNET; RJ-45; Cat.6A; 180°; T568B; AWG22; Strain relief           | Connector ETHERNET; RJ-45; Cat.6A; 180°; T568B; AWG24; Strain relief |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| <b>Technical Data</b>   |   |   |   |   |   |
| Cable category  | Cat. 6A   |   |   |   |   |
| Data transmission rate (max.)                                     | 10 GBit/s   |   |   |   |   |
| Code  | TiA-568B  |   |   |   |   |
| Cable exit  | 180°  |   |   |   |   |
| Pole number   | 8   |   |   |   |   |
| Housing material  | Zinc die-cast   |   |   |   |   |
| Mating cycles   | > 750   |   |   |   |   |
| Conductor connection  | IDC contact   |   |   |   |   |
| Conductor cross-sections  | <table border="1"> <tr> <td>Solid:<br/>0.21 ... 0.32 mm<sup>2</sup> /<br/>AWG 24/1 ... 22/1;</td> <td>Solid:<br/>0.13 ... 0.21 mm<sup>2</sup> /<br/>AWG 26/1 ... 24/1;</td> </tr> <tr> <td>Stranded:<br/>0.11 ... 0.36 mm<sup>2</sup> /<br/>AWG 27/7 ... 22/7</td> <td>Stranded:<br/>0.11 ... 0.23 mm<sup>2</sup> /<br/>AWG 27/7 ... 24/7</td> </tr> </table> | Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1; | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1; | Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;   | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |   |   |   |   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7   |   |   |   |   |
| Cable jacket diameter   | 5.5 ... 9 mm  |   |   |   |   |
| Cable strain relief   |   |   |   |   |   |
| Shield connection   | 360°  |   |   |   |   |
| Surrounding air temperature (operation)                           | -40 ... +85 °C  |   |   |   |   |
| Surrounding air temperature (storage)                             | -40 ... +85 °C  |   |   |   |   |
| Relative humidity   | 95 %; non condensing  |   |   |   |   |
| Protection type   | IP20  |   |   |   |   |
| Standards/specifications  | IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043   |   |   |   |   |

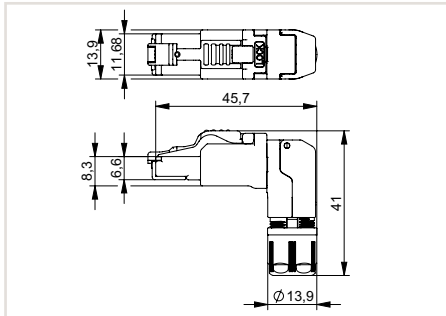
|   |   |   |   |   |   |
|---|---|---|---|---|---|
| <b>Technical Data</b>   |   |   |   |   |   |
| Cable category  | Cat. 6A   |   |   |   |   |
| Data transmission rate (max.)                                     | 10 GBit/s   |   |   |   |   |
| Code  | TiA-568B  |   |   |   |   |
| Cable exit  | 180°  |   |   |   |   |
| Pole number   | 8   |   |   |   |   |
| Housing material  | Zinc die-cast   |   |   |   |   |
| Mating cycles   | > 750   |   |   |   |   |
| Conductor connection  | IDC contact   |   |   |   |   |
| Conductor cross-sections  | <table border="1"> <tr> <td>Solid:<br/>0.21 ... 0.32 mm<sup>2</sup> /<br/>AWG 24/1 ... 22/1;</td> <td>Solid:<br/>0.13 ... 0.21 mm<sup>2</sup> /<br/>AWG 26/1 ... 24/1;</td> </tr> <tr> <td>Stranded:<br/>0.11 ... 0.36 mm<sup>2</sup> /<br/>AWG 27/7 ... 22/7</td> <td>Stranded:<br/>0.11 ... 0.23 mm<sup>2</sup> /<br/>AWG 27/7 ... 24/7</td> </tr> </table> | Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1; | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1; | Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;   | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |   |   |   |   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7   |   |   |   |   |
| Cable jacket diameter   | 5.5 ... 10 mm   |   |   |   |   |
| Cable strain relief   | Screw clamp connection  |   |   |   |   |
| Shield connection   | 360°  |   |   |   |   |
| Surrounding air temperature (operation)                           | -40 ... +85 °C  |   |   |   |   |
| Surrounding air temperature (storage)                             | -40 ... +85 °C  |   |   |   |   |
| Relative humidity   | 95 %; non condensing  |   |   |   |   |
| Protection type   | IP20  |   |   |   |   |
| Standards/specifications  | IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043   |   |   |   |   |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| <b>Technical Data</b>   |   |   |   |   |   |
| Cable category  | Cat. 6A   |   |   |   |   |
| Data transmission rate (max.)                                     | 10 GBit/s   |   |   |   |   |
| Code  | TiA-568B  |   |   |   |   |
| Cable exit  | 180°  |   |   |   |   |
| Pole number   | 8   |   |   |   |   |
| Housing material  | Zinc die-cast   |   |   |   |   |
| Mating cycles   | > 750   |   |   |   |   |
| Conductor connection  | IDC contact   |   |   |   |   |
| Conductor cross-sections  | <table border="1"> <tr> <td>Solid:<br/>0.21 ... 0.32 mm<sup>2</sup> /<br/>AWG 24/1 ... 22/1;</td> <td>Solid:<br/>0.13 ... 0.21 mm<sup>2</sup> /<br/>AWG 26/1 ... 24/1;</td> </tr> <tr> <td>Stranded:<br/>0.11 ... 0.36 mm<sup>2</sup> /<br/>AWG 27/7 ... 22/7</td> <td>Stranded:<br/>0.11 ... 0.23 mm<sup>2</sup> /<br/>AWG 27/7 ... 24/7</td> </tr> </table> | Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1; | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1; | Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;   | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |   |   |   |   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7   |   |   |   |   |
| Cable jacket diameter   | 5.5 ... 10 mm   |   |   |   |   |
| Cable strain relief   | Screw clamp connection  |   |   |   |   |
| Shield connection   | 360°  |   |   |   |   |
| Surrounding air temperature (operation)                           | -40 ... +85 °C  |   |   |   |   |
| Surrounding air temperature (storage)                             | -40 ... +85 °C  |   |   |   |   |
| Relative humidity   | 95 %; non condensing  |   |   |   |   |
| Protection type   | IP20  |   |   |   |   |
| Standards/specifications  | IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043   |   |   |   |   |

|   |
|---|
| <b>Approvals</b>                                |
| For data sheet and additional information, see: |

|   |   |
|---|---|
| <a href="http://wago.com/750-977/000-012">wago.com/<br/>750-977/000-012</a> | <a href="http://wago.com/750-977/000-022">wago.com/<br/>750-977/000-022</a> |
|---|---|

|   |   |
|---|---|
| <a href="http://wago.com/750-978/000-012">wago.com/<br/>750-978/000-012</a> | <a href="http://wago.com/750-978/000-022">wago.com/<br/>750-978/000-022</a> |
|---|---|



**ETHERNET Connector; RJ-45; Cat. 6A; Angled; Code T568B; Strain relief**

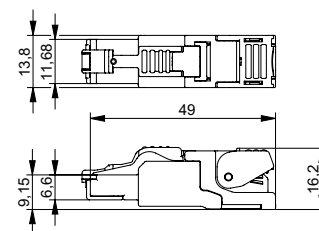
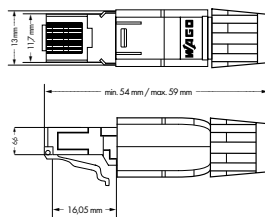
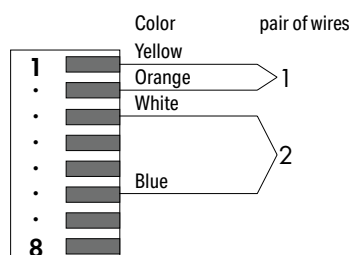
| AWG 22  | AWG 24  |
|---|---|
| 750-979/000-012   | 750-979/000-022   |
| Connector ETHERNET;<br>RJ-45; Cat.6A; 90°; T568B;<br>AWG22; Strain relief | Connector ETHERNET;<br>RJ-45; Cat.6A; 90°; T568B;<br>AWG24; Strain relief |

|  |   |   |   |   |
|--|---|---|---|---|
| Cat. 6A  |   |   |   |   |
| 10 GBit/s  |   |   |   |   |
| TIA-568B   |   |   |   |   |
| 90°; selectable position   |   |   |   |   |
| 8  |   |   |   |   |
| Zinc die-cast  |   |   |   |   |
| > 750  |   |   |   |   |
| IDC contact  |   |   |   |   |
| <table border="1"> <tbody> <tr> <td>Solid:<br/>0.21 ... 0.32 mm<sup>2</sup> /<br/>AWG 24/1 ... 22/1;</td> <td>Solid:<br/>0.13 ... 0.21 mm<sup>2</sup> /<br/>AWG 26/1 ... 24/1;</td> </tr> <tr> <td>Stranded:<br/>0.11 ... 0.36 mm<sup>2</sup> /<br/>AWG 27/7 ... 22/7</td> <td>Stranded:<br/>0.11 ... 0.23 mm<sup>2</sup> /<br/>AWG 27/7 ... 24/7</td> </tr> </tbody> </table> | Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;   | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1; | Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7 | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |
| Solid:<br>0.21 ... 0.32 mm <sup>2</sup> /<br>AWG 24/1 ... 22/1;  | Solid:<br>0.13 ... 0.21 mm <sup>2</sup> /<br>AWG 26/1 ... 24/1;   |   |   |   |
| Stranded:<br>0.11 ... 0.36 mm <sup>2</sup> /<br>AWG 27/7 ... 22/7  | Stranded:<br>0.11 ... 0.23 mm <sup>2</sup> /<br>AWG 27/7 ... 24/7 |   |   |   |
| 5.5 ... 10 mm  |   |   |   |   |
| Screw clamp connection   |   |   |   |   |
| 360°   |   |   |   |   |
| -40 ... +85 °C   |   |   |   |   |
| -40 ... +85 °C   |   |   |   |   |
| 95 %; non condensing   |   |   |   |   |
| IP20   |   |   |   |   |
| IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;<br>EIA/TIA 568-C.2; DIN EN 50173-1;<br>UL 1863; UL 2043  |   |   |   |   |
| wago.com/<br>750-979/000-012   | wago.com/<br>750-979/000-022                                      |   |   |   |

# PROFINET Connectors



## Pin assignment PROFINET



### Item Description

### Version

### Item No.

### Order Text

### PROFINET Connector; RJ-45; Cat. 5; Straight

### AWG 22

### 750-976

### Connector PROFINET; RJ-45; Cat.5; 180°; AWG22

### PROFINET Connector; RJ-45; Cat. 6A; Straight

### AWG 22

### 750-977/000-013

### Connector PROFINET; RJ-45; Cat.6A; 180°; AWG22

### Technical Data

#### Cable category

#### Data transmission rate (max.)

#### Code

#### Cable exit

#### Pole number

#### Housing material

#### Mating cycles

#### Conductor connection

#### Conductor cross-sections

#### Cable jacket diameter

#### Cable strain relief

#### Shield connection

#### Surrounding air temperature (operation)

#### Surrounding air temperature (storage)

#### Relative humidity

#### Protection type

#### Standards/specifications

### Approvals

#### For data sheet and additional information, see:

Cat. 5e

100 MBit/s

PROFINET

180°

8

Plastic

&gt; 1000

IDC contact

Solid: 0.13 ... 0.24 mm<sup>2</sup> / AWG 26/1 ... 23/1; Stranded: 0.14 ... 0.36 mm<sup>2</sup> / AWG 26/7 ... 22/7

4.5 ... 8 mm

Screw clamp connection

&gt;180°

-20 ... +70 °C

-40 ... +70 °C

95 %; non condensing

IP20

Basic standard: IEC 60603-7 RJ-45 Category 5;  
CD ISO/IEC 11801: 2002; - EN 50173: 2002;  
EIA/TIA 568A: 2002; UL 1863

Marine

[wago.com/750-976](http://wago.com/750-976)

Cat. 6A

100 MBit/s

PROFINET

180°

8

Zinc die-cast

&gt; 750

IDC contact

Solid: 0.21 ... 0.32 mm<sup>2</sup> / AWG 24/1 ... 22/1;  
Stranded: 0.11 ... 0.36 mm<sup>2</sup> / AWG 27/7 ... 22/7

5.5 ... 9 mm

360°

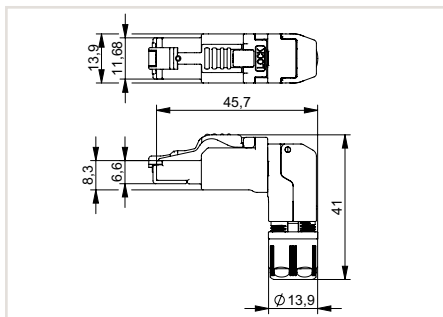
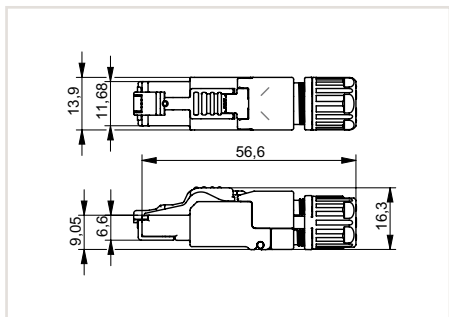
-40 ... +85 °C

-40 ... +85 °C

95 %; non condensing

IP20

IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;  
EIA/TIA 568-C.2; DIN EN 50173-1;  
UL 1863; UL 2043
[wago.com/750-977/000-013](http://wago.com/750-977/000-013)



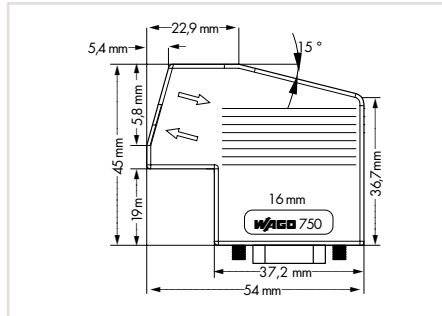
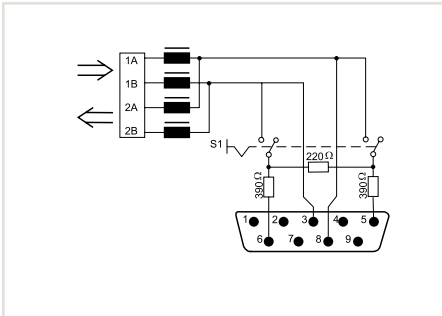
**PROFINET Connector; RJ-45; Cat. 6A; Straight; Strain relief**  
**AWG 22**  
 750-978/000-013  
 Connector PROFINET; RJ-45; Cat.6A; 180°; AWG22; Strain relief

**PROFINET Connector; RJ-45; Cat. 6A; Angled; Strain relief**  
**AWG 22**  
 750-979/000-013  
 Connector PROFINET; RJ-45; Cat.6A; 90°; AWG22; Strain relief

|  |
|--|
| Cat. 6A  |
| 100 MBit/s   |
| PROFINET   |
| 180°   |
| 8  |
| Zinc die-cast  |
| > 750  |
| IDC contact  |
| Solid: 0.21 ... 0.32 mm <sup>2</sup> / AWG 24/1 ... 22/1;<br>Stranded: 0.11 ... 0.36 mm <sup>2</sup> / AWG 27/7 ... 22/7 |
| 5.5 ... 10 mm  |
| Screw clamp connection   |
| 360°   |
| -40 ... +85 °C   |
| -40 ... +85 °C   |
| 95 %; non condensing   |
| IP20   |
| IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;<br>EIA/TIA 568-C.2; DIN EN 50173-1;<br>UL 1863; UL 2043                      |
| <a href="http://wago.com/750-978/000-013">wago.com/750-978/000-013</a>   |

|  |
|--|
| Cat. 6A  |
| 100 MBit/s   |
| PROFINET   |
| 90°; selectable position   |
| 8  |
| Zinc die-cast  |
| > 750  |
| IDC contact  |
| Solid: 0.21 ... 0.32 mm <sup>2</sup> / AWG 24/1 ... 22/1;<br>Stranded: 0.11 ... 0.36 mm <sup>2</sup> / AWG 27/7 ... 22/7 |
| 5.5 ... 10 mm  |
| Screw clamp connection   |
| 360°   |
| -40 ... +85 °C   |
| -40 ... +85 °C   |
| 95 %; non condensing   |
| IP20   |
| IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an;<br>EIA/TIA 568-C.2; DIN EN 50173-1;<br>UL 1863; UL 2043                      |
| <a href="http://wago.com/750-979/000-013">wago.com/750-979/000-013</a>   |

## PROFIBUS Fieldbus Connectors



### Item Description

Item No.

Order Text

**PROFIBUS Fieldbus Connector; with D-sub plug; 9-pole**  
750-960

Connector PROFIBUS; DSub-M; 9P

### Technical Data

|   |   |
|---|---|
| Double cable entry point                        | 4.5 mm Ø (min.) / 9.5 mm Ø (max.)   |
| Data transmission rate (max.)                   | 12 Mbit/s   |
| Terminating resistor                            | Integrated switch   |
| Housing color                                   | Light gray  |
| Protection type                                 | IP20  |
| Surrounding air temperature (operation)         | 0 ... +60 °C  |
| Surrounding air temperature (storage)           | -25 ... +85 °C  |
| Relative humidity                               | 95 %; non condensing  |
| Conductor connection                            | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections                        | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| Approvals                                       | ☪ Marine; Ⓜ OrdLoc/HazLoc; Ⓜ ATEX/IECEX   |
| For data sheet and additional information, see: | <a href="http://wago.com/750-960">wago.com/750-960</a>  |

### Accessories

|   |         |
|---|---------|
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719 |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720 |

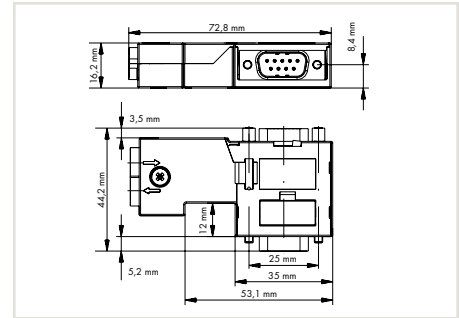
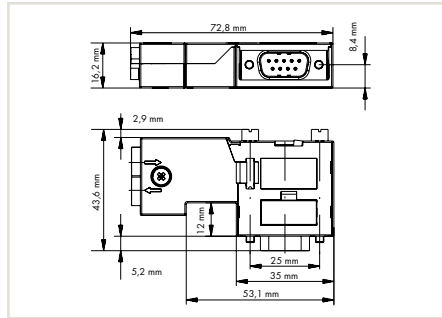
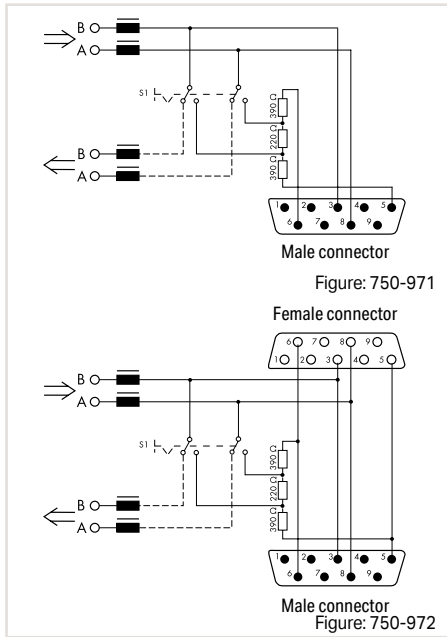
### Item No.

210-719

210-720



# PROFIBUS Fieldbus Connectors



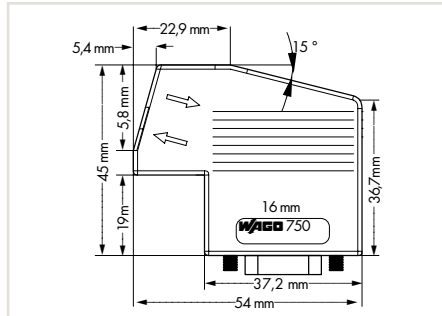
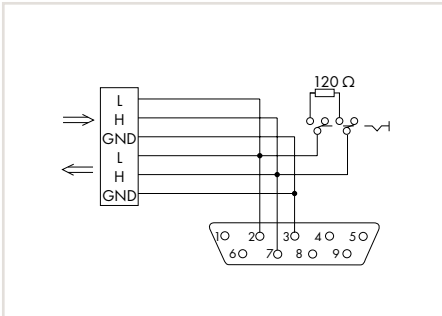
|   |   |
|---|---|
| <b>Item Description</b>   |   |
| <b>Item No.</b>   |   |
| <b>Order Text</b>   |   |
| <b>Technical Data</b>   |   |
| Double cable entry point  | Ø 8.5 mm  |
| Data transmission rate (max.)   | 12 Mbit/s   |
| Terminating resistor  | Integrated switch   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | -25 ... +70 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections  | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-971">wago.com/750-971</a>  |
| <b>Accessories</b>  |   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm |   |

|   |   |
|---|---|
| <b>PROFIBUS Fieldbus Connector; with D-sub plug; 9-pole</b> |   |
| <b>750-971</b>  |   |
| Connector PROFIBUS; DSub-M; 9P                              |   |
| <b>Technical Data</b>                                       |   |
| Double cable entry point                                    | Ø 8.5 mm  |
| Data transmission rate (max.)                               | 12 Mbit/s   |
| Terminating resistor  | Integrated switch   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                     | -25 ... +70 °C  |
| Surrounding air temperature (storage)                       | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections                                    | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| <b>For data sheet and additional information, see:</b>      | <a href="http://wago.com/750-971">wago.com/750-971</a>  |
| <b>Item No.</b>   |   |
| 210-719   |   |

|  |   |
|--|---|
| <b>PROFIBUS Fieldbus Connector; with D-sub plug and socket; 9-pole</b> |   |
| <b>750-972</b>   |   |
| Connector PROFIBUS; DSub-M; 9P; PG-Int                                 |   |
| <b>Technical Data</b>  |   |
| Double cable entry point   | Ø 8.5 mm  |
| Data transmission rate (max.)  | 12 Mbit/s   |
| Terminating resistor   | Integrated switch   |
| Housing color  | Light gray  |
| Protection type  | IP20  |
| Surrounding air temperature (operation)                                | -25 ... +70 °C  |
| Surrounding air temperature (storage)                                  | -25 ... +85 °C  |
| Relative humidity  | 95 %; non condensing  |
| Conductor connection   | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections   | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| <b>For data sheet and additional information, see:</b>                 | <a href="http://wago.com/750-972">wago.com/750-972</a>  |
| <b>Item No.</b>  |   |
| 210-719  |   |

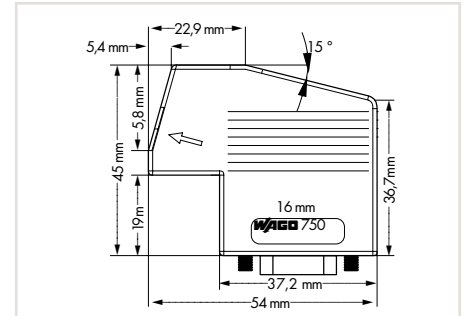
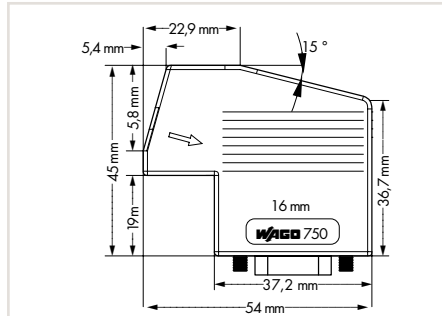
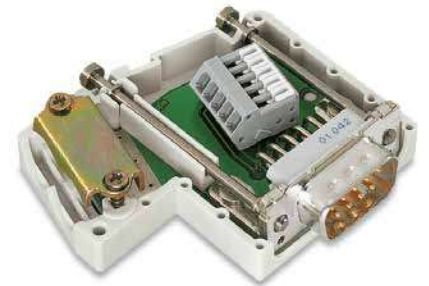
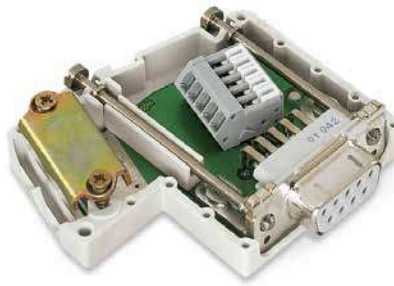
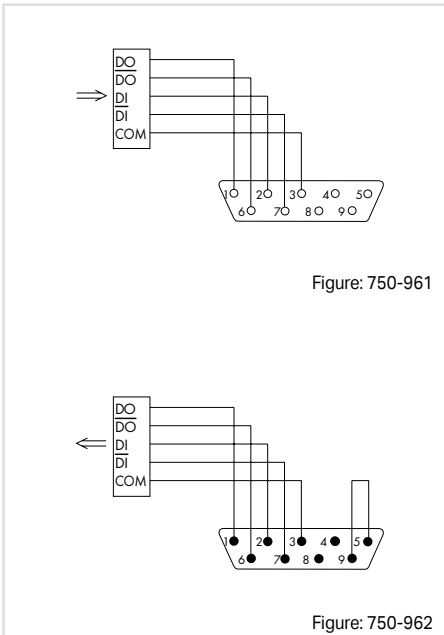
This fieldbus connector can be connected to a programming tool without interrupting the connection to the PROFIBUS device.

## CANopen Fieldbus Connector



|   |   |
|---|---|
| <b>Item Description</b>   | <b>CANopen Fieldbus Connector; with D-sub socket; 9-pole</b>  |
| <b>Item No.</b>   | <b>750-963</b>  |
| <b>Order Text</b>   | Connector CANopen; DSub-F; 9P   |
| <b>Technical Data</b>   |   |
| Double cable entry point  | 4.5 mm Ø (min.)/ 9.5 mm Ø (max.)  |
| Data transmission rate (max.)   | 1 Mbd   |
| Terminating resistor  | Integrated switch   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | 0 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections  | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| <b>Approvals</b>  | Marine;  OrdLoc;  ATEX/IECEX  |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-963">wago.com/750-963</a>  |
| <b>Accessories</b>  | <b>Item No.</b>   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719   |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720   |

# INTERBUS Fieldbus Connectors

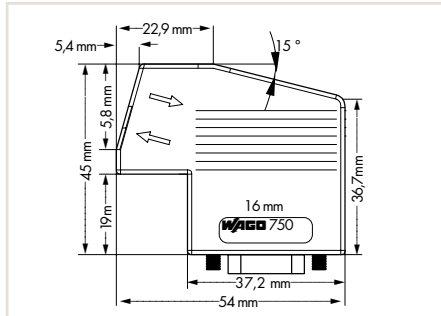
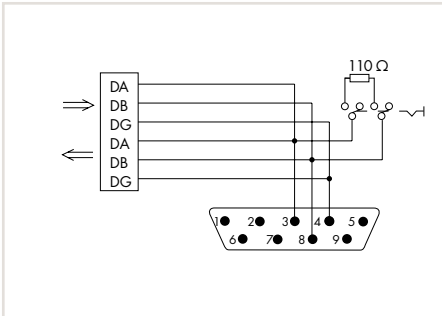


|   |   |
|---|---|
| <b>Item Description</b>   |   |
| <b>Item No.</b>   | 750-961   |
| <b>Order Text</b>   | Connector INTERBUS; DSub-F; 9P  |
| <b>Technical Data</b>   |   |
| Double cable entry point  | 4.5 mm Ø (min.)/ 9.5 mm Ø (max.)  |
| Data transmission rate (max.)   | 2 Mbd   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | 0 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)                     |
| Conductor cross-sections  | 0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible |
| <b>Approvals</b>  | Ⓢ OrdLoc/HazLoc; Ⓢ ATEX/IECEX   |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-961">wago.com/750-961</a>                          |
| <b>Accessories</b>  |   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719   |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720   |

|   |   |
|---|---|
| <b>INTERBUS Fieldbus Connector (IN); with D-sub socket; 9-pole</b>            |   |
| <b>Item No.</b>   | 750-961   |
| <b>Order Text</b>   | Connector INTERBUS; DSub-F; 9P  |
| <b>Technical Data</b>   |   |
| Double cable entry point  | 4.5 mm Ø (min.)/ 9.5 mm Ø (max.)  |
| Data transmission rate (max.)   | 2 Mbd   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | 0 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)                     |
| Conductor cross-sections  | 0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible |
| <b>Approvals</b>  | Ⓢ OrdLoc/HazLoc; Ⓢ ATEX/IECEX   |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-961">wago.com/750-961</a>                          |
| <b>Accessories</b>  |   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719   |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720   |

|   |   |
|---|---|
| <b>INTERBUS Fieldbus Connector (OUT); with D-sub plug; 9-pole</b>             |   |
| <b>Item No.</b>   | 750-962   |
| <b>Order Text</b>   | Connector INTERBUS; DSub-M; 9P  |
| <b>Technical Data</b>   |   |
| Double cable entry point  | 4.5 mm Ø (min.)/ 9.5 mm Ø (max.)  |
| Data transmission rate (max.)   | 2 Mbd   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | 0 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)                     |
| Conductor cross-sections  | 0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible |
| <b>Approvals</b>  | Ⓢ OrdLoc/HazLoc; Ⓢ ATEX/IECEX   |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-962">wago.com/750-962</a>                          |
| <b>Accessories</b>  |   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719   |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720   |

## CC-Link Fieldbus Connector



|   |   |
|---|---|
| <b>Item Description</b>   | <b>CC-Link Fieldbus Connector; with D-sub plug; 9-pole</b>  |
| <b>Item No.</b>   | <b>750-965</b>  |
| <b>Order Text</b>   | Connector CC-Link; DSub-M; 9P   |
| <b>Technical Data</b>   |   |
| Double cable entry point  | 4.5 mm Ø (min.)/ 9.5 mm Ø (max.)  |
| Terminating resistor  | Integrated switch   |
| Housing color   | Light gray  |
| Protection type   | IP20  |
| Surrounding air temperature (operation)                                       | 0 ... +60 °C  |
| Surrounding air temperature (storage)   | -25 ... +85 °C  |
| Relative humidity   | 95 %; non condensing  |
| Conductor connection  | CAGE CLAMP® terminal strip with locking slides (218 Series)   |
| Conductor cross-sections  | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG; limited connection 0.75 mm <sup>2</sup> / 18 AWG possible |
| <b>Approvals</b>  | ® OrdLoc  |
| <b>For data sheet and additional information, see:</b>                        | <a href="http://wago.com/750-965">wago.com/750-965</a>  |
| <b>Accessories</b>  |   |
| Operating tool with a partially insulated shaft; Type 1; Blade (2.5 x 0.4) mm | 210-719   |
| Operating tool with a partially insulated shaft; Type 2; Blade (3.5 x 0.5) mm | 210-720   |



## System Enclosures

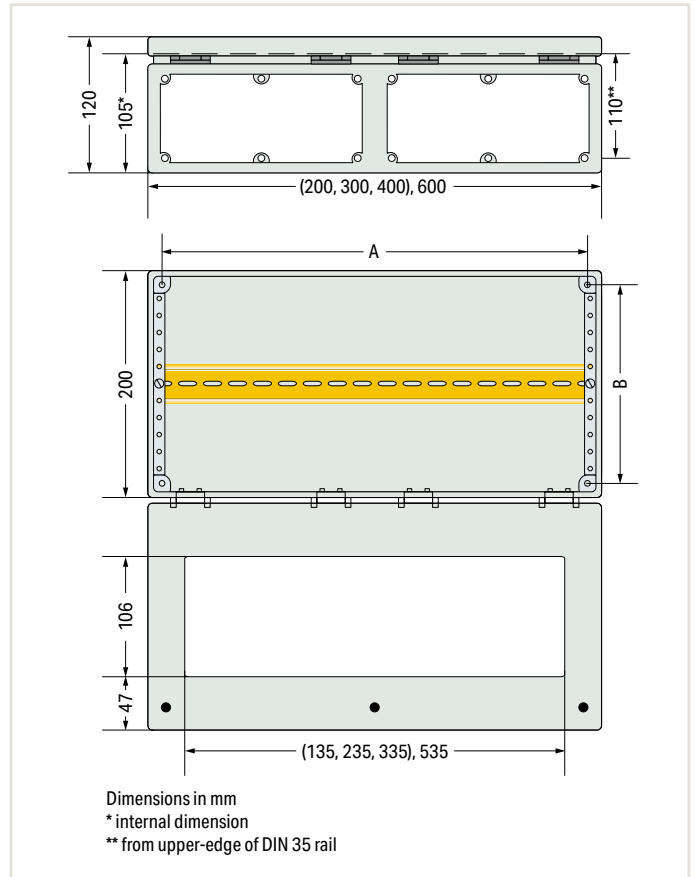


- 1 Sheet steel
- 2 Cast aluminum
- 3 Polyester
- 4 Sheet steel with cable entry plates

The increasing importance of using the application industrial fieldbus systems in various process engineering areas, such as the chemical and food industry, calls for enclosures that protect both the system technology used and the goods being produced.

This is why WAGO offers system enclosures that allow the use of the WAGO I/O System 750/753 in systems exposed to severe environmental conditions. Each enclosure version is available in four different sizes and features the appropriate number of cable grips with metric thread or cable entry plates.

# Sheet-Steel System Enclosures



|                         |   |                                 |                                 |                                 |
|-------------------------|---|---------------------------------|---------------------------------|---------------------------------|
| <b>Item Description</b> | IP65 System Enclosure; Sheet steel (RAL 7035); without flange plate |                                 |                                 |                                 |
| <b>Version</b>          | WxHxD<br>(200x120x200 mm)   | WxHxD<br>(300x120x200 mm)       | WxHxD<br>(400x120x200 mm)       | WxHxD<br>(600x120x200 mm)       |
| <b>Item No.</b>         | 850-814/002-000   | 850-815/002-000                 | 850-816/002-000                 | 850-817/002-000                 |
| <b>Order Text</b>       | STE Enclosure; RAL7035<br>200mm                                     | STE Enclosure; RAL7035<br>300mm | STE Enclosure; RAL7035<br>400mm | STE Enclosure; RAL7035<br>600mm |

|   |   |   |   |   |
|---|---|---|---|---|
| <b>Technical Data</b>                           |   |   |   |   |
| Recommended assembly dimension (A x B)          | 160 x 160   | 260 x 160   | 360 x 160   | 560 x 160   |
| Dimensions W x H x D                            | 200 x 120 x 200 mm  | 300 x 120 x 200 mm  | 400 x 120 x 200 mm  | 600 x 120 x 200 mm  |
| Number of I/O modules                           | ≤ 8*  | ≤ 16*   | ≤ 24*   | ≤ 40*   |
| For data sheet and additional information, see: | <a href="http://wago.com/850-814/002-000">wago.com/<br/>850-814/002-000</a> | <a href="http://wago.com/850-815/002-000">wago.com/<br/>850-815/002-000</a> | <a href="http://wago.com/850-816/002-000">wago.com/<br/>850-816/002-000</a> | <a href="http://wago.com/850-817/002-000">wago.com/<br/>850-817/002-000</a> |

|  |   |   |   |   |
|--|---|---|---|---|
| <b>Accessories: Flange Plates</b>            | <b>Number of flange plates that can be fitted</b> |   |   |   |
| Size 195 x 95 mm: F200; F200-1; F200-2; F204 | 1   | - | 2 | - |
| Size 295 x 95 mm: F300; F300-1; F300-2; F304 | -   | 1 | - | 2 |

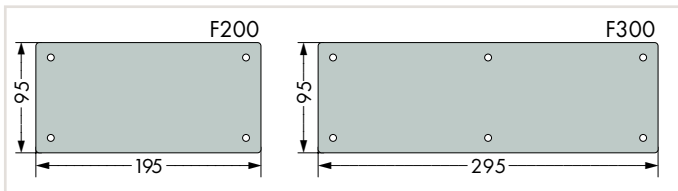
|                    |                 |
|--------------------|-----------------|
| <b>Accessories</b> | <b>Item No.</b> |
| Wall Mount         | 850-904         |

\*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

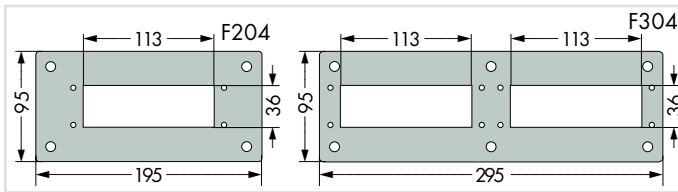
Included:

- Powder-coated, sheet steel enclosure
- Box with narrow beveled edge, sturdy gutter profile
- Hinged cover 180° (PA), with foam PU seal and 2-3 quick disconnects
- Quick-release fasteners in plastic bushes
- Mounting holes (incl. sealing plugs)
- Large Makrolon inspection glass
- Removable, yellow-tinted chrome interior profiles
- Galvanized DIN-35/7.5 rail (contact with enclosure), adjustable in 12.5 mm spacing
- Grounding lug for cover and flanges with quick-release ribbon cable connectors
- Light gray (RAL 7035)

# Flange Plates and Cable Entry Plates



| Flange Plate; RAL7035; without cut-out |                |                 |
|--|----------------|-----------------|
|  | Width x Height | Item No.        |
| F200 Flange Plate RAL7035 WCO          | 195 x 95 mm    | 850-818/002-000 |
| F300 Flange Plate RAL7035 WCO          | 295 x 95 mm    | 850-819/002-000 |



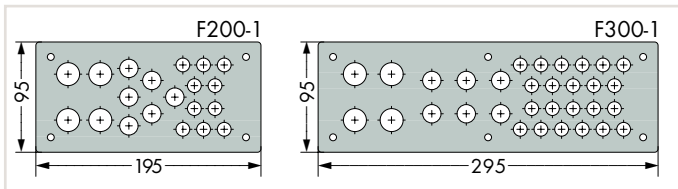
| Flange Plate; RAL7035; with cut-out |                |                 |
|-------------------------------------|----------------|-----------------|
|                                     | Width x Height | Item No.        |
| F204 Flange Plate RAL7035 1CO       | 195 x 95 mm    | 850-818/002-005 |
| F304 Flange Plate RAL7035 2CO       | 295 x 95 mm    | 850-819/002-005 |



Illustration: Flange Plate F204 with Cable Entry Plate KDP 22

| Cable Entry Plate   |  | Item No.        |
|---|--|-----------------|
| KDP 22 Cable Entry Plate; 16 x Size 1, 4 x Size 2, 2 x Size 3 |  | 850-820/000-001 |
| KDP 29 Cable Entry Plate; 29 x Size 1                         |  | 850-820/000-002 |

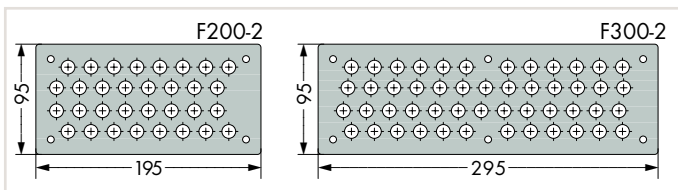
Cable entry plate, polyamide  
 Size 1: Cable diameter 3.0 ... 6.5 mm  
 Size 2: Cable diameter 5.0 ... 9.2 mm  
 Size 3: Cable diameter 8.0 ... 12.5 mm



| Flange Plate; RAL7035; M20, M16, M12 bore holes             |                |                 |
|---|----------------|-----------------|
|   | Width x Height | Item No.        |
| F200-1 Flange Plate RAL7035 HO1; 4 x M20, 6 x M16, 10 x M12 | 195 x 95 mm    | 850-818/002-001 |
| F300-1 Flange Plate RAL7035 HO5; 4 x M20, 6 x M16, 22 x M12 | 295 x 95 mm    | 850-819/002-001 |



| Flange Plate; RAL7035; M20, M16, M12 cable grips            |                |                 |
|---|----------------|-----------------|
|   | Width x Height | Item No.        |
| F200-1 Flange Plate RAL7035 CG8; 4 x M20, 6 x M16, 10 x M12 | 195 x 95 mm    | 850-818/002-002 |
| F300-1 Flange Plate RAL7035 CG9; 4 x M20, 6 x M16, 22 x M12 | 295 x 95 mm    | 850-819/002-002 |



| Flange Plate; RAL7035; M12 bore holes     |                |                 |
|---|----------------|-----------------|
|   | Width x Height | Item No.        |
| F200-2 Flange Plate RAL7035 HO4; 32 x M12 | 195 x 95 mm    | 850-818/002-003 |
| F300-2 Flange Plate RAL7035 HO6; 50 x M12 | 295 x 95 mm    | 850-819/002-003 |

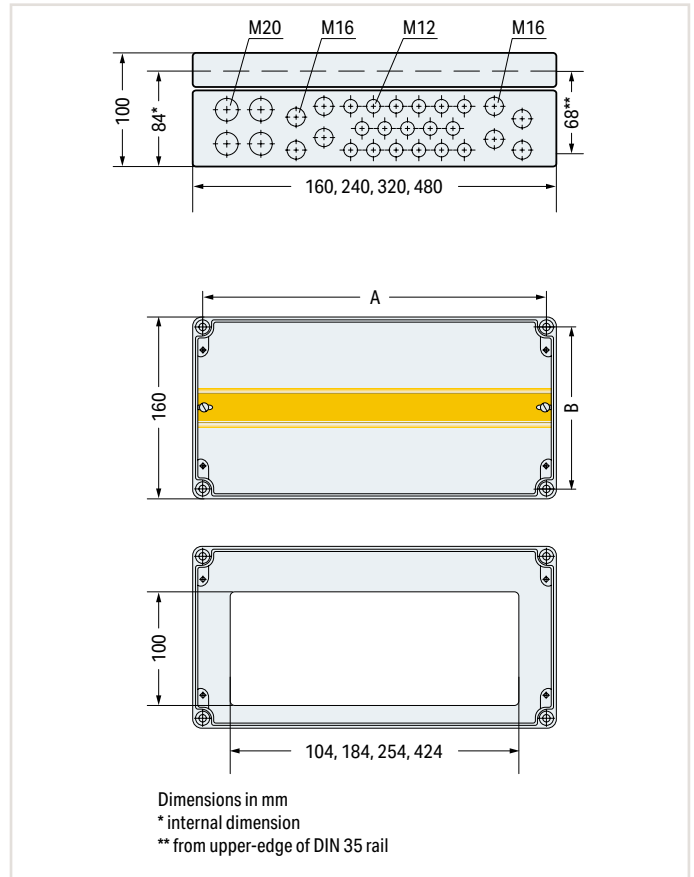


Similar to illustration

| Flange Plate; RAL7035; M12 cable grips     |                |                 |
|--|----------------|-----------------|
|  | Width x Height | Item No.        |
| F200-2 Flange Plate RAL7035 HO2; 32 x M12  | 195 x 95 mm    | 850-818/002-004 |
| F300-2 Flange Plate RAL7035 CG12; 50 x M12 | 295 x 95 mm    | 850-819/002-004 |



# Aluminum System Enclosures



|                         |  |                                     |                                      |                                     |
|-------------------------|--|-------------------------------------|--------------------------------------|-------------------------------------|
| <b>Item Description</b> | <b>IP65 System Enclosure; Aluminum</b> |                                     |                                      |                                     |
| <b>Version</b>          | <b>Enclosure type in RAL 7032</b>      |                                     |                                      |                                     |
| <b>Item No.</b>         | 850-825                                | 850-826                             | 850-827                              | 850-828                             |
| <b>Order Text</b>       | ALU Enclosure; RAL7032<br>160mm CG11   | ALU Enclosure; RAL7032<br>240mm CG7 | ALU Enclosure; RAL7032<br>320mm CG10 | ALU Enclosure; RAL7032<br>480mm CG4 |

|                   |                                   |                                     |                                      |                                     |
|-------------------|-----------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| <b>Version</b>    | <b>Enclosure type in RAL 7035</b> |                                     |                                      |                                     |
| <b>Item No.</b>   |                                   | 850-826/002-000                     | 850-827/002-000                      | 850-828/002-000                     |
| <b>Order Text</b> |                                   | ALU Enclosure; RAL7035<br>240mm CG7 | ALU Enclosure; RAL7035<br>320mm CG10 | ALU Enclosure; RAL7035<br>480mm CG4 |

|  |  |  |  |  |
|--|--|--|--|--|
| <b>Technical Data</b>                                  |  |  |  |  |
| Number of M12 cable grips                              | 9  | 14   | 17   | 35   |
| Number of M16 cable grips                              | -  | 4  | 8  | 10   |
| Number of M20 cable grips                              | 4  |  |  |  |
| Recommended assembly dimension (A x B)                 | 142 x 142 mm   | 222 x 142 mm   | 302 x 142 mm   | 462 x 142 mm   |
| Dimensions W x H x D                                   | 160 x 100 x 160 mm                                     | 240 x 100 x 160 mm                                     | 320 x 100 x 160 mm                                     | 480 x 100 x 160 mm                                     |
| Number of I/O modules                                  | ≤ 4*   | ≤ 11*  | ≤ 18*  | ≤ 31*  |
| <b>For data sheet and additional information, see:</b> | <a href="http://wago.com/850-825">wago.com/850-825</a> | <a href="http://wago.com/850-826">wago.com/850-826</a> | <a href="http://wago.com/850-827">wago.com/850-827</a> | <a href="http://wago.com/850-828">wago.com/850-828</a> |

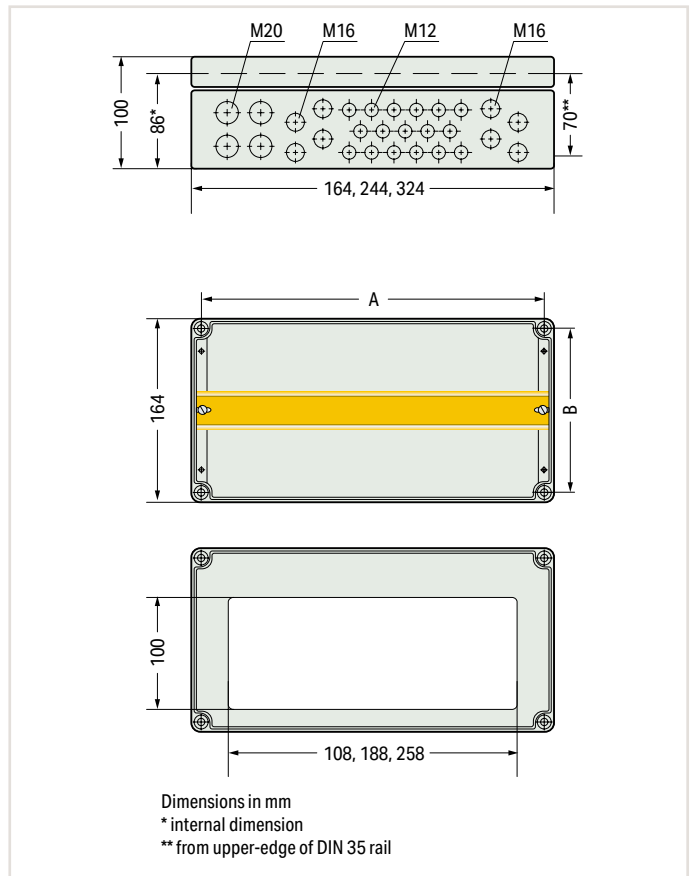
|                    |                 |
|--------------------|-----------------|
| <b>Accessories</b> | <b>Item No.</b> |
| Pole Mount         | 850-903         |

\*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

Included:

- Aluminum enclosure, G AL Si 12 alloy / DIN 1725
- Stainless steel cover screws, captive
- Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
- Mounting holes (4 mounting channels located outside the sealed enclosure)
- Metric cable glands (brass, nickel-plated), incl. blind plugs
- M12 cable grip, cable diameter 3 ... 6 mm
- M16 cable grip, cable diameter 5 ... 9 mm
- M20 cable grip, cable diameter 9 ... 13 mm
- 1x DIN-35/7.5 rail
- Tongue and groove system, seal with groove in enclosure cover
- Oil and petroleum-resistant neoprene round cord seal
- Grounding link in enclosure
- Pebble gray RAL 7032 or light gray RAL 7035

# Polyester System Enclosures



| Item Description | IP65 System Enclosure; Polyester (RAL 7032) |  |  |
|------------------|---|--|--|
| Version          | WxHxD (164x100x164 mm);<br>9 x M12, 4 x M20 | WxHxD (244x100x164 mm);<br>4 x M20, 4 x M16, 14 x M12 cable grip | WxHxD (324x100x164 mm);<br>4 x M20, 8 x M16, 17 x M12 cable grip |
| Item No.         | 850-834                                     | 850-835  | 850-836  |
| Order Text       | POL Enclosure; RAL7032 164mm CG11           | POL Enclosure; RAL7032 244mm CG7                                 | POL Enclosure; RAL7032 324mm CG10                                |

| Technical Data                                  | 850-834  | 850-835  | 850-836  |
|---|--|--|--|
| Number of M12 cable grips                       | 9  | 14   | 17   |
| Number of M16 cable grips                       | -  | 4  | 8  |
| Number of M20 cable grips                       | -  | 4  | -  |
| Recommended assembly dimension (A x B)          | 142 x 142 mm   | 222 x 142 mm   | 302 x 142 mm   |
| Dimensions W x H x D                            | 164 x 100 x 164 mm                                     | 244 x 100 x 164 mm                                     | 324 x 100 x 164 mm                                     |
| Number of I/O modules                           | ≤ 4*   | ≤ 11*  | ≤ 18*  |
| For data sheet and additional information, see: | <a href="http://wago.com/850-834">wago.com/850-834</a> | <a href="http://wago.com/850-835">wago.com/850-835</a> | <a href="http://wago.com/850-836">wago.com/850-836</a> |

| Accessories | Item No. |
|-------------|----------|
| Pole Mount  | 850-903  |

\*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

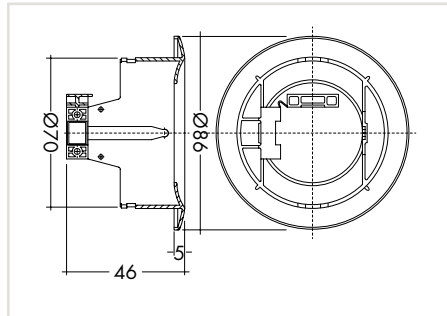
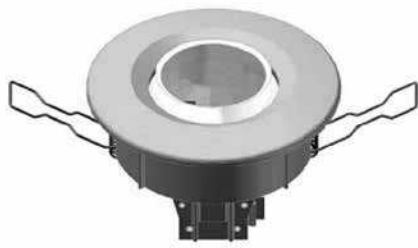
Included:

- Polyester enclosure, glass-fiber-reinforced, halogen-free, as V0 version (self-extinguishing)
- Polyamide cover screws, captive
- Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
- Mounting holes (4 mounting channels located outside the sealed enclosure)
- Metric cable grips (polyamide PA 6), incl. blind plugs
- M12 cable grip, cable diameter 3 ... 6 mm
- M16 cable grip, cable diameter 5 ... 9 mm
- M20 cable grip, cable diameter 9 ... 13 mm
- 1x DIN-35/7.5 rail
- Oil and petroleum-resistant neoprene round cord seal
- Pebble gray, RAL 7032

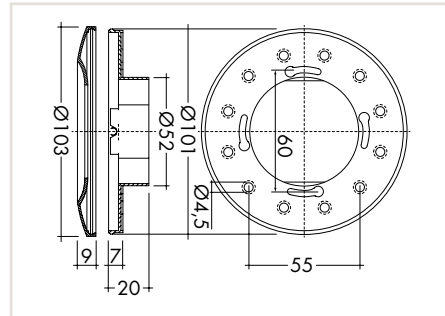


# DALI Multi-Sensors

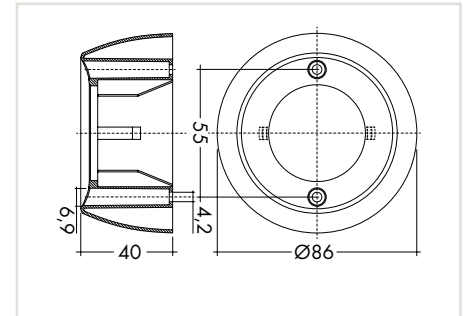
## Ceiling Installation



## Wall Box Mounting



## Surface Mounting



The WAGO DALI MSensor 02 is paired with DALI Master I/O modules (753-647 or 750-641) and has been designed for the following key applications:

- Individual offices
- Open-plan offices
- Training/presentation rooms
- Corridors, passageways and garages

WAGO's Multi-Sensor features both a motion/presence detector and a light sensor. It may also be operated with an optional remote control from Tridonic. The sensor enables both motion/presence detection and daylight-dependent lighting control, both of which can also be deactivated.

Addressing is performed via rotary switch or WAGO DALI Configurator. Parameters can be adjusted individually using the configurator.

Power supply is provided via the DALI line.

The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and the address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI sensor couplers may be operated on a DALI Multi-Master Module (753-647).

### Installation notes:

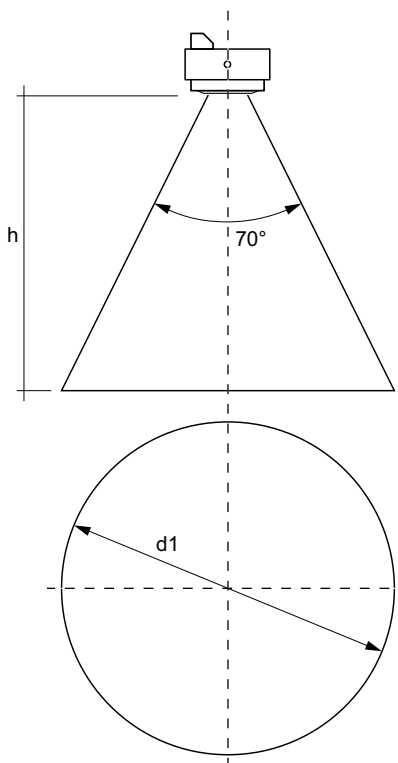
- The DALI MSensor 02 is supplied directly via DALI line.
- DALI is not SELV (Safety Extra Low Voltage). The installation instructions for mains voltage therefore apply.
- The sensor's detection range must be within the lighting area of the controlled luminaires.
- The sensors' detection ranges must not overlap as this may impair the lighting control.
- When installed at a height other than the recommended installation height (2.5 m), the presence and light sensor might show different characteristics. If installed at a greater height, the sensitivity is reduced; the range is also reduced when installed at a lower height.
- Heaters, fans, printers and copiers located in the detection range may cause incorrect presence detection.

| Item Description  | DALI MSensor 02 5DPI 41rc (Recessed Ceiling Installation)   | DALI MSensor 02 5DPI 41w (Wall Box Mounting)               | DALI MSensor 02 5DPI 41rs (Surface Mounting)               |
|---|---|--|--|
| Item No.  | 2851-8301   | 2851-8302  | 2851-8303  |
| <b>Technical Data</b>   |   |  |  |
| Diameter of detection range when installed at a height of 2.5 m | 5 m   |  |  |
| Extension of the detection range                                | 2 m (if mounted at a height of 2.5 m and swiveled through 15°)  |  | -  |
| Swivel design   | Yes   |  | No   |
| Swivel range  | ± 15°   |  | -  |
| Detection angle   | 360°  |  |  |
| Light measurement at the sensor head                            | 10 ... 650 lx (The measured value at the sensor head corresponds to approx. 15 to 2,000 lux on the surface measured.) |  |  |
| Remote control range  | 5 m   |  |  |
| For data sheet and additional information, see:                 | <a href="http://wago.com/2851-8301">wago.com/2851-8301</a>  | <a href="http://wago.com/2851-8302">wago.com/2851-8302</a> | <a href="http://wago.com/2851-8303">wago.com/2851-8303</a> |

| Technical Data                          |  |
|---|--|
| Power supply                            | Via DALI line  |
| Power consumption                       | 6 mA from DALI line  |
| Surrounding air temperature (operation) | 0 ... +50 °C   |
| Surrounding air temperature (storage)   | -25 ... +55 °C   |
| Protection type                         | IP20   |
| Wire type and cross-section             | Solid or fine-stranded wires ranging from 0.5 to 1.5 mm <sup>2</sup> (20 ... 16 AWG) |

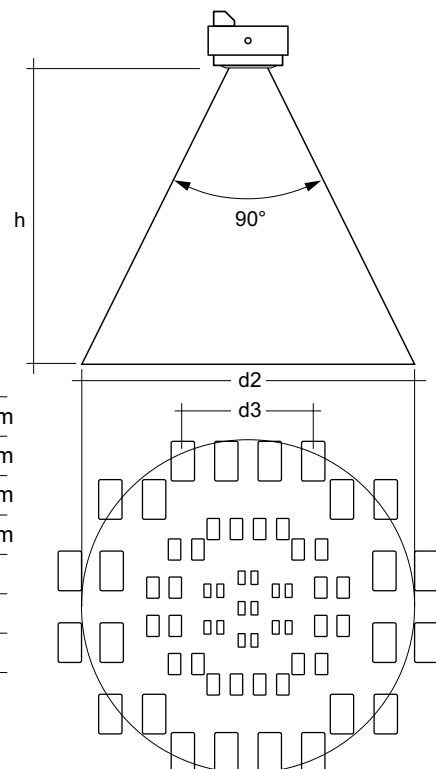
| Technical Data                  |                        |
|---------------------------------|------------------------|
| <b>General Settings</b>         |                        |
| Motion detector                 | Switching, on/off      |
| Lighting control                | Switching              |
| Setpoint (lighting control)     | 150 lx                 |
| Power-on setting                | No action              |
| Bright-out timeout              | 10 min                 |
| Bright-out threshold            | 150 %                  |
| Control speed                   | 4                      |
| Switch-on value                 | Automatic (calculated) |
| Rotary switch                   | 0, broadcast           |
| <b>Motion Detector Settings</b> |                        |
| Fade-in time                    | < 0.7 s                |
| Presence value                  | Regulated              |
| Run-on time                     | 20 min                 |
| Fade time                       | 5.6 s                  |
| Absence value                   | 3 %                    |
| Switch-off delay                | 10 min                 |
| Fade-off time                   | 5.6 s                  |
| Manual-off                      | 10 min                 |

Light Detection



| $h^*$ | $d1$  | $d2$  | $d3$   |
|-------|-------|-------|--------|
| 1,7 m | 2,4 m | 3,4 m | 1,36 m |
| 2,0 m | 2,8 m | 4,0 m | 1,60 m |
| 2,3 m | 3,2 m | 4,6 m | 1,84 m |
| 2,5 m | 3,5 m | 5,0 m | 2,00 m |
| 2,7 m | 3,8 m | 5,4 m | -      |
| 3,0 m | 4,2 m | 6,0 m | -      |
| 3,5 m | 4,9 m | 7,0 m | -      |
| 4,0 m | 5,6 m | 8,0 m | -      |

Motion Detection (d2) and Presence Detection (d3)

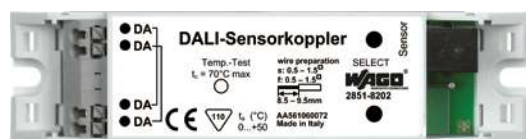


\*The recommended maximum room height for office applications is 3 m and for corridor applications 4 m, for example.

Calculation of the diameter:  
 $d = 2 \times \tan(0.5 \times \alpha) \times h$

## WAGO DALI Multi-Sensor Kit

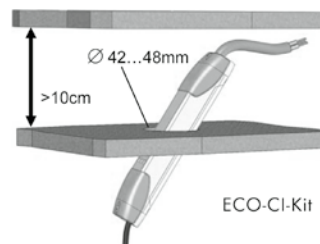
### DALI Sensor Coupler



### MULTI-3-CI Sensor



### Eco-CI Kit



The WAGO DALI Multi-Sensor Kit is paired with the WAGO 753-647 DALI Multi-Master Module and includes the following three components:

- DALI Sensor Coupler (also available individually)
- Eco-CI Kit
- MULTI-3-CI Sensor

The DALI Sensor Coupler connects the MULTI-3-CI Sensor to a DALI bus system. For this, the MULTI-3-CI Sensor is connected to the DALI Sensor Coupler via RJ-10 socket. DALI terminals connect the DALI Sensor Coupler to both the DALI network and WAGO DALI Module.

The Eco-CI Kit contains two covers, which can be used as touch guards and strain relief for cables within the ceiling installation of the DALI Sensor Coupler.

The MULTI-3-CI Sensor has a motion and light sensor, enabling both motion detection and daylight-dependent lighting control. Power supply to the DALI Sensor Coupler is provided via DALI line. The DALI Sensor Coupler transmits measured values from the connected sensor channels as telegrams to the WAGO DALI Module via DALI line. Parameters can be adjusted individually via WAGO DALI Configurator.

The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and the address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI Sensor Couplers may be operated on a DALI Multi-Master Module (753-647).

### Installation

#### Sensor Connection

The MULTI-3-CI Sensor is connected to a 4-pole RJ-10 socket (4P4C), which is marked as "Sensor" on the housing cover.

For easy connection, the sensor plug is equipped with a quick-connect latch. Only one MULTI-3-CI Sensor must be connected to sensor coupler.

#### Ceiling Installation

For installation outside of a lighting fixture (e.g., suspended ceiling), the Eco-CI Kit must also be attached to both sides of the unit to ensure strain relief and touch protection.

The DALI Sensor Coupler can also be installed in lighting fixtures. The installation spaces available in lighting fixtures can be used, as the dimensions correspond to those of an electronic ballast.

#### Note:

The DALI Sensor Coupler is also available individually, allowing the unit to be combined with other multi-sensor models from OSRAM.

### WAGO DALI Multi-Sensor Kit

| Delivery type   | Item No.  |
|---|-----------|
| Set includes:<br>DALI Sensor Coupler, MULTI-3-CI Sensor, Eco-CI Kit | 2851-8201 |
| DALI Sensor Coupler   | 2851-8202 |

### DALI Sensor Coupler

|   |   |
|---|---|
| Power supply                            | Via DALI line   |
| Power consumption                       | 5 mA (from the DALI line)   |
| Input signal voltage/current            | According to MULTI 3 CI Sensor  |
| Conductor connection                    | Inputs: for MULTI-3-CI Sensor's modular plug 4p4c (RJ-10); Sensor cable length (max.): 5 m; DALI connection: Push-wire connectors; Strip length: 8.5 ... 9.5 mm |
| Conductor cross-sections                | 0.5 ... 1.5 mm <sup>2</sup> (s + f-st)  |
| Dimensions W x H x D                    | 118 x 21 x 30 mm  |
| Weight                                  | 35 g  |
| Surrounding air temperature (operation) | 0 ... +50 °C  |
| Surrounding air temperature (storage)   | -25 ... +70 °C  |
| Relative humidity                       | 5 ... 93 %; non-condensing  |
| Protection type                         | IP20  |
| Approvals                               | CE  |

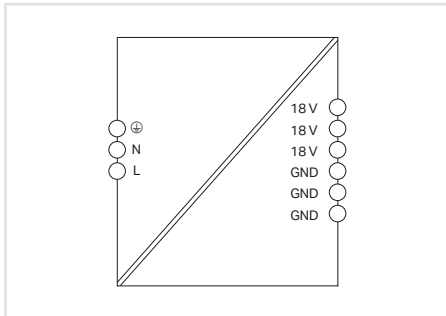
### Eco-CI Kit

|                                     |              |
|-------------------------------------|--------------|
| Installation opening diameter       | 42 ... 48 mm |
| Minimum suspended ceiling clearance | 25 mm        |

### MULTI-3-CI Sensor

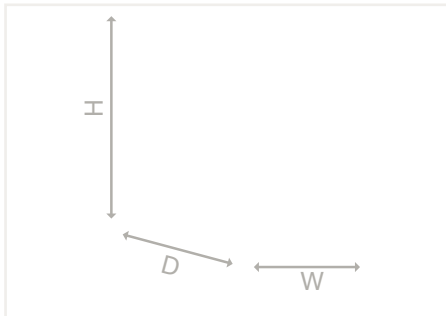
|  |  |
|--|--|
| Maximum total length of signal line (incl. all connections to the control units) | 100 m  |
| Dimensions (diameter x H)  | 50 x 25 mm   |
| Light sensor detection range   | 20 ... 600 lx (measured at sensor), beam angle approx. 90°                     |
| Recommended installation height  | 2 ... 4 m  |
| Motion detection range   | Cone-shaped, beam angle approx. 80°, depending on installation level 4 ... 8 m |

# Power supply; Compact; 1-phase; 18 VDC / 1.25 A 787 Series



Power supply; Compact; 1-phase; 18 VDC output voltage; 1.25 A output current

| Item No. | PU |
|----------|----|
| 787-2857 | 1  |



#### Features:

- Stepped profile for installation in standard distribution boards
- Connection technology with Push-in CAGE CLAMP®
- Parallel operation/series operation
- Electrically isolated output voltage (SELV) per EN/UL 61010-1 or EN/UL 61010-2-201

| Input                                     |  |
|---|--|
| Nominal input voltage $U_{i, \text{nom}}$ | 1 x 100 ... 240 VAC                            |
| Input voltage range                       | 100 ... 264 VAC                                |
| Nominal mains frequency range             | 47 ... 63 Hz                                   |
| Input current $I_i$                       | $\leq 0.4$ A (110 VAC); $\leq 0.2$ A (240 VAC) |
| Inrush current                            | $\leq 24$ A (NTC)                              |
| Mains failure hold-up time                | $\geq 95$ ms (230 VAC)                         |

| Output  |                             |
|---|-----------------------------|
| Nominal output voltage $U_{o, \text{nom}}$ /Control deviation | 18 VDC (SELV) / $\leq 2$ %  |
| Nominal output current $I_{o, \text{nom}}$                    | 1.25 A (18 VDC)             |
| Nominal output power  | 22 W                        |
| Residual ripple   | $\leq 60$ mV (peak-to-peak) |
| Overload behavior   | Hiccup                      |

| Signaling and communication |                                   |
|-----------------------------|-----------------------------------|
| Signaling                   | 1 x Status indication LED (green) |
| Operation status indicator  | Green LED ( $U_o$ )               |

| Efficiency/power losses               |   |
|---------------------------------------|---|
| Power loss $P_i$                      | $\leq 0.5$ W (230 VAC; No load); $\leq 4$ W (230 VAC; Nominal load) |
| Power loss (max.) $P_{i(\text{max})}$ | 5 W (110 VAC / 24 VDC; 1,35 A)                                      |
| Efficiency (typ.)                     | 88 %  |

| Circuit protection        |                             |
|---------------------------|-----------------------------|
| Internal fuse             | T 1.25 A / AC 250 V         |
| Recommended backup fusing | 16 A (for USA/Canada: 15 A) |

| Safety and protection/Environmental requirements |   |
|--|---|
| Isolation voltage (pri.-sec./pri.-PE/sec.-PE)    | 2.47 kVAC / 3.92 kVAC / 0,5 kVDC  |
| Protection class/ Protection type                | I / IP20 (per EN 60529)   |
| Overtoltage category                             | III ( $\leq 2000$ m a. s.l.); II ( $> 2000$ m a. s.l.)                                      |
| Short-circuit-protected                          | Yes   |
| Parallel operation/series operation              | Yes/yes   |
| MTBF   | $> 2,500,000$ h (per IEC 61709 at $+40$ °C)   |
| Ambient air temperature (operation)              | $-25$ ... $+70$ °C (nominal mounting position; $-20$ ... $+55$ °C in any mounting position) |
| Relative humidity                                | 5 ... 96 % (no condensation permissible)  |
| Derating   | $-1.7$ %/K ( $> 55$ °C)   |
| Pollution degree                                 | 2   |

| Connection data                           |   |
|---|---|
| Connection technology                     | Push-in CAGE CLAMP®   |
| Input/signaling (solid/fine-stranded/AWG) | 0.25 ... 2.5 mm <sup>2</sup> / 0.25 ... 2.5 mm <sup>2</sup> / 22 ... 12 AWG |
| Output (solid/fine-stranded/AWG)          | 0.2 ... 1.5 mm <sup>2</sup> / 0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG   |

| Physical data/ Mechanical data/ Material data |   |
|---|---|
| Width x Height x Depth (mm)                   | 36 x 90 x 62; depth from upper edge of DIN-rail: 55 |
| Mounting type                                 | DIN-35 rail   |
| Weight  | 120 g   |

| Standards and specifications |   |
|------------------------------|---|
| Standards/Specifications     | EN 61204-3; EN 61010-1; EN 61010-2-201; cULus 61010-1; cULus 61010-2-201, DNV |

## DALI Sensors



2852-7214

| DALI Sensor  |           |    |
|--|-----------|----|
|  | Item No.  | PU |
| DALI Sensor; PD11-BMS-FLAT                               | 2852-7210 | 1  |
| DALI Sensor; PD4-BMS-GH                                  | 2852-7213 | 1  |
| DALI Sensor; PD4N-BMS                                    | 2852-7214 | 1  |
| Adapter; AP Assembly Kit IP54; Accessories for 2852-7214 | 2852-7215 | 1  |
| DALI Sensor; MSensor G3 SRC 30 PIR 5DPI WH               | 2852-7220 | 1  |
| DALI Sensor; IR Quattro HD DALI-2                        | 2852-7230 | 1  |
| DALI Sensor; IR Quattro SLIM XS DALI-2                   | 2852-7231 | 1  |
| DALI Sensor; IS3360 MX HIGH BAY DALI-2                   | 2852-7232 | 1  |
| DALI Sensor; IS345 MX HIGH BAY DALI-2                    | 2852-7233 | 1  |



2852-7221

| DALI Sensor  |           |    |
|--|-----------|----|
|  | Item No.  | PU |
| DALI Sensor; MSensor G3 SSM 30 10DPI WH                  | 2852-7221 | 1  |
| DALI XC Control Module with 4 Freely Programmable Inputs | 2852-7225 | 1  |



2852-7225

| Room Control Unit   |                   |    |
|---|-------------------|----|
|   | Item No.          | PU |
| Room Control Unit; Modbus®; RGB1; Display; Glass front; Aluminum frame; Black | 2852-7601/000-001 | 1  |
| Room Control Unit; Modbus®; RGB1; Display; Glass front; Aluminum frame; White | 2852-7601/000-002 | 1  |



2852-7601/000-001



# Room Control Units



2852-7110

| Room Control Unit  |           |    |
|--|-----------|----|
|  | Item No.  | PU |
| WRF04-P Room Control Unit; Passive; Wall-Mount; Pt1000; 5 kOhm                       | 2852-7110 | 1  |
| WRF07-P Room Control Unit; Passive; Flush-Mount; Pt1000; 5 kOhm                      | 2852-7111 | 1  |
| SR04-P Room Control Unit; Radio; Wall-Mount; EnOcean                                 | 2852-7112 | 1  |
| SR06-LCD Room Control Unit; Radio; Flush-Mount; EnOcean®; 2 Push-Buttons             | 2852-7113 | 1  |
| WRF04-P-RS-485 Room Control Unit; Modbus®; Wall-Mount; Temperature; Set Point Value  | 2852-7114 | 1  |
| WRF07-P-RS-485 Room Control Unit; Modbus®; Flush-Mount; Temperature; Set Point Value | 2852-7115 | 1  |



2852-7510

| Manually Operated Module                               |           |    |
|--|-----------|----|
|  | Item No.  | PU |
| RBT10 Signaling Module; 12 LEDs                        | 2852-7510 | 1  |
| RBT20 Output Module; 4 Switches; 8 LEDs                | 2852-7511 | 1  |
| RBT30 Output Module; 4 Push-Buttons; 4 LEDs + 12 LEDs  | 2852-7512 | 1  |
| RBT40 Analog Module; 4 Rotary Encoders; 4 Bar Displays | 2852-7513 | 1  |
| RBT50 Operating Module; 2 Analog; 2 Digital            | 2852-7514 | 1  |

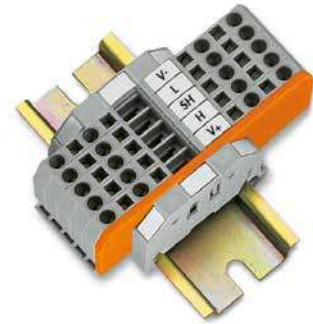
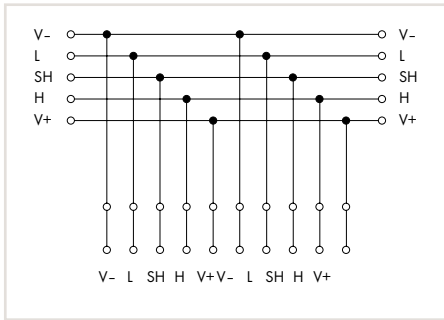


| Connection Board                            |           |    |
|---|-----------|----|
|   | Item No.  | PU |
| RBT-AK Connection Board for Robutech Series | 2852-7515 | 1  |

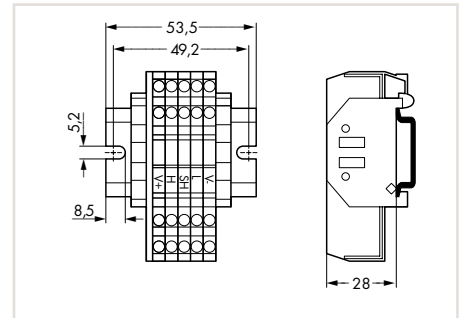
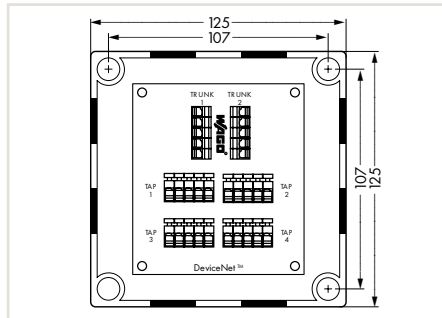


| Rack                     |           |    |
|--------------------------|-----------|----|
|                          | Item No.  | PU |
| RTR4050S Rack 4 HE, 50TE | 2852-7516 | 1  |

# Multi Port Device Taps for DeviceNet



For DeviceNet, a terminating resistor must be connected to each end of the trunk cable. A metal film resistor with the following values must be used: 121 Ohm ± 1 %, ¼ W. Do not connect terminating resistors to the end of a drop cable, only connect to the ends of the trunk cable.



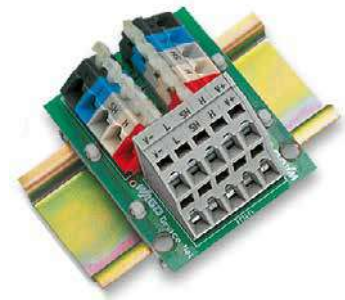
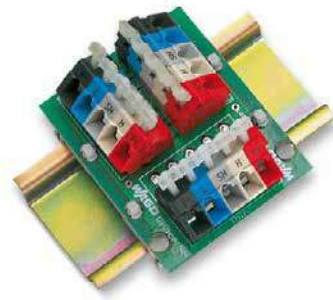
| Item Description | Multi Port Device Tap;<br>2 trunk cables (input, output);<br>4 drop cables;<br>Housing (IP65/NEMA 4) | Multi Port Device Tap;<br>2 trunk cables (input, output);<br>2 drop cables;<br>Open style |
|------------------|--|---|
| Item No.         | 810-900/000-001  | 810-901/000-001   |

| Technical Data                                  | 810-900/000-001  | 810-901/000-001  |
|---|--|--|
| Wire connection for trunk cables                | 2 x 256-405 (PCB terminal blocks)                                      |  |
| Wire connection for drop cables                 | 4 x 255-405 (PCB terminal blocks)                                      |  |
| Housing   | With cable entry holes   |  |
| Terminal block                                  |  | 5 x 280-633  |
| End terminal block                              |  | 2 x 249-116  |
| DIN-rail  |  | DIN 35, slotted  |
| Conductor cross-sections                        | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG                           | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG                           |
| Cable diameter (trunk cable)*                   | 10 ... 14 mm Ø   |  |
| Cable diameter (drop cable)                     | 6 ... 12 mm Ø  |  |
| Protection type (housing)                       | IP65/NEMA 4  |  |
| For data sheet and additional information, see: | <a href="http://wago.com/810-900/000-001">wago.com/810-900/000-001</a> | <a href="http://wago.com/810-901/000-001">wago.com/810-901/000-001</a> |

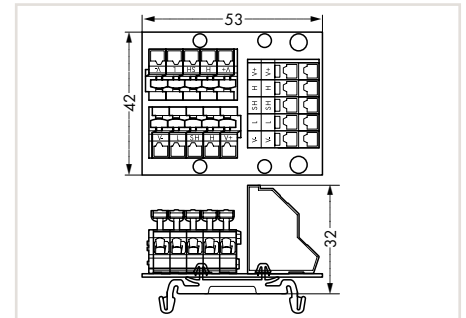
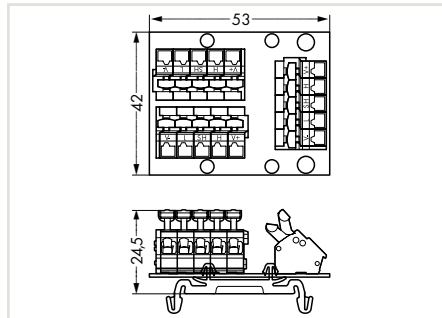
| Accessories                                  | Item No.        | PU  | Item No.        | PU  |
|--|-----------------|-----|-----------------|-----|
| Cable grip for trunk cable<br>10 ... 14 mm Ø | 810-900/001-000 | 1   |                 |     |
| Cable grip for drop cable<br>6 ... 12 mm     | 810-900/002-000 | 1   |                 |     |
| Terminating resistor                         | 810-900/003-000 | 200 | 810-900/003-000 | 200 |
| Test adapter for miniature banana plug       | 810-900/004-000 | 1   | 810-901/001-000 | 1   |

\*when using the cable grip (available as accessories)

## Multi Port Device Taps for DeviceNet



For DeviceNet, a terminating resistor must be connected to each end of the trunk cable. A metal film resistor with the following values must be used: 121 Ohm ± 1 %, ¼ W. Do not connect terminating resistors to the end of a drop cable, only connect to the ends of the trunk cable.



| Item Description                                | Multi Port Device Tap with Mounting Foot;<br>2 trunk cables (input, output);<br>1 drop cable;<br>Open style |     | Multi Port Device Tap with Mounting Foot;<br>2 trunk cables (input, output);<br>2 drop cables;<br>Open style |     |
|---|---|-----|--|-----|
| Item No.  | 810-902/000-001   |     | 810-902/000-002  |     |
| <b>Technical Data</b>                           |   |     |  |     |
| Wire connection for trunk cables                | 2 x 5 x 256 Series (PCB terminal blocks)  |     | 2 x 5 x 256 Series (PCB terminal blocks)   |     |
| Wire connection for drop cables                 | 1 x 5 x 256 Series (PCB terminal blocks)  |     | 1 x 5 x 736 Series (PCB terminal blocks)   |     |
| Conductor cross-sections                        | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG  |     | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG   |     |
| For data sheet and additional information, see: | <a href="http://wago.com/810-902/000-001">wago.com/810-902/000-001</a>                                      |     | <a href="http://wago.com/810-902/000-002">wago.com/810-902/000-002</a>                                       |     |
| <b>Accessories</b>                              |   |     |  |     |
| Terminating resistor                            | Item No.  | PU  | Item No.   | PU  |
|   | 810-900/003-000   | 200 | 810-900/003-000  | 200 |
| Test adapter for miniature banana plug          | 810-901/001-000   | 1   | 810-901/001-000  | 1   |

# Shield Connection System, 790 Series Application and Installation Instructions



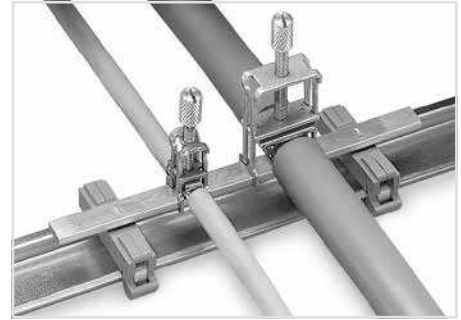
Carrier with grounding foot\* (790-113), 45 mm long, busbar 90° to the DIN-rail

\*for all shield clamping saddle sizes



Carrier with grounding foot\* (790-114), 45 mm long, busbar parallel to the DIN-rail

\*for all shield clamping saddle sizes



Carrier with grounding foot\* (790-115), 125 mm long, busbar parallel to the DIN-rail

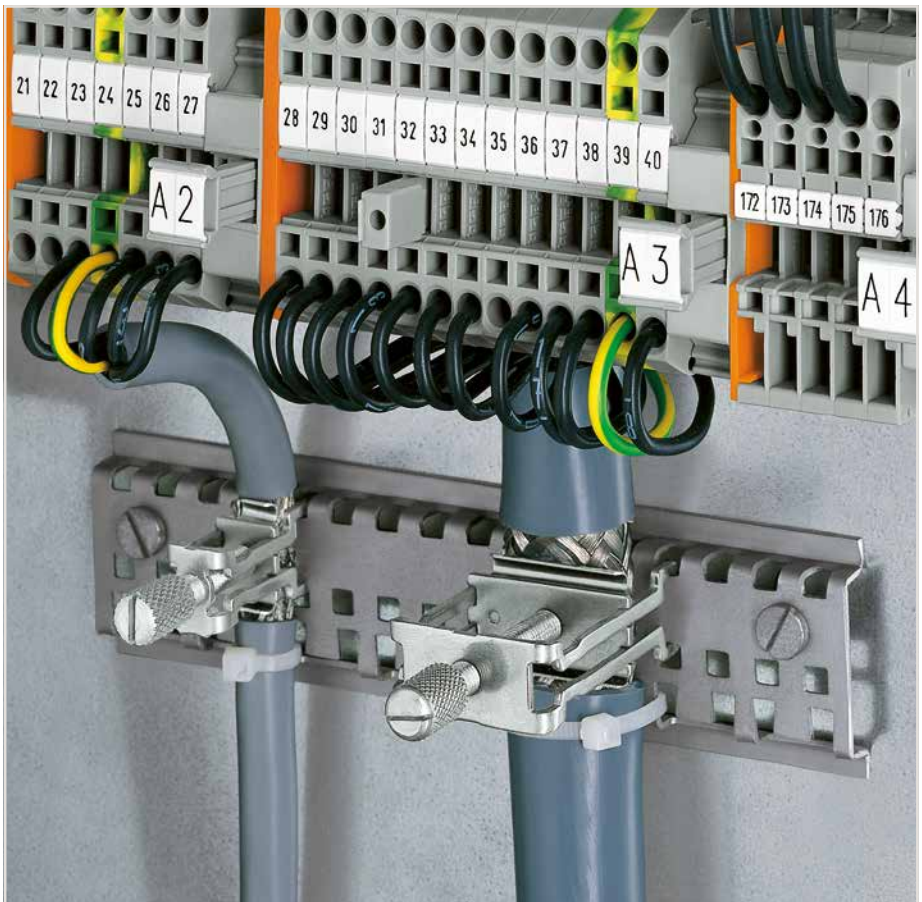
\*for all shield clamping saddle sizes



Securing a spacer sleeve to a specialty slotted DIN-rail.



Securing an additional shield clamping saddle.



Tightening/removing a shield clamping saddle.



After connection, tighten the knurled screw to complete the installation. Recommended tightening torque: 0.5 Nm



To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.

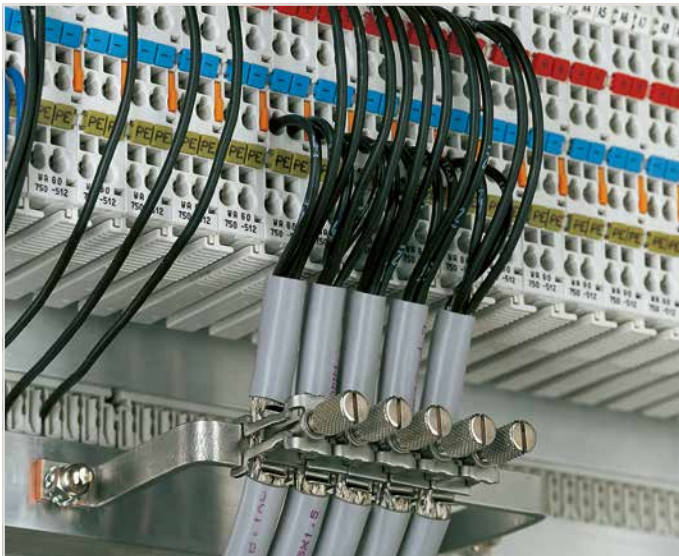
# Shield Connection System, 790 Series Application and Installation Instructions



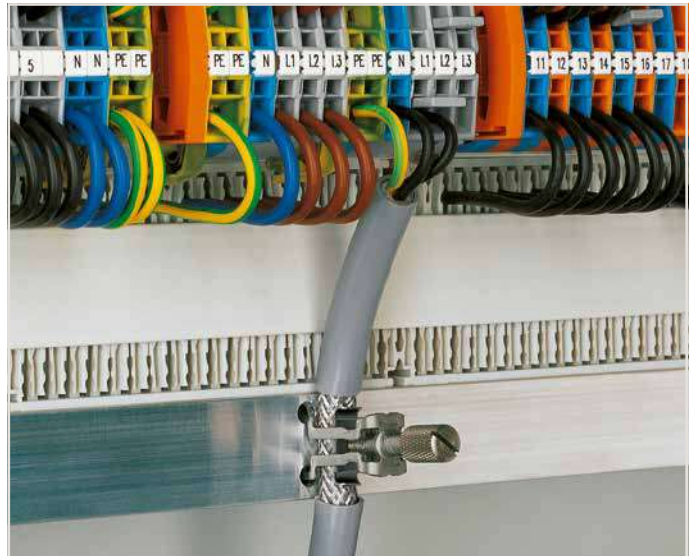
Carrier with grounding foot – busbar parallel to the DIN-rail



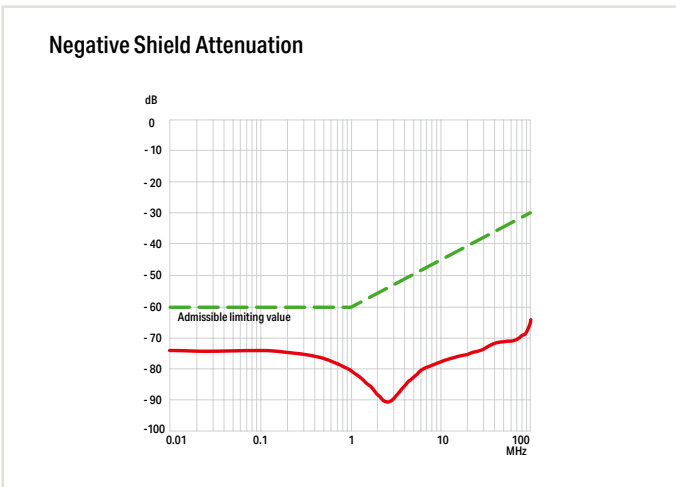
Insulated mounting carriers for a common shield reference potential, independent of housing potential



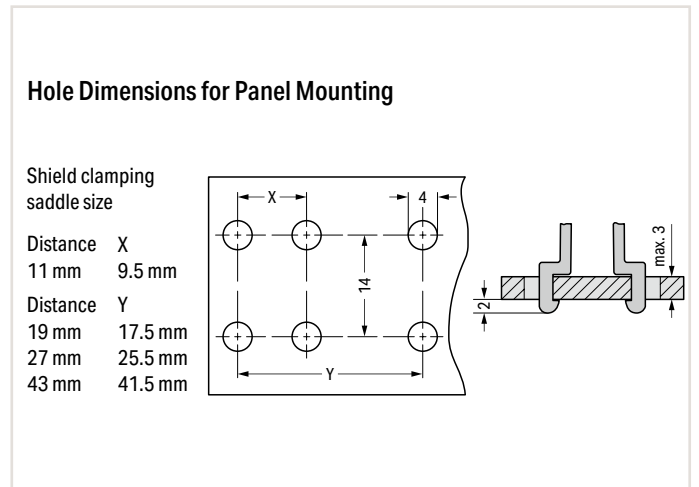
U-shaped (10 x 3) mm copper busbar



Snap shield clamping saddles into any metal plate (max. thickness: 3 mm).



WAGO's shield connection system is highly effective because the clamping unit can be brought very close to the unshielded part of the cable.



Additionally, the spring material is part of the clamping saddle, providing a good electrical connection (the system also acts as a partial strain relief). The spring element integrated in the shield clamping saddle compensates for deformation and settling that results from a connected shield.

# Shield Clamping Saddles 790 Series



|  |         |  |
|--|---------|--|
| Shield clamping saddle; 11 mm wide; max. shield diameter of 8 mm |         |  |
| Item No.   | PU      |  |
| 790-108  | 50 (10) |  |



|   |         |  |
|---|---------|--|
| Shield clamping saddle; 19 mm wide; 7 ... 16 mm shield diameter |         |  |
| Item No.  | PU      |  |
| 790-116   | 50 (10) |  |



|   |         |  |
|---|---------|--|
| Shield clamping saddle; 27 mm wide; 6 ... 24 mm shield diameter |         |  |
| Item No.  | PU      |  |
| 790-124   | 50 (10) |  |



|  |         |  |
|--|---------|--|
| Shield clamping saddle, 43 mm wide, 22 ... 40 mm shield diameter |         |  |
| Item No.   | PU      |  |
| 790-140  | 50 (10) |  |

### Installation

The shield clamping saddle is shipped ready for direct connection to the (10 x 3) mm busbar or a drilled mounting plate. After connection, tighten the knurled screw to complete the installation.  
Maximum tightening torque: 0.5 Nm

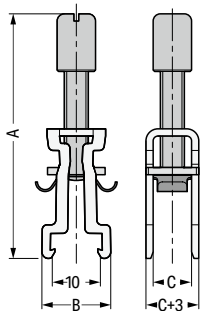


### Removal

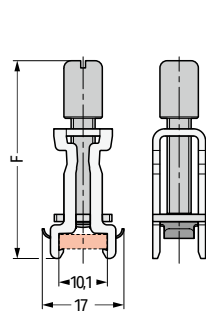
To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.



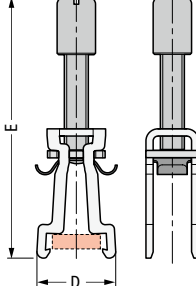
Delivery position for direct snapping



Snapping position closed



Release position



Dimensions in mm

| Item No. | A  | B  | C  | D  | E   | F  |
|----------|----|----|----|----|-----|----|
| 790-108  | 51 | 15 | 8  | 16 | 55  | 42 |
| 790-116  | 53 | 15 | 16 | 16 | 57  | 45 |
| 790-124  | 78 | 15 | 24 | 16 | 83  | 58 |
| 790-140  | 97 | 15 | 40 | 16 | 100 | 73 |

# Spring-Equipped Shield Clamping Saddles 790 Series



| Shield clamping saddle; 3 ... 8 mm diameter; 12.4 mm wide |    |  |
|---|----|--|
| Item No.  | PU |  |
| 790-208   | 50 |  |



| Shield clamping saddle; 6 ... 16 mm diameter; 21.8 mm wide |    |  |
|--|----|--|
| Item No.   | PU |  |
| 790-216  | 25 |  |



| Shield clamping saddle; 6 ... 20 mm diameter; 30 mm wide |    |  |
|--|----|--|
| Item No.   | PU |  |
| 790-220  | 25 |  |



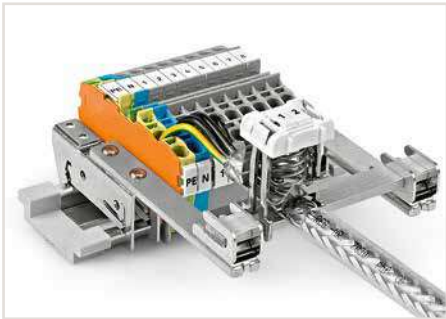
Mounting a clamping saddle on a specialty slotted DIN-rail (790-145).  
When releasing the saddle, do not place your finger under the clamping spring!



Removing the shield clamping saddle.



Shield clamping saddle contacts shield conductor and specialty slotted DIN-rail (790-145).



Application example



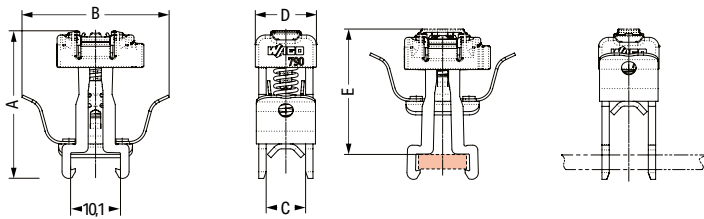
Labeling using a marking strip.



Labeling using WMB markers.

Delivery position

Mounting position



Dimensions in mm

| Item No. | A    | B    | C  | D    | E*   |
|----------|------|------|----|------|------|
| 790-208  | 30   | 29,9 | 8  | 12,4 | 25,8 |
| 790-216  | 34,6 | 28,3 | 16 | 21,8 | 30,2 |
| 790-220  | 45,6 | 28,3 | 24 | 30   | 41,2 |

\*Height with WMB marker

# Shield Clamps and Shield Terminations

## 791 and 709 Series



Shield clamp; 1.5 ... 6.5 mm shield diameter;  
max. 40 mm high; 10 mm wide

| Item No. | PU |
|----------|----|
| 791-107  | 50 |

Shield clamp; 5 ... 11 mm shield diameter;  
max. 47 mm high; 17 mm wide

| Item No. | PU |
|----------|----|
| 791-111  | 50 |

Shield clamp; 10 ... 17 mm shield diameter;  
max. 63 mm high; 23 mm wide

| Item No. | PU |
|----------|----|
| 791-117  | 50 |

Shield clamp; 16 ... 24 mm shield diameter;  
max. 78 mm high; 30 mm wide

| Item No. | PU |
|----------|----|
| 791-124  | 50 |



Shield termination; includes cable ties for 5 ... 10 mm shield diameter;  
60 mm long

| Item No. | PU       |
|----------|----------|
| 709-350  | 100 (25) |

Shield termination; includes cable ties for 5 ... 10 mm shield diameter;  
150 mm long

| Item No. | PU       |
|----------|----------|
| 709-352  | 100 (25) |



Insert the shield termination into the female plug using the operating tool.



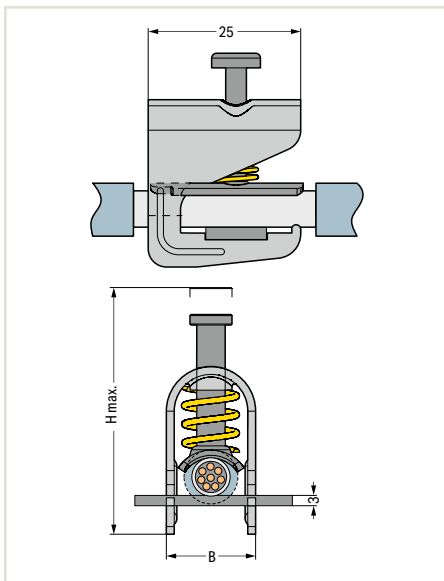
Fit the shield termination to the shield cable.



Secure both shield cable and shield termination to the strain relief plate using cable ties.














Shield termination connected to an X-COM® Female Plug



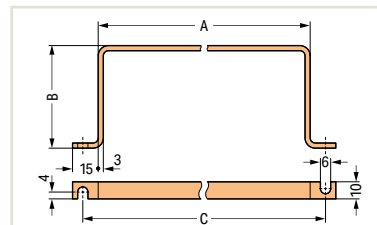
Dimensions in mm



# Accessories for Shield Connection Systems

| Item Description   |  |         |         | Item No.  | PU      |        |
|--|--|---------|---------|-----------|---------|--------|
| <br><br><br> | <b>Carrier with Grounding Foot</b>   |         |         |           |         |        |
|  | Carrier with grounding foot; busbar parallel to the rail; 15 mm long; copper (10 x 3) mm; suitable for shield clamping saddles (790-108)   |         | 790-110 |           | 25      |        |
|  | Carrier with grounding foot; busbar parallel to the rail; 25 mm long; copper (10 x 3) mm; suitable for shield clamping saddles (790-108; 790-116) and shield clamps (791-111; 791-117) |         | 790-112 |           | 25      |        |
|  | Carrier with grounding foot; busbar 90° to the DIN-rail; 45 mm long; copper (10 x 3) mm; suitable for shield clamping saddles (790 Series)   |         | 790-113 |           | 25      |        |
|   | Carrier with grounding foot; busbar parallel to the DIN-rail; 45 mm long; copper (10 x 3) mm; suitable for shield clamping saddles (790 Series) and shield clamps (791 Series)         |         | 790-114 |           | 25      |        |
|  | <b>Carrier with 2 Grounding Feet</b>   |         |         |           |         |        |
| <br>  | Carrier with 2 grounding feet; busbar parallel to the DIN-rail; 125 mm long; copper (10 x 3) mm  |         | 790-115 |           | 25      |        |
|  | <b>Busbar</b>  |         |         |           |         |        |
|  | Busbar; tin-plated; 1000 mm long; copper (10 x 3) mm   |         | 210-133 |           | 1       |        |
| Busbar; tin-plated; 30 mm long; copper (10 x 3) mm   |  | 790-133 |         | 20        |         |        |
| Busbar; tin-plated; 50 mm long; copper (10 x 3) mm   |  | 790-134 |         | 20        |         |        |
| <br>   | <b>DIN-Rail; Specialty Slotted</b>   |         |         |           |         |        |
|  | DIN-rail; specialty slotted; 1000 mm long; tin-plated  |         | 790-145 |           | 1       |        |
| Spacer sleeve; for DIN-rail; suitable for M5-size screw; specialty slotted   |  | 790-144 |         | 200 (100) |         |        |
|   | <b>Insulated Mounting Foot</b>   |         |         |           |         |        |
|  | Insulated mounting foot; for busbar with M4 x 8 mm screw   |         | 790-100 |           | 50 (25) |        |
| Insulated mounting foot; for busbar with (3.5 x 9) mm sheet metal screw  |  | 790-101 |         | 50 (25)   |         |        |
| <br>   | <b>U-Shaped Busbar; suitable for 750 Series I/O Modules</b>  |         |         |           |         |        |
|  |  | A       | B       | C         |         |        |
|  | U-shaped busbar; copper (10 x 3) mm; for 5 I/O   | 63      | 60      | 83        | 790-190 | 25 (5) |
|  | U-shaped busbar; copper (10 x 3) mm; for 8 I/O   | 100     | 60      | 118       | 790-191 | 25     |
|  | U-shaped busbar; copper (10 x 3) mm; for 5 I/O   | 63      | 35      | 83        | 790-192 | 25     |
| U-shaped busbar; copper (10 x 3) mm; for 8 I/O   | 100  | 35      | 118     | 790-193   | 25      |        |

Dimensions in mm

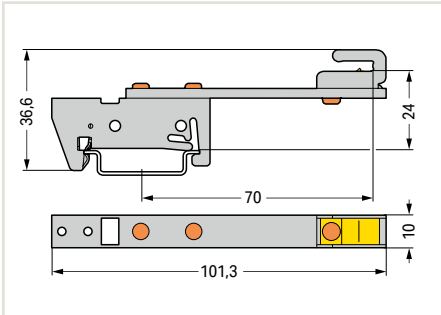


# Busbar Carriers

## 790 Series



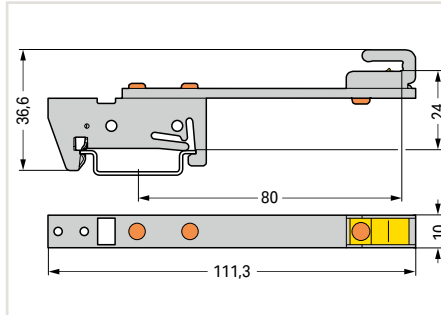
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-300  | 10 |

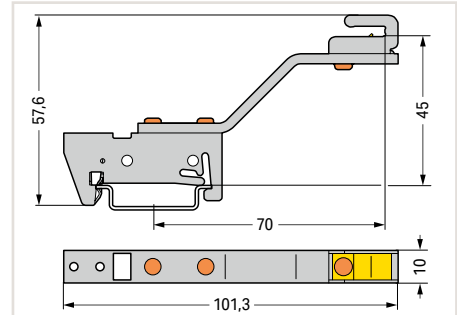
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-302  | 10 |

Dimensions in mm

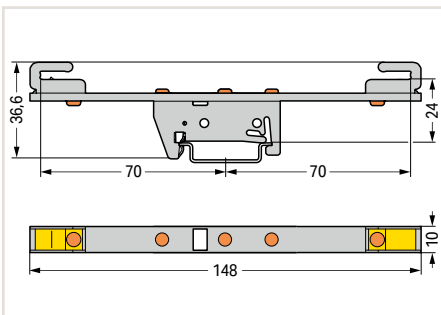


Busbar carrier; for (10 x 3) mm copper busbars; single side; angled; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-301  | 10 |



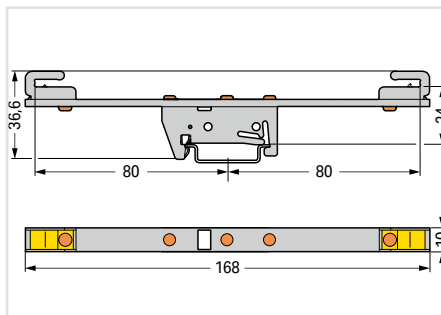
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-310  | 10 |

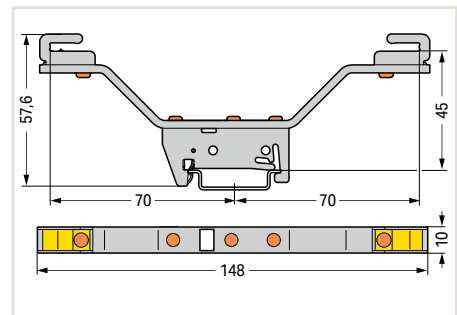
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-312  | 10 |

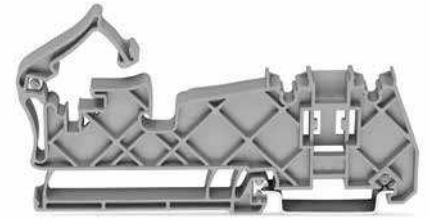
Dimensions in mm



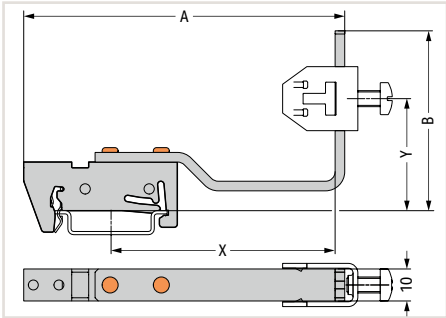
Busbar carrier; for (10 x 3) mm copper busbars; both sides; angled; snaps onto DIN-35 rail

| Item No. | PU |
|----------|----|
| 790-311  | 10 |

# Busbar Carriers 790 Series



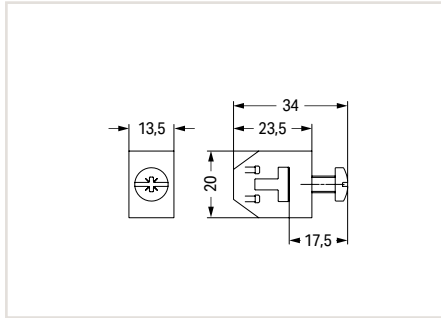
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; flexible; snaps onto DIN-35 rail

| Item No.        | PU |
|-----------------|----|
| 790-350/790-398 | 12 |
| 790-352/790-398 | 12 |
| 790-360/790-398 | 12 |
| 790-362/790-398 | 25 |

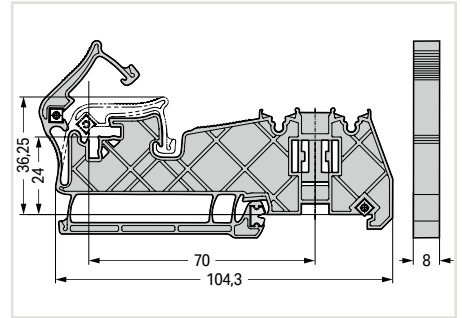
Dimensions in mm



T-connector; for (10 x 3) mm copper busbars

| Item No. | PU |
|----------|----|
| 790-398  | 10 |

Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; no contact to DIN-rail; insulated

| Color | Item No. | PU |
|-------|----------|----|
| gray  | 790-400  | 20 |

Dimensions in mm

| Item No.        | A   | B  | X  | Y       |
|-----------------|-----|----|----|---------|
| 790-350/790-398 | 100 | 56 | 70 | 15...52 |
| 790-352/790-398 | 100 | 99 | 70 | 15...92 |
| 790-360/790-398 | 115 | 56 | 85 | 15...52 |
| 790-362/790-398 | 115 | 99 | 85 | 15...92 |



Horizontal mounting position of the busbar



Horizontal mounting position of the busbar

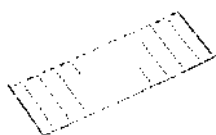


Vertical mounting position of the busbar



Vertical mounting position of the busbar

## Mini-WSB Marker Card; as Card and Mini-WSB Inline; for Smart Printer; on Reel



| Mini-WSB Marker Card; as card; not stretchable; plain; snap-on type |                 |    |
|---|-----------------|----|
| Color   | Item No.        | PU |
| white   | 248-501         | 5  |
| yellow  | 248-501/000-002 | 5  |
| red   | 248-501/000-005 | 5  |
| blue  | 248-501/000-006 | 5  |
| gray  | 248-501/000-007 | 5  |
| orange  | 248-501/000-012 | 5  |
| light green   | 248-501/000-017 | 5  |
| green   | 248-501/000-023 | 5  |
| violet  | 248-501/000-024 | 5  |

| Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 ... 5.2 mm; plain; snap-on type |          |    |
|--|----------|----|
| Color  | Item No. | PU |
| white  | 2009-145 | 1  |

| Mini-WSB Marker Card; as card; with marking; not stretchable; horizontal marking; snap-on type |                 |             |                 |    |
|--|-----------------|-------------|-----------------|----|
| Marking  | No. of Markings | Color       | Item No.        | PU |
| 0 V  | 100x            | blue        | 247-506/000-006 | 5  |
| 0 V  | 100x            | white       | 247-506         | 5  |
| -  | 100x            | blue        | 247-507/000-006 | 5  |
| -  | 100x            | white       | 247-507         | 5  |
| 24 V   | 100x            | red         | 247-508/000-005 | 5  |
| 24 V   | 100x            | white       | 247-508         | 5  |
| +  | 100x            | red         | 247-509/000-005 | 5  |
| +  | 100x            | white       | 247-509         | 5  |
| ⊕  | 100x            | light green | 247-552/000-017 | 5  |
| ⊕  | 100x            | white       | 247-552         | 5  |
| GND  | 100x            | light green | 248-578/000-017 | 5  |
| GND  | 100x            | white       | 248-578         | 5  |
| A0 A1 ... A8 A9  | 10x             | white       | 247-510         | 5  |
| E0 E1 ... E8 E9  | 10x             | white       | 247-511         | 5  |
| X0 X1 ... X8 X9  | 10x             | white       | 247-512         | 5  |
| 00 ... 09  | 10x             | white       | 247-513         | 5  |
| 10 ... 19  | 10x             | white       | 247-514         | 5  |
| 20 ... 29  | 10x             | white       | 247-515         | 5  |
| 30 ... 39  | 10x             | white       | 247-516         | 5  |
| 40 ... 49  | 10x             | white       | 247-517         | 5  |
| 50 ... 59  | 10x             | white       | 247-518         | 5  |
| 60 ... 69  | 10x             | white       | 247-519         | 5  |
| 70 ... 79  | 10x             | white       | 247-520         | 5  |
| 80 ... 89  | 10x             | white       | 247-521         | 5  |
| 90 ... 99  | 10x             | white       | 247-522         | 5  |
| 00 ... 49  | 2x              | white       | 247-523         | 5  |
| 50 ... 99  | 2x              | white       | 247-524         | 5  |
| 100 ... 149  | 2x              | white       | 247-525         | 5  |
| 150 ... 199  | 2x              | white       | 247-526         | 5  |
| 200 ... 249  | 2x              | white       | 247-527         | 5  |
| 250 ... 299  | 2x              | white       | 247-528         | 5  |
| 300 ... 349  | 2x              | white       | 247-529         | 5  |
| 350 ... 399  | 2x              | white       | 247-530         | 5  |
| 400 ... 449  | 2x              | white       | 247-531         | 5  |
| 450 ... 499  | 2x              | white       | 247-532         | 5  |
| 500 ... 549  | 2x              | white       | 247-533         | 5  |
| 550 ... 599  | 2x              | white       | 247-534         | 5  |
| 600 ... 649  | 2x              | white       | 247-535         | 5  |
| 650 ... 699  | 2x              | white       | 247-536         | 5  |
| 700 ... 749  | 2x              | white       | 247-537         | 5  |
| 750 ... 799  | 2x              | white       | 247-538         | 5  |
| 800 ... 849  | 2x              | white       | 247-539         | 5  |
| 850 ... 899  | 2x              | white       | 247-540         | 5  |
| 900 ... 949  | 2x              | white       | 247-541         | 5  |
| 950 ... 999  | 2x              | white       | 247-542         | 5  |
| .0 ... 7 / free  | 10x/20x         | white       | 247-543         | 5  |
| .0 ... 7 /-  | 10x/20x         | white       | 247-544         | 5  |
| .0 ... 7 /-  | 10x/20x         | blue        | 247-544/000-006 | 5  |
| .0 ... 7 /+  | 10x/20x         | white       | 247-545         | 5  |
| .0 ... 7 /+  | 10x/20x         | red         | 247-545/000-005 | 5  |
| .0 ... 7 /N  | 10x/20x         | white       | 247-546         | 5  |
| .0 ... 7 /N  | 10x/20x         | blue        | 247-546/000-006 | 5  |
| .0 ... 7 /L  | 10x/20x         | white       | 247-547         | 5  |

# Marker Card and Group Marker Carrier



Figure: 750-103

| Marker Card; as DIN A4 sheet; plain |          |    |
|-------------------------------------|----------|----|
|                                     | Item No. | PU |
|                                     | 750-100  | 1  |

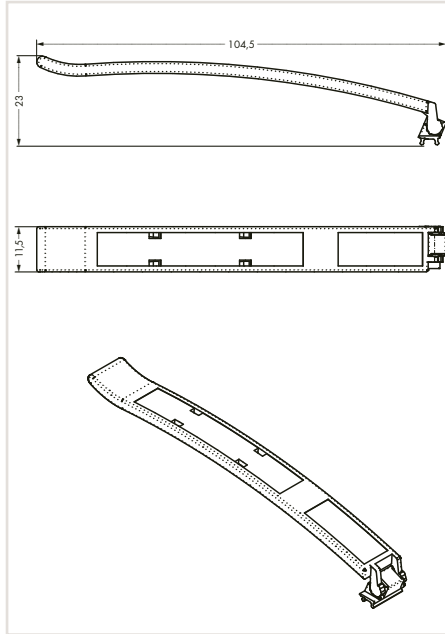


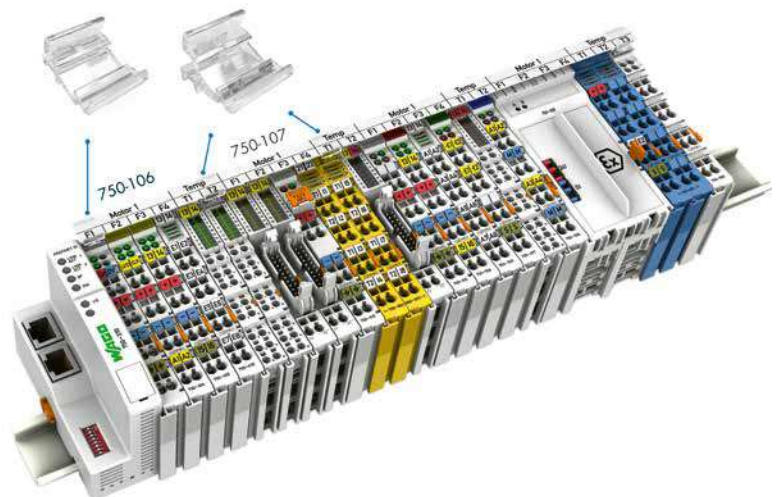
Figure: 750-106

Figure: 750-107

| Item Description  |
|---|
| <b>Item No.</b>   |
| <b>Technical Data</b>   |
| Dimensions W x D  |
| Material  |
| Weight  |
| <b>For data sheet and additional information, see:</b>                                |
| <b>Accessories</b>  |
| Marking strip; on reel; 7.5 mm wide; not stretchable; plain, snap-on type             |
| Marker Card; as DIN A4 sheet; plain   |
| Marking strip; on reel; not stretchable; plain; snap-on type                          |
| WMB Inline; for Smart Printer; on reel; stretchable 5 ... 5.2 mm; plain; snap-on type |

| Group Marker Carrier |
|----------------------|
| <b>Item No.</b>      |
| 750-103              |
| 11.5 x 104.5 mm      |
| Polycarbonate        |
| 2.84 g               |
| wago.com/750-103     |
| <b>Item No.</b>      |
| 709-178              |
| 750-105              |

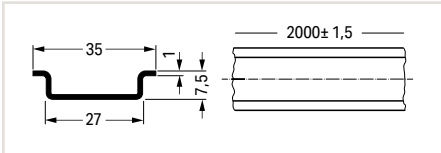
| Group Marker Carrier |                  |
|----------------------|------------------|
| 4 LEDs (max.)        | 8/16 LEDs (max.) |
| 750-106              | 750-107          |
| Polycarbonate        |                  |
| 0.4 g                |                  |
| wago.com/750-106     | wago.com/750-107 |
| <b>Item No.</b>      |                  |
| 2009-110             |                  |
| 2009-115             |                  |



# Steel DIN-Rails 210 Series



Dimensions in mm

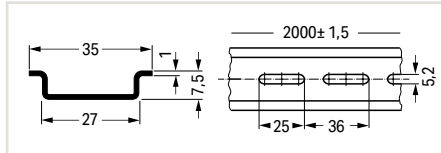


Steel DIN-rail; unslotted;  
IN 76 A (based on 1 m length);  
35 x 7.5 mm; 1 mm thick; 2 m long

|                                       | Item No. | PU |
|---------------------------------------|----------|----|
| Per EN 60715                          | 210-113  | 10 |
| Continuously galvanized; per EN 60715 | 210-505  | 1  |



Dimensions in mm

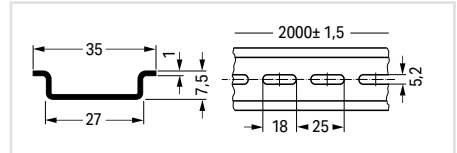


Steel DIN-rail; slotted;  
IN 76 A (based on 1 m length);  
35 x 7.5 mm; 1 mm thick; 2 m long;  
25 mm hole width; 36 mm hole spacing

|                                       | Item No. | PU     |
|---------------------------------------|----------|--------|
| Per EN 60715                          | 210-112  | 10 (1) |
| Continuously galvanized; per EN 60715 | 210-504  | 1      |



Dimensions in mm

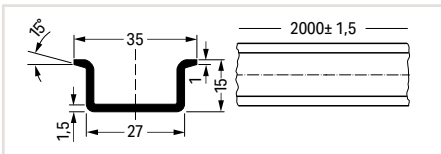


Steel DIN-rail; slotted;  
IN 76 A (based on 1 m length);  
35 x 7.5 mm; 1 mm thick; 2 m long;  
18 mm hole width; 25 mm hole spacing

|              | Item No. | PU |
|--------------|----------|----|
| Per EN 60715 | 210-115  | 1  |

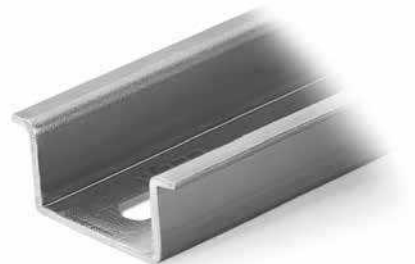


Dimensions in mm

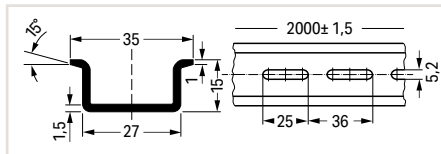


Steel DIN-rail; unslotted;  
IN 125 A (based on 1 m length);  
35 x 15 mm; 1.5 mm thick; 2 m long

|  | Item No. | PU |
|--|----------|----|
| Similar to EN 60715                          | 210-114  | 10 |
| Continuously galvanized; similar to EN 60715 | 210-506  | 1  |



Dimensions in mm

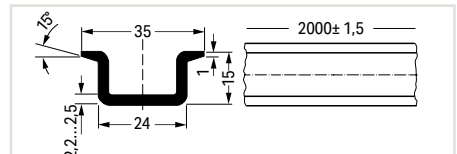


Steel DIN-rail; slotted;  
IN 125 A (based on 1 m length);  
35 x 15 mm; 1.5 mm thick; 2 m long;  
25 mm hole width; 36 mm hole spacing

|  | Item No. | PU |
|--|----------|----|
| Similar to EN 60715                          | 210-197  | 10 |
| Continuously galvanized; similar to EN 60715 | 210-508  | 1  |



Dimensions in mm



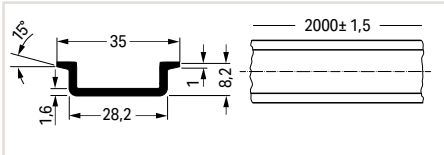
Steel DIN-rail; unslotted;  
IN 125 A (based on 1 m length);  
35 x 15 mm; 2.3 mm thick; 2 m long

|              | Item No. | PU |
|--------------|----------|----|
| Per EN 60715 | 210-118  | 10 |

# Aluminum DIN-Rail; Copper DIN-Rail; Angled Support Bracket; Rail End Cap 210 Series



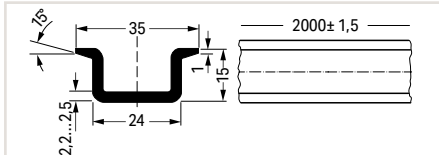
Dimensions in mm



Aluminum DIN-rail; unslotted;  
IN 76 A (based on 1 m length);  
35 x 8.2 mm; 1.6 mm thick; 2 m long

|                     | Item No. | PU |
|---------------------|----------|----|
| Similar to EN 60715 | 210-196  | 10 |

Dimensions in mm

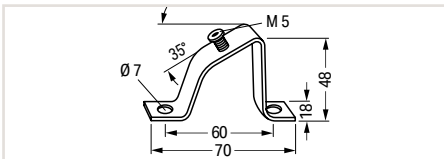


Copper DIN-rail; unslotted;  
IN 309 A (based on 1 m length);  
35 x 15 mm; 2.3 mm thick; 2 m long

|              | Item No. | PU |
|--------------|----------|----|
| Per EN 60715 | 210-198  | 10 |



Dimensions in mm



Angled support bracket

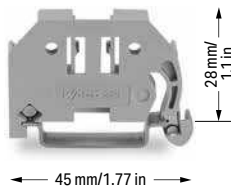
|               | Item No. | PU       |
|---------------|----------|----------|
| Without screw | 210-148  | 10       |
| Screw M5 x 8  | 210-149  | 100 (20) |



Rail end cap;  
for DIN-35 rail (7.5 mm high)

| Color | Item No. | PU      |
|-------|----------|---------|
| gray  | 209-109  | 50 (25) |

## Screwless End Stops 249 Series



Screwless end stop; 6 mm wide

| Color | Item No. | PU       |
|-------|----------|----------|
| gray  | 249-116  | 100 (25) |

Screwless end stop; 10 mm wide

| Color | Item No. | PU      |
|-------|----------|---------|
| gray  | 249-117  | 50 (25) |



Screwless end stop; 14 mm wide

| Color | Item No. | PU |
|-------|----------|----|
| gray  | 249-197  | 10 |

Snap on – that's it! Assembling the new WAGO Screwless End Stop is as simple and quick as snapping a WAGO Rail-Mount Terminal Block onto the DIN-rail.

### Tool free!

A tool-free design allows rail-mount terminal blocks to be safely and economically secured against any movement on all DIN-35 rails per DIN EN 50022 (35 x 7.5 mm; 35 x 15 mm).

### Screwless!

The "secret" to a perfect fit lies in the two small clamping plates which keep the end stop in position, even if the rails are mounted vertically.

### Simply snap on – that's it!

In addition, costs are significantly reduced when using large numbers of end stops.

Additional benefit: Three marker slots for all WAGO Rail-Mount Terminal Block Marking Systems and one snap-in hole for WAGO's adjustable height group marker carriers offer individual marking options.



Snapping an end stop onto the DIN-rail.



Removing an end stop from the DIN-rail.



# Operating Tools and Cable Cutter 210 and 206 Series



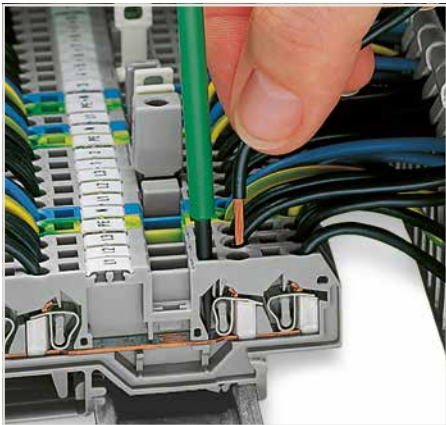
| Operating tool with a partially insulated shaft;<br>Type 1; (2.5 x 0.4) mm blade |        |  |
|--|--------|--|
| Item No.   | PU     |  |
| 210-719  | 50 (1) |  |

| Set of operating tools with a partially insulated shaft;<br>Type 1; (2.5 x 0.4) mm blade; Type 2; (3.5 x 0.5) mm<br>blade; Type 3; (5.5 x 0.8) mm blade |    |  |
|---|----|--|
| Item No.  | PU |  |
| 210-722   | 1  |  |

| Cable cutter;<br>for copper and aluminum cables up to 35 mm <sup>2</sup> |    |  |
|--|----|--|
| Item No.   | PU |  |
| 206-118  | 1  |  |

| Operating tool with a partially insulated shaft;<br>Type 2; (3.5 x 0.5) mm blade |        |  |
|--|--------|--|
| Item No.   | PU     |  |
| 210-720  | 50 (1) |  |

| Operating tool with a partially insulated shaft;<br>Type 3; (5.5 x 0.8) mm blade |        |  |
|--|--------|--|
| Item No.   | PU     |  |
| 210-721  | 25 (1) |  |



The blade dimensions of the above-listed operating tools with a partially insulated shaft are ideal for easy operation of front-entry terminal blocks.



Cutting a cable.

# Cable Knife 206 Series



Cable knife; for Ø 8 ... 28 mm / 0.31 ... 1.10 inch; with a unique, changeable cable bracket system; including cable bracket

| Item No. | PU |
|----------|----|
| 206-1403 | 1  |



Cable knife set; for Ø 4 ... 70 mm / 0.16 ... 2.75 inch; including all cable brackets in a Sortimo® Box

| Item No. | PU |
|----------|----|
| 206-1400 | 1  |

Never use this tool on or near live electrical circuits!



To replace the cable bracket, use the new bracket as an operating tool and pull it upwards.

### Item-Specific Accessories

Cable bracket; for Ø 4 ... 16 mm / 0.16 ... 0.63 inch

|          |   |
|----------|---|
| 206-1411 | 1 |
|----------|---|

Cable bracket; for Ø 8 ... 28 mm / 0.31 ... 1.10 inch

|          |   |
|----------|---|
| 206-1412 | 1 |
|----------|---|

Cable bracket; for Ø 27 ... 35 mm / 1.06 ... 1.38 inch

|          |   |
|----------|---|
| 206-1413 | 1 |
|----------|---|

Cable bracket; for Ø 35 ... 50 mm / 1.38 ... 1.97 inch

|          |   |
|----------|---|
| 206-1414 | 1 |
|----------|---|

Cable bracket; for Ø 50 ... 70 mm / 1.97 ... 2.75 inch

|          |   |
|----------|---|
| 206-1415 | 1 |
|----------|---|

### Accessories

Spare inside blade

|          |   |
|----------|---|
| 206-1418 | 1 |
|----------|---|

Spare hook blade

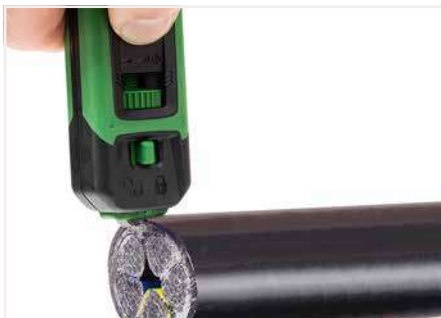
|          |   |
|----------|---|
| 206-1419 | 1 |
|----------|---|



The cutting depth of the hook blade can be adjusted with the slider.



The cutting depth of the inner knife can be adjusted with the screw.



Strip large cross sections with the hook blade.



Release the fuse before using the hook blade.

## Cable Strippers

### 206 Series



In-socket cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

| Item No. | PU |
|----------|----|
| 206-1441 | 1  |



Universal cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

| Item No. | PU |
|----------|----|
| 206-1442 | 1  |



Data cable stripper; for Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch

| Item No. | PU |
|----------|----|
| 206-1451 | 1  |



#### Product features:

- Extra-long design and improved force transmission simplifies stripping in deep device connection sockets
- Special four-blade design for an even more precise round cut
- No cutting depth adjustment required
- TiN-coated blades, TÜV/GS tested
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch
- Strips all standard round cables, including NYM 3 x 1.5 mm<sup>2</sup>/16 AWG ... 5 x 2.5 mm<sup>2</sup>/14 AWG



#### Sheath stripping: longitudinal cut

#### Product features:

- Secure grip achieved with soft padding for non-slip grips
- Enhanced functionality
- New locking mechanism prevents the unwanted opening of the tool
- Absolutely straightforward, quick and easy longitudinal cuts – with innovative internal cable duct
- Redesigned blade layout and intake to stop cable waste from jamming the tool
- Durable and ergonomically designed pocket clip
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch



#### Product features:

- Strip outer insulation and foil sheathing with one tool
- Ideal for stripping PVC-insulated data cables with thin insulation (e.g., Cat. 5, Cat. 6, Cat. 7, twisted pair cable)
- TiN-coated blades
- Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch



Stripping a cable sheath.



Built-in handy knife



Stripping the conductor insulation.

# Stripping Pliers 206 Series



Never use this tool on or near live electrical circuits!

The stripping pliers for sensor cables have a blade geometry specially designed for sensor cables with a smaller cross-section and a working range from Ø 3.2 mm / 0.13 inch (for stranded cables and round cables with Ø 3.2 mm ... 4.4 mm / 0.13 ... 0.17 inch).

The stripping pliers for control cables are designed for stronger cables from Ø 4.4 mm / 0.17 inch (for stranded cables and round cables with Ø 4.4 mm ... 7 mm / 0.17 ... 0.27 inch).

These stripping pliers quickly and safely strip cables for connecting, e.g., sensor/actuator distribution boxes, bus couplers and pluggable connectors.

Suitable for:

- Halogen-free PUR sensor/actuator cables
- Highly flexible TPE-U cables
- Control cables
- PUR cables
- PUR/PVC cables
- PVC cables
- Multi-core cables
- Shielded and unshielded cables

| Stripping pliers; for sensor cables;<br>for Ø 3.2 ... 4.4 mm / 0.13 ... 0.17 inch |    |  |
|---|----|--|
| Item No.  | PU |  |
| 206-1481  | 1  |  |

| Stripping pliers; for control cables;<br>for Ø 4.4 ... 7 mm / 0.17 ... 0.27 inch |    |  |
|--|----|--|
| Item No.   | PU |  |
| 206-1482   | 1  |  |

| Item-Specific Accessories  |  |  |
|--|--|--|
| Replacement blade set; for Ø 3.2 ... 4.4 mm / 0.13 ... 0.17 inch |  |  |

|          |   |  |
|----------|---|--|
| 206-1491 | 1 |  |
|----------|---|--|

| Item-Specific Accessories                                      |  |  |
|--|--|--|
| Replacement blade set; for Ø 4.4 ... 7 mm / 0.17 ... 0.27 inch |  |  |

|          |   |  |
|----------|---|--|
| 206-1492 | 1 |  |
|----------|---|--|



## Wire Stripper 206 Series



Wire stripper "Quickstrip Vario"; 0.03 ... 16 mm<sup>2</sup> / 34 ... 6 AWG; with wire cutter

| Item No. | PU |
|----------|----|
| 206-1125 | 1  |

### Accessories

Blade set; Standard; 0.03 ... 16 mm<sup>2</sup> / 34 ... 6 AWG

206-1126 1



Blade set; V-blade; 0.14 ... 4 mm<sup>2</sup> / 24 ... 12 AWG

206-1127 1



Blade set; Oval blade; 10 ... 16 mm<sup>2</sup> / 8 ... 6 AWG

206-1128 1



Spare stripping stop

206-1129 1



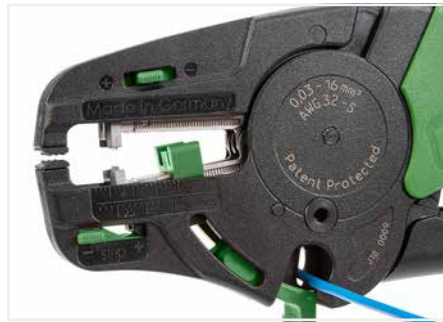
Spare cut protector

206-1131 1



Spare clamping jaws

206-1132 1



Cutting a conductor.



Partially stripping a conductor.

### Wire Stripper:

- Automatically adjust to conductor size
- Stripping blades don't damage conductor strands
- Gripping pressure of jaws adjusts automatically to conductor insulation diameter
- Clamping jaws and stripping blades automatically open once the stripping process is completed – no splaying of the conductor strands
- Exact strip length may be set by sliding black setting stop
- Stripping blades can be replaced
- Self-sharpening, fully protected cutter (replaceable)
- Entire body made of glass-fiber-reinforced polyamide
- Cutting capacity of the wire cutter of fine-stranded conductors up to 16 mm<sup>2</sup> (6 AWG)

# Crimping Tools 206 Series



"Variocrimp 4" crimping tool; for insulated and uninsulated ferrules; crimping range: 0.25 ... 4 mm<sup>2</sup> (24 ... 12 AWG)


|  | Item No. | PU |
|--|----------|----|
|  | 206-1204 | 1  |

"Variocrimp 16" crimping tool; for insulated and uninsulated ferrules; crimping range: 6 mm<sup>2</sup> (10 AWG), 10 mm<sup>2</sup> (8 AWG) and 16 mm<sup>2</sup> (6 AWG)


|  | Item No. | PU |
|--|----------|----|
|  | 206-1216 | 1  |

**Item-Specific Accessories**

**Spring clamp; large**


|  |          |   |
|--|----------|---|
|  | 206-1205 | 1 |
|--|----------|---|

**Spring clamp; small**

|   |          |   |
|---|----------|---|
|  | 206-1206 | 1 |
|---|----------|---|

**Item-Specific Accessories**

**Spring clamp; small**

|   |          |   |
|---|----------|---|
|  | 206-1206 | 1 |
|---|----------|---|

**Application notes:**

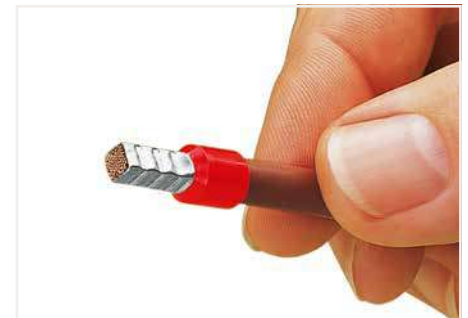
- The built-in crimping pressure control of "Variocrimp 4" automatically adjusts the crimping force to the conductor cross-section. Select the wire gauge on "Variocrimp 16" before crimping.
- Only one crimping station is needed to handle the specified conductor range.
- Uniform, compact crimping on all four sides for high conductor retention.
- No need to center the ferrules into the terminal blocks.
- Crimping can be performed from either side (for left- or right-handed users).
- Built-in ratchet mechanism ensures gas-tight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Ergonomically designed handles.



Insert the ferruled conductor into the crimping station.



Squeeze handles until ratchet mechanism is released.



A perfect gas-tight crimp – both electrically and mechanically reliable



Only for "Variocrimp 16":  
Adjust conductor cross-section with crimping tool in open position.

# Crimping Tools 206 Series



Crimping tool 25; for insulated and uninsulated ferrules; crimping range: 10 mm<sup>2</sup> (8 AWG), 16 mm<sup>2</sup> (6 AWG) and 25 mm<sup>2</sup> (4 AWG)

| Item No. | PU |
|----------|----|
| 206-1225 | 1  |

Crimping tool 50; for insulated and uninsulated ferrules; crimping range: 35 mm<sup>2</sup> (2 AWG) and 50 mm<sup>2</sup> (1/0 AWG)

| Item No. | PU |
|----------|----|
| 206-1250 | 1  |

**Application notes:**

- Improved crimping for higher conductor retention
- Crimping can be performed from either side (for left- or right-handed users).
- Built-in ratchet mechanism ensures gas-tight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Ergonomically designed handles.



Insert the ferruled conductor into the crimping station.



Squeeze handles until ratchet mechanism is released.

**What is a "gas-tight" connection?**

In a gas-tight connection, the conductor and the ferrule are compressed, eliminating all spaces. Under normal atmospheric conditions, neither a liquid nor gaseous medium can penetrate the crimped connection. Oxidation between crimped single conductors is prevented, virtually eliminating the possibility of any increase in the crimped connection's resistance. In some exceptional cases, minute, isolated spaces may be present. However, these instances can be considered as closed off due to the twisted conductor. Inadequate crimping can allow the conductor to be pulled out of the connection. Hollow spaces also remain, permitting oxidation formation and an increase in contact resistance.

Elevated resistance is detrimental for both signal transmission (signal flow is damped) and power transmission, resulting in power loss and contact heating (risk of fire). Crimping tools with built-in ratchets are recommended (e.g., WAGO Crimping Tools). These tools open automatically after the crimping operation is complete. Space-saving crimping from all four sides is ideal for spring clamp termination. Ferruled conductor cross-sections specified for WAGO products are based on this crimping method.

# Test and Measurement Devices

## 206 Series



**Profi-LCD+; 2-pole voltage tester with LCD display; removable 4 mm Ø test probes**

| Item No. | PU |
|----------|----|
| 206-707  | 1  |



**Profi-LED+; 2-pole voltage tester with LED display; removable 4 mm Ø test probes**

| Item No. | PU |
|----------|----|
| 206-706  | 1  |



**Spare test probes; 4 mm Ø (2 pieces)**

| Item No. | PU |
|----------|----|
| 206-808  | 25 |



- Additional Profi-LCD+ features:**
- Automatic measurement range selection
  - Single-pole phase testing AC > 100 V
  - Two-pole sequence testing (R and L)
  - Continuity testing
  - RDC/RCD testing (30 mA) via buttons
  - One-hand operation for SCHUKO® and CEE sockets
  - LED torch lamp function
  - Automatic backlight
  - Auto power-off function
  - CAT IV 1000 V
  - TÜV/GS tested and approved
  - IEC/EN 61243-3 (DIN VDE 0682-401)



- Additional Profi-LED+ features:**
- Automatic measurement range selection
  - Single-pole phase testing AC > 100 V
  - Two-pole sequence testing (R and L)
  - Continuity testing
  - RDC/RCD testing (30 mA) via buttons
  - One-hand operation for SCHUKO® and CEE sockets
  - LED torch lamp function
  - CAT IV 1000 V
  - TÜV/GS tested and approved
  - IEC/EN 61243-3 (DIN VDE 0682-401)



- Profi-LED+:**
- Improved socket contact via 4 mm Ø test probes
  - Removable test probes for small test ports (suitable for all WAGO Terminal Blocks)





## Test and Measurement Devices

### 206 Series



Testboy; with integrated flashlight, non-contact voltage tester

| Item No. | PU |
|----------|----|
| 206-804  | 1  |



A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets and other installations.

Testboy can detect the following:





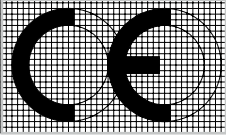

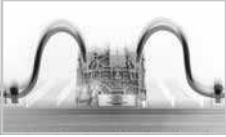

- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights



**Technical Section**

# Technical Section











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|    | <b>Operating WAGO Connection Technologies</b><br><br>748  |
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|    | <b>General Technical Information<br/>for Electrical Equipment Used in Hazardous Areas</b><br><br>751                  |
| <p>Immunity Standard for<br/>Industrial Environments<br/>Testing<br/>EN 61000-4-2: ESD</p>  | <b>Electromagnetic Compatibility and Mechanical Strength<br/>(Industrial and Residential Environments)</b><br><br>752 |
| <p>Immunity Standard for<br/>Marine Environments<br/>Testing<br/>EN 61000-4-2: ESD</p>  | <b>Electromagnetic Compatibility and Mechanical Strength<br/>(Marine Environments)</b><br><br>753                     |
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# Approvals Overview

## Controllers – PFC100/200, PFC200 XTR, Controllers 750

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|   | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                                  | Item Description                    | ATEX/IECEX | BRA-Ex | HazLoc | RINA | PRS | NK               | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|---|-------------------------------------|------------|--------|--------|------|-----|------------------|----|----|-----|----|-----|--------|----------|
| <b>PFC100/PFC200 <sup>1)</sup></b>        |                                     |            | Ex     |        |      |     | Marine Approvals |    |    |     |    |     | UL     |          |
| 750-8100                                  | PFC100; 2ETH; Eco                   | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 116      |
| 750-8101                                  | PFC100; 2ETH                        | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 117      |
| 750-8102                                  | PFC100; 2ETH RS                     | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 118      |
| 750-8208                                  | PFC200; 2ETH RS CAN DPM             | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 129      |
| 750-8210                                  | PFC200; G2; 4ETH                    | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 119      |
| 750-8211                                  | PFC200; G2; 2ETH 2SFP               | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 120      |
| 750-8212                                  | PFC200; G2; 2ETH RS                 | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 121      |
| 750-8213                                  | PFC200; G2; 2ETH CAN                | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 123      |
| 750-8214                                  | PFC200; G2; 2ETH RS CAN             | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 124      |
| 750-8215                                  | PFC200; G2; 4ETH CAN USB            | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 125      |
| 750-8216                                  | PFC200; G2; 2ETH RS CAN DPS         | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 126      |
| 750-8217                                  | PFC200; G2; 2ETH RS; 4G             | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 127      |
| <b>PFC200 XTR <sup>1)</sup></b>           |                                     |            |        |        |      |     |                  |    |    |     |    |     |        |          |
| 750-8210/040-000                          | PFC200; G2; 4ETH; XTR               | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 136      |
| 750-8211/040-000                          | PFC200; G2; 2ETH 2SFP; XTR          | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 137      |
| 750-8212/040-000                          | PFC200; G2; 2ETH RS; XTR            | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 138      |
| 750-8212/040-001                          | PFC200; G2; 2ETH RS; Tele; XTR      | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 138      |
| 750-8212/040-010                          | PFC200 G2 2ETH M12 RS; XTR          | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 139      |
| 750-8213/040-010                          | PFC200 G2 2ETH M12 CAN; XTR         | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 140      |
| 750-8216/040-000                          | PFC200; G2; 2ETH RS CAN DPS; XTR    | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 141      |
| <b>Basic Controller 100 <sup>1)</sup></b> |                                     |            |        |        |      |     |                  |    |    |     |    |     |        |          |
| 750-8000                                  | Basic Controller 100; 2ETH; ECO     | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 148      |
| 750-8001                                  | Basic Controller 100; 2ETH          | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 149      |
| <b>Controllers 750 <sup>1)</sup></b>      |                                     |            |        |        |      |     |                  |    |    |     |    |     |        |          |
| 750-806                                   | Controller DeviceNet                | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 169      |
| 750-815/300-000                           | Controller Modbus®; RS485; 115.2kBd | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 166      |
| 750-816/300-000                           | Controller Modbus®; RS232; 115.2kBd | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 167      |
| 750-823                                   | Controller EtherNet/IP; Eco         | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 160      |
| 750-829                                   | Controller BACnet MS/TP             | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 164      |
| 750-832                                   | Controller BACnet/IP; G4; 2xETH; SD | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 163      |
| 750-833                                   | Controller PROFIBUS Slave           | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 168      |
| 750-837                                   | Controller CANopen; M1; MCS         | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 170      |
| 750-838                                   | Controller CANopen; M1; DSub        | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 171      |
| 750-842                                   | Controller ETHERNET; G1             | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 161      |
| 750-843                                   | Controller ETHERNET; G1; Eco        | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 162      |
| 750-862                                   | Controller Modbus TCP; G4; Eco      | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 158      |
| 750-889                                   | Controller KNX/IP                   | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 165      |
| 750-890                                   | Controller Modbus TCP; G4; SD       | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 156      |
| 750-891                                   | Controller Modbus TCP; G4           | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 157      |
| 750-893                                   | Controller EtherNet/IP; SD          | ■          | ■      | ■      | ■    | ■   | ■                | ■  | ■  | ■   | ■  | ■   | ■      | 159      |

<sup>1)</sup> Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Controllers 750 XTR; Fieldbus Couplers – I/O System 750; Fieldbus Connectors

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

| Item No.  | Item Description                                   | ATEX/IECEX | BRA-Ex | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|---|--|------------|--------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Controllers 750 XTR <sup>1)</sup></b>              |  |            |        |        |      |     |    |    |    |     |    |     |        |          |
| 750-838/040-000                                       | Controller CANopen; M3 DSub XTR                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 168      |
| 750-890/040-000                                       | Controller Modbus TCP; G4; SD; XTR                 | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 166      |
| <b>Fieldbus Couplers I/O System 750 <sup>1)</sup></b> |  |            |        |        |      |     |    |    |    |     |    |     |        |          |
| 750-303   | FC PROFIBUS; G1; 12MBd                             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 204      |
| 750-304   | FC INTERBUS  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 223      |
| 750-306   | FC DeviceNet                                       | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 217      |
| 750-310   | FC CC-Link   | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 225      |
| 750-315/300-000                                       | FC Modbus®; RS485; 115.2kBd                        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 215      |
| 750-316/300-000                                       | FC Modbus®; RS232; 115.2kBd                        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 216      |
| 750-325   | FC CC-Link   | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 226      |
| 750-331   | FC PROFIBUS; FOC; 1.5MBd                           | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 207      |
| 750-332   | FC BACnet/IP                                       | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 212      |
| 750-333   | FC PROFIBUS; G2; 12MBd                             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 205      |
| 750-337   | FC CANopen; MCS                                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 219      |
| 750-338   | FC CANopen; DSub                                   | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 220      |
| 750-342   | FC ETHERNET; G1                                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 211      |
| 750-343   | FC PROFIBUS; 12MBd; Eco                            | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 206      |
| 750-344   | FC INTERBUS; 500kbit/s; Eco                        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 224      |
| 750-346   | FC DeviceNet; Eco                                  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 218      |
| 750-347   | FC CANopen; MCS; Eco                               | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 221      |
| 750-348   | FC CANopen; DSub; Eco                              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 222      |
| 750-354   | FC EtherCAT®                                       | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 213      |
| 750-362   | FC Modbus TCP; G4                                  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 208      |
| 750-363   | FC EtherNet/IP™                                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 210      |
| 750-366   | FC EtherNet/IP™; G4; DLR                           | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 209      |
| 750-375   | FC PROFINET; G3; Adv                               | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 202      |
| 750-377   | FC PROFINET; G3; Eco; Adv                          | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 203      |
| <b>Fieldbus Connectors</b>                            |  |            |        |        |      |     |    |    |    |     |    |     |        |          |
| 750-960   | Fieldbus Connector PROFIBUS; D-Sub; 9 Poles        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 691      |
| 750-961   | Fieldbus Connector INTERBUS (IN); D-Sub; 9 Poles   | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 694      |
| 750-962   | Fieldbus Connector INTERBUS (OUT); D-Sub; 9 Poles  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 694      |
| 750-963   | Fieldbus Connector CANopen; D-Sub; 9 Poles         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 693      |
| 750-965   | Fieldbus Connector CC-Link; D-Sub; 9 Poles         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 695      |
| 750-975   | ETHERNET Connector; RJ-45; Cat. 5; Straight; T568A | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 685      |
| 750-976   | PROFINET Connector; RJ-45; Cat. 5; Straight        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 689      |

<sup>1)</sup> Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Digital Input Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |











| Item No.              | Item Description                     | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|-----------------------|--------------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| Digital Input Modules |                                      | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-400               | 2DI; 24 VDC; 3ms                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 233      |
| 750-401               | 2DI; 24 VDC; 0.2ms                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 243      |
| 750-402               | 4DI; 24 VDC; 3ms                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 234      |
| 750-403               | 4DI; 24 VDC; 0.2ms                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 244      |
| 750-405               | 2DI; 230 VAC                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 273      |
| 750-406               | 2DI; 120 VAC                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 272      |
| 750-407               | 2DI; 220 VDC                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 271      |
| 750-408               | 4DI; 24 VDC; 3ms; LSS                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 250      |
| 750-409               | 4DI; 24 VDC; 0.2ms; LSS              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 256      |
| 750-410               | 2DI; 24 VDC; 3ms; Proxi Sensor       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 260      |
| 750-411               | 2DI; 24 VDC; 0.2ms; Proxi Sensor     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 261      |
| 750-412               | 2DI; 48 VDC; 3ms                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 268      |
| 750-414               | 4DI; 5 VDC; 0.2ms                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 230      |
| 750-415               | 4DI; 24 VAC/VDC; 20ms                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 266      |
| 750-418               | 2DI; 24 VDC; 3ms; Acknol; Diagn      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 232      |
| 750-421               | 2DI; 24 VDC; 3ms; Diagn              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 232      |
| 750-422               | 4DI; 24 VDC; Pulse Extention         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 264      |
| 750-423               | 4DI; 24 VAC/VDC; 50ms                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 265      |
| 750-424               | 2DI; Intruder Detection              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 263      |
| 750-425               | 2DI; NAMUR                           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 262      |
| 750-427               | 2DI; 110 VDC                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 270      |
| 750-428               | 4DI; 42 VAC/VDC; 20ms                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 267      |
| 750-430               | 8DI; 24 VDC; 3ms                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 237      |
| 750-431               | 8DI; 24 VDC; 0.2ms                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 247      |
| 750-432               | 4DI; 24 VDC; 3ms; 2-wire             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 235      |
| 750-433               | 4DI; 24 VDC; 0.2ms                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 245      |
| 750-435 <sup>2)</sup> | 1DI; NAMUR; Ex i                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 433      |
| 750-436               | 8DI; 24 VDC; 3ms; LSS                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 252      |
| 750-437               | 8DI; 24 VDC; 0.2ms; LSS              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 258      |
| 750-438 <sup>2)</sup> | 2DI; NAMUR; Ex i                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 434      |
| 750-439 <sup>2)</sup> | 8DI; NAMUR; Ex i                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 435      |
| 750-1400              | 16DI; 24 VDC; 3ms; Ribbon Cable      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 240      |
| 750-1402              | 16DI; 24 VDC; 3ms; LSS; Ribbon Cable | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 255      |
| 750-1405              | 16DI; 24 VDC; 3ms                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 239      |
| 750-1406              | 16DI; 24 VDC; 0.2ms                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 249      |
| 750-1407              | 16DI; 24 VDC; 3ms; LSS               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 254      |
| 750-1415              | 8DI; 24 VDC; 3ms; 2-wire             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 238      |
| 750-1416              | 8DI; 24 VDC; 0.2ms; 2-wire           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 248      |
| 750-1417              | 8DI; 24 VDC; 3ms; LSS; 2-wire        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 253      |
| 750-1418              | 8DI; 24 VDC; 0.2ms; LSS; 2-wire      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 259      |
| 750-1420              | 4DI; 24 VDC; 3ms; 3-wire             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 236      |
| 750-1421              | 4DI; 24 VDC; 0.2ms; 3-wire           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 246      |
| 750-1422              | 4DI; 24 VDC; 3ms; LSS; 3-wire        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 251      |
| 750-1423              | 4DI; 24 VDC; 0.2ms; LSS; 3-wire      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 257      |
| 750-1425              | 8DI; PTC                             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 275      |
| 753-429               | 2DI; 60 VDC; 3ms                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 269      |
| 753-434               | 8DI; 5/12 VDC; 0.2ms                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 231      |
| 753-440               | 4DI; 120/230 VAC                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 274      |

<sup>1)</sup>Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.  
<sup>2)</sup>This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!  
 ■ Approval is available. □ Approval is pending.

# Approvals Overview

## Digital Output Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|   | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.               | Item Description                               | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|------------------------|--|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| Digital Output Modules |  | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-501                | 2DO; 24 VDC; 0.5A                              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 280      |
| 750-502                | 2DO; 24 VDC; 2A                                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 282      |
| 750-504                | 4DO; 24 VDC; 0.5A                              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 284      |
| 750-506                | 2DO; 24 VDC; 0.5A; Diagn                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 281      |
| 750-508                | 2DO; 24 VDC; 2A; Diagn                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 283      |
| 750-509                | 2DO; 230 VAC; 0.3A; SSR                        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 302      |
| 750-512                | 2RO; 250 VAC; 2A; Relay2NO                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 305      |
| 750-513                | 2RO; 250 VAC; 2A; Potfree; Relay2NO            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 306      |
| 750-514                | 2RO; 125 VAC; 0.5A; Pot-free; Relay2CO         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 303      |
| 750-515                | 4RO; 250 VAC; 2A; Pot-free; Relay4NO           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 308      |
| 750-516                | 4DO; 24 VDC; 0.5A; LSS                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 287      |
| 750-517                | 2RO; 250 VAC; 1A; Potfree; Relay2CO            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 304      |
| 750-519                | 4DO; 5 VDC; 20mA                               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 278      |
| 750-523                | 1RO; 230 VAC; 16A; Pot-free; Relay1NO          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 309      |
| 750-527                | 4DO; 30V AC/DC; 2.0A; SSR                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 299      |
| 750-528                | 4DO; 30V AC/DC; 2.0A; SSR; Isolated            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 300      |
| 750-530                | 8DO; 24 VDC; 0.5A                              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 288      |
| 750-531                | 4DO; 24 VDC; 0.5A; 2-wire                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 285      |
| 750-532                | 4DO; 24 VDC; 0.5A; Diagn                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 286      |
| 750-534                | 8DO; 12 VDC; 1A                                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 279      |
| 750-535 <sup>2)</sup>  | 2DO; 24 VDC; Ex i                              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 436      |
| 750-536                | 8DO; 24 VDC; 0.5A; LSS                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 291      |
| 750-537                | 8DO; 24 VDC; 0.5A; Diagn                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 289      |
| 750-538 <sup>2)</sup>  | 2RO; 100 VAC/ 30 VDC; Pot-free; Relay2CO; Ex i | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 438      |
| 750-539 <sup>2)</sup>  | 4DO; 24 VDC; Valve; Ex i                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 437      |
| 750-1500               | 16DO; 24 VDC; 0.5A; Ribbon Cable               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 294      |
| 750-1501               | 16DO; 24 VDC; 0.5A; LSS; Ribbon Cable          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 298      |
| 750-1502               | 8DIO; 24 VDC; 0.5A; Ribbon Cable               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 296      |
| 750-1504               | 16DO; 24 VDC; 0.5A                             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 293      |
| 750-1505               | 16DO; 24 VDC; 0.5A; LSS                        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 297      |
| 750-1506               | 8DIO; 24 VDC; 0.5A                             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 295      |
| 750-1515               | 8DO; 24 VDC; 0.5A; 2-wire                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 290      |
| 750-1516               | 8DO; 24 VDC; 0.5A; LSS; 2-wire                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 292      |
| 753-540                | 4DO; 230 VAC; 0.25A; SSR                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 301      |

\*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

<sup>2)</sup> This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Analog Input Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                      | Item Description                   | Approvals  |                  |        |      |     |    |    |    |     |    |     | See Page |        |
|-------------------------------|------------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|----------|--------|
|                               |                                    | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS |          | OrdLoc |
| <b>Analog Input Modules</b>   |                                    | Ex         | Marine Approvals |        |      |     |    |    |    |     |    | UL  |          |        |
| 750-450                       | 4AI; RTD; Adjust                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 348    |
| 750-451                       | 8AI; RTD; Adjust                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 349    |
| 750-452                       | 2AI; 0-20mA; Diff                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 312    |
| 750-453                       | 4AI; 0-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 317    |
| 750-454                       | 2AI; 4-20mA; Diff                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 318    |
| 750-455                       | 4AI; 4-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 326    |
| 750-456                       | 2AI; ±10 VDC; Diff                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 331    |
| 750-457                       | 4AI; ±10 VDC; SE                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 334    |
| 750-459                       | 4AI; 0-10 VDC; SE                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 338    |
| 750-461                       | 2AI; Pt100/RTD                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 345    |
| 750-463                       | 4AI; RTD; -30°C...+150°C           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 346    |
| 750-464                       | 2/4AI; RTD; Adjust                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 346    |
| 750-465                       | 2AI; 0-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 314    |
| 750-466                       | 2AI; 4-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 321    |
| 750-467                       | 2AI; 0-10 VDC; SE                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 335    |
| 750-468                       | 4AI; 0-10 VDC; SE                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 337    |
| 750-469                       | 2AI; TC K; Diagn                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 350    |
| 750-470                       | 2AI; 0-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 315    |
| 750-471                       | 4AI; U/I; Diff; Galv               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 342    |
| 750-472                       | 2AI; 0-20mA; SE; 16bits            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 316    |
| 750-473                       | 2AI; 4-20mA; SE                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 322    |
| 750-474                       | 2AI; 4-20mA; SE; 16bits            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 325    |
| 750-475                       | 2AI; 0-1A AC/DC; Diff              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 329    |
| 750-476                       | 2AI; ±10 VDC; SE; 16bits           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 333    |
| 750-477                       | 2AI; 0-10 VAC/VDC; Diff            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 340    |
| 750-478                       | 2AI; 0-10 VDC; SE; 16bits          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 336    |
| 750-479                       | 2AI; ±10 VDC; Diff                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 332    |
| 750-480                       | 2AI; 0-20mA; Diff                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 313    |
| 750-482                       | 2AI; 4-20mA HART                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 323    |
| 750-483                       | 2AI; 0-30 VDC; Diff                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 341    |
| 750-484 <sup>2)</sup>         | 2AI; 4-20mA HART; Ex i             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 441    |
| 750-484/000-001 <sup>2)</sup> | 2AI 4-20mA HART NAMUR NE43 Ex i    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 442    |
| 750-485 <sup>2)</sup>         | 4AI; 4-20mA; Ex i                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 439    |
| 750-486 <sup>2)</sup>         | 4AI; 0/4-20mA; NE43; Ex i          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 440    |
| 750-489 <sup>2)</sup>         | 4AI; RTD/TC; Ex i                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 443    |
| 750-491                       | 1AI; DMS                           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 354    |
| 750-492                       | 2AI; 4-20mA; Diff                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 320    |
| 750-493                       | 3-PHASE POM; 480VAC 1A             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 356    |
| 750-494                       | 3-PHASE POM; 480VAC 1A             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 358    |
| 750-495                       | 3-PHASE POM; 690VAC 1A             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 359    |
| 750-496                       | 8AI; 0/4-20mA; SE                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 328    |
| 750-497                       | 8AI; 0-10 V/±10 VDC; SE            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 339    |
| 750-498                       | 8AI; TC; Adjust                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 353    |
| 750-1491                      | 2AI Resistor Bridge (Strain Gauge) | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■        | 355    |

\*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

<sup>2)</sup>This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!











■ Approval is available. □ Approval is pending.



# Approvals Overview

## Analog Output Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|   | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                     | Item Description                 | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|------------------------------|----------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Analog Output Modules</b> |                                  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
|                              |                                  | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-550                      | 2AO; 0-10 VDC                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 370      |
| 750-552                      | 2AO; 0-20mA                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 362      |
| 750-553                      | 4AO; 0-20mA                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 363      |
| 750-554                      | 2AO; 4-20mA                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 364      |
| 750-555                      | 4AO; 4-20mA                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 365      |
| 750-556                      | 2AO; ±10 VDC                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 367      |
| 750-557                      | 4AO; ±10 VDC                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 368      |
| 750-559                      | 4AO; 0-10 VDC                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 371      |
| 750-560                      | 2AO; 0-10 VDC; 10Bit; 100mW/ 24V | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 369      |
| 750-562                      | 2AO; 0-10 V/±10 VDC; 16bits      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 372      |
| 750-563                      | 2AO; 0/4-20mA; 16bits; 6-18 VDC  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 366      |
| 750-564                      | 4AO U/I                          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 374      |
| 750-585 <sup>2)</sup>        | 2AO; 0-20mA; Ex i                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 444      |
| 750-586 <sup>2)</sup>        | 2AO; 4-20mA; Ex i                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 445      |
| 750-597                      | 8AO; 0-10 V/±10 VDC              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 373      |

\*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

<sup>2)</sup> This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Function, Technology and Communication Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                                       | Item Description                               | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|--|--|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| Function, Technology and Communication Modules |  | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-404  | Up/Down Counter                                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 378      |
| 750-511  | 2PWM; 24 VDC; 0.1A; 250Hz                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 382      |
| 750-630  | SSI Interface; 24bits; 125kHz; Gray            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 384      |
| 750-631/000-004                                | Inc. Encoder; RS422; 16bits                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 387      |
| 750-632  | Proportional Valve Module                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 395      |
| 750-633 <sup>2)</sup>                          | Up/Down Counter; Ex i                          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 446      |
| 750-635  | Digital Impulse Interface                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 388      |
| 750-637  | Inc. Encoder; RS422; 32bits                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 386      |
| 750-638  | 2Up/Down Counter; 16bits; 500Hz                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 381      |
| 750-643  | MP-Bus Master                                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 409      |
| 750-645  | 2VIB VRMS/SPM Multi                            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 389      |
| 750-650  | RS232 C Interface; 9600Bd                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 398      |
| 750-651  | TTY Interface; 9600Bd; N; 8/1                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 404      |
| 750-652  | RS232/485 Interface                            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 402      |
| 750-653  | RS485 Interface                                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 400      |
| 750-655  | AS-Interface Master                            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 412      |
| 750-657  | IO-Link Master                                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 413      |
| 750-658  | CAN Gateway                                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 414      |
| 750-661/000-004                                | 4FDI; 24 VDC; PROFIsafe V2 iPar                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 422      |
| 750-662/000-004                                | 8FDI; 24 VDC; PROFIsafe V2 iPar                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 423      |
| 750-663/000-003                                | 4F-Ex i DI; 24 VDC; PROFIsafe V2 iPar          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 428      |
| 750-666/000-004                                | 4FDI/2FDO; 24 VDC; 10A; PROFIsafe V2 iPar      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 424      |
| 750-667/000-004                                | 4FDI/4FDO; 24 VDC; 2A; PROFIsafe V2 iPar       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 425      |
| 750-668/000-004                                | 4FAI 0/4-20 mA Diff PROFIsafe                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 427      |
| 750-669/000-003                                | 4FDI/4FRO; 48VAC/ 60VDC; 6A; PROFIsafe V2 iPar | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 426      |
| 750-670  | Stepper Controller; RS422/24 VDC; 20mA         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 390      |
| 750-671  | Stepper Controller; 24 VDC; 1.5A               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 391      |
| 750-677  | 4PWM; 24 VDC; 0.2A; 20kHz                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 383      |
| 753-646  | KNX/EIB/TP1 Interface                          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 406      |
| 753-647  | DALI Multi-Master                              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 407      |
| 753-648  | LON® FTT Interface                             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 408      |
| 753-649  | M-Bus Master                                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 410      |

\*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.











<sup>2)</sup> This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Supply and Segment Modules – I/O System 750/753

Versions with an extended temperature range (item no. with suffix /025-...), see following pages

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|   | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                   | Item Description                   | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|----------------------------|------------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| Supply and Segment Modules |                                    | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-600                    | End Module                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 476      |
| 750-601 <sup>3)</sup>      | Power Supply; 24 VDC; Fuse         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 452      |
| 750-602 <sup>3)</sup>      | Power Supply; 24 VDC               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 450      |
| 750-603                    | Potential Distribution; 8*24V      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 461      |
| 750-604                    | Potential Distribution; 8*0V       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 462      |
| 750-606                    | Power Supply; 24 VDC; Diagn; Ex i  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 432      |
| 750-609                    | Power Supply; 230 VAC; Fuse        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 457      |
| 750-610 <sup>3)</sup>      | Power Supply; 24 VDC; Fuse; Diagn  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 453      |
| 750-611                    | Power Supply; 230 VAC; Fuse; Diagn | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 457      |
| 750-612 <sup>4)</sup>      | Power Supply; 0-230 VAC/VDC        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 454      |
| 750-613 <sup>1)</sup>      | System Power Supply; 24 VDC        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 458      |
| 750-614                    | Potential Distribution             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 460      |
| 750-615                    | Power Supply; 120 VAC; Fuse        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 456      |
| 750-616                    | Distance Module                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 474      |
| 750-617                    | Power Supply; 24 VAC; Fuse         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 455      |
| 750-621                    | Distance Module                    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 475      |
| 750-622                    | Binary Spacer Module               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 471      |
| 750-623                    | Power Supply; 24/5-15 VDC          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 451      |
| 750-624                    | Field Supply Filter; 24 VDC        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 466      |
| 750-625/000-001            | Power Supply; 24 VDC; Ex i         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 432      |
| 750-626                    | Supply Filter; 24 VDC              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 468      |
| 750-627                    | Bus Extension End Module           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | □   | ■  | ■   | ■      | 469      |
| 750-628                    | Bus Extension Coupler Module       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | □   | ■  | ■   | ■      | 470      |
| 750-1605                   | Potential Distribution; 16*24V     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 463      |
| 750-1606                   | Potential Distribution; 16*0V      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 464      |
| 750-1607                   | Potential Distribution; 8*24V/8*0V | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 465      |
| 753-620                    | DALI Multi-Master DC/DC-Converter  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 459      |
| 753-629/020-000            | Spacer Module; Passive             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 473      |
| 753-1629                   | Spacer Module; Active              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 472      |

\*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

<sup>1)</sup> Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

<sup>3)</sup> Notice: WAGO's 750-624 Filter Module is mandatory for marine approval (observe power supply instructions)!

<sup>4)</sup> Notice: WAGO's 750-626 Filter Module is mandatory for marine approval at 24 VDC power supply (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## I/O System 750; Versions with an Extended Temperature Range

Surrounding Air Temperature (Operation): -20 ... +60 °C

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                                       | Item Description                            | ATEX/IECEX | BRA-Ex | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page  |
|--|---|------------|--------|--------|------|-----|----|----|----|-----|----|-----|--------|-----------|
| <b>Controllers PFC100/PFC200 <sup>1)</sup></b> |   | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-8101/025-000                               | PFC100; 2ETH; T                             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 117       |
| 750-8102/025-000                               | PFC100; 2ETH RS; T                          | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 118       |
| 750-8208/025-000                               | PFC200; 2ETH RS CAN DPM                     | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 129       |
| 750-8208/025-001                               | PFC200; 2ETH RS CAN DPM                     | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 129       |
| 750-8210/025-000                               | PFC200; G2; 4ETH; T                         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 119       |
| 750-8212/025-000                               | PFC200; G2; 2ETH RS; T                      | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 121       |
| 750-8212/025-001                               | PFC200; G2; 2ETH RS; Tele; T                | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 121       |
| 750-8212/025-002                               | PFC200; G2; 2ETH RS; Tele; T; Eco           | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 121       |
| 750-8216/025-000                               | PFC200; G2; 2ETH RS CAN DPS; T              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 126       |
| 750-8216/025-001                               | PFC200; G2; 2ETH RS CAN DPS; Tele; T        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 126       |
| 750-8217/025-000                               | PFC200; G2; 2ETH RS; 4G; T                  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 127       |
| 750-8217/625-000                               | PFC200; G2; 2ETH RS; 4G; Global; T          | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 128       |
| <b>Controllers 750 <sup>1)</sup></b>           |   | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-815/325-000                                | Controller Modbus®; RS485; 115.2kBd; T      | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 168       |
| 750-833/025-000                                | Controller PROFIBUS Slave; T                | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 170       |
| 750-890/025-000                                | Controller Modbus TCP; G4; SD; T            | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 156       |
| 750-890/025-001                                | Controller Modbus TCP; G4; SD; Tele; T      | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 156       |
| 750-890/025-002                                | Controller Modbus TCP; G4; SD; Tele; T; Eco | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 156       |
| <b>Fielbus Coupler</b>                         |   | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-333/025-000                                | FC PROFIBUS; G2; 12MBd; T                   | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 205       |
| 750-337/025-000                                | FC CANopen; MCS; T                          | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 220       |
| 750-375/025-000                                | FC PROFINET; G3; Adv; T                     | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 202       |
| 750-377/025-000                                | FC PROFINET; G3; Eco; Adv; T                | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 203       |
| <b>Digital Input Modules</b>                   |   | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-400/025-000                                | 2DI; 24 VDC; 3ms; T                         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 233       |
| 750-402/025-000                                | 4DI; 24 VDC; 3ms; T                         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 234       |
| 750-408/025-000                                | 4DI; 24 VDC; 3ms; LSS; T                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 250       |
| 750-430/025-000                                | 8DI; 24 VDC; 3ms; T                         | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 237       |
| <b>Digital Output Modules</b>                  |   | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-504/025-000                                | 4DO; 24 VDC; 0.5A; T                        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 284       |
| 750-504/025-800                                | 4DO; 24 VDC; 0.5A; IF; T                    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 284       |
| 750-530/025-000                                | 8DO; 24 VDC; 0.5A; T                        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 288       |











<sup>1)</sup> Notice: WAGO's Filter Module (750-626/...) is mandatory for marine approval (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## I/O System 750; Versions with an Extended Temperature Range

Surrounding Air Temperature (Operation): -20 ... +60 °C

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|   | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.  | Item Description                   | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|---|------------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Analog Input Modules</b>                           |                                    |            |                  |        |      |     |    |    |    |     |    |     |        |          |
|   |                                    | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-451/025-000                                       | 8AI; RTD; Adjust; T                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 349      |
| 750-454/025-000                                       | 2AI; 4-20mA; Diff; T               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 318      |
| 750-454/025-003                                       | 2AI; 4-20mA; Diff; T; EM           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 318      |
| 750-455/025-000                                       | 4AI; 4-20mA; SE; T                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 326      |
| 750-457/025-000                                       | 4AI; ±10 VDC; SE; T                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 334      |
| 750-461/025-000                                       | 2AI; Pt100/RTD; T                  | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 345      |
| 750-465/025-000                                       | 2AI; 0-20mA; SE; T                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 314      |
| 750-466/025-000                                       | 2AI; 4-20mA; SE; T                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 321      |
| 750-468/025-000                                       | 4AI; 0-10 VDC; SE; T               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 337      |
| 750-482/025-000                                       | 2AI; 4-20mA HART; T                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 323      |
| 750-493/025-000                                       | 3-PHASE POM; 480VAC 1A; T          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 356      |
| 750-494/025-000                                       | 3-PHASE POM; 480VAC 1A; T          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 358      |
| 750-494/025-001                                       | 3-PHASE POM; 480VAC 5A; T          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 358      |
| <b>Analog Output Modules</b>                          |                                    |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-552/025-000                                       | 2AO; 0-20mA; T                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 362      |
| 750-554/025-000                                       | 2AO; 4-20mA; T                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 364      |
| 750-559/025-000                                       | 4AO; 0-10 VDC; T                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 371      |
| <b>Function, Technology and Communication Modules</b> |                                    |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-638/025-000                                       | 2Up/Down Counter; 16bits; 500Hz; T | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 381      |
| 750-652/025-000                                       | RS232/485 Interface; T             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 402      |
| 750-653/025-000                                       | RS485 Interface; T                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 400      |
| 750-653/025-018                                       | RS485 Interface; 9600Bd; N; 8/1    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 400      |
| <b>Supply and Segment Modules</b>                     |                                    |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-600/025-000                                       | End Module; T                      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 476      |
| 750-602/025-000 <sup>3)</sup>                         | Power Supply; 24 VDC; T            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 450      |
| 750-626/025-000                                       | Supply Filter; 24 VDC; T           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 468      |
| 750-626/025-001                                       | Supply Filter; 24 VDC; HI; T       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 468      |

<sup>3)</sup> Notice: WAGO's 750-624 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## I/O System 750 XTR

Surrounding Air Temperature (Operation): -40 ... +70 °C

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.  | Item Description                   | ATEX/IECEX | BRA-Ex | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page  |
|---|------------------------------------|------------|--------|--------|------|-----|----|----|----|-----|----|-----|--------|-----------|
| <b>Fieldbus Couplers I/O System 750 XTR <sup>1)</sup></b> |                                    | <b>Ex</b>  |        |        |      |     |    |    |    |     |    |     |        | <b>UL</b> |
| 750-333/040-000   | FC PROFIBUS; G2; 12 MBd; XTR       | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 486       |
| 750-338/040-000   | FC CANopen; DSub; XTR              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 491       |
| 750-362/040-000   | FC Modbus TCP; G4; XTR             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 487       |
| 750-363/040-000   | FC EtherNet/IP; G4; XTR            | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 489       |
| 750-364/040-000   | FC Modbus TCP M12; G4; XTR         | □          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 488       |
| 750-365/040-000   | FC EtherNet/IP M12; G4; XTR        | □          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 490       |
| <b>Digital Input Modules XTR</b>                          |                                    |            |        |        |      |     |    |    |    |     |    |     |        |           |
| 750-407/040-000   | 2DI; 220 VDC; XTR                  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 498       |
| 750-427/040-000   | 2DI; 110 VDC; XTR                  | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 497       |
| 750-429/040-001   | 2DI; 60 VDC; 3ms; XTR              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 496       |
| 750-430/040-000   | 8DI; 24 VDC; 3ms;; XTR             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 492       |
| 750-431/040-000   | 8DI; 24 VDC; 0.2ms; XTR            | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 494       |
| 750-439/040-000 <sup>2)</sup>                             | 8DI; NAMUR; Ex i; XTR              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 540       |
| 750-1405/040-000  | 16DI; 24 VDC; 3ms; XTR             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 493       |
| 750-1415/040-000  | 8DI; 24 VDC; 3ms; 2-wire; XTR      | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 492       |
| 750-1416/040-000  | 8DI; 24 VDC; 0.2ms; 2-wire; XTR    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 494       |
| 750-1417/040-000  | 8DI; 24 VDC; 3ms; LSS; 2-wire; XTR | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 495       |
| <b>Digital Output Modules XTR</b>                         |                                    |            |        |        |      |     |    |    |    |     |    |     |        |           |
| 750-508/040-000   | 2DO; 24 VDC; 2A; Diagn; XTR        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 499       |
| 750-517/040-000   | 2RO; 250 VAC; 1A; Relay2CO; XTR    | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 503       |
| 750-535/040-000 <sup>2)</sup>                             | 2DO; 24 VDC; Ex i; XTR             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 541       |
| 750-537/040-000   | 8DO; 24 VDC; 0.5A; Diagn; XTR      | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 500       |
| 750-1515/040-000  | 8DO; 24 VDC; 0.5A; 2-wire; XTR     | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 501       |
| 750-1516/040-000  | 8DO 24 VDC 0.5A LSS 2-wire XTR     | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 502       |
| <b>Analog Input Modules XTR</b>                           |                                    |            |        |        |      |     |    |    |    |     |    |     |        |           |
| 750-453/040-000   | 4AI; 0-20mA; SE; XTR               | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 504       |
| 750-455/040-000   | 4AI; 4-20mA; SE; XTR               | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 506       |
| 750-457/040-000   | 4AI; ±10 VDC; SE; XTR              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 507       |
| 750-464/040-000   | 2/4AI; RTD; Adjust; XTR            | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 511       |
| 750-468/040-000   | 4AI; 0-10 VDC; SE; XTR             | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 508       |
| 750-469/040-000   | 2AI; TC; Adjust; XTR               | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 512       |
| 750-471/040-000   | 4AI U/I Diff Galv XTR              | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 510       |
| 750-481/040-000 <sup>2)</sup>                             | 2AI; RTD; Ex i; XTR                | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 544       |
| 750-483/040-000   | 2AI; 0-30 VDC; Diff; XTR           | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 509       |
| 750-484/040-000 <sup>2)</sup>                             | 2AI; 4-20mA HART; Ex i; XTR        | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 543       |
| 750-486/040-000 <sup>2)</sup>                             | 4AI; 0/4-20mA; Ex i; XTR           | ■          | ■      | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 542       |

<sup>1)</sup> Notice: WAGO's 750-626/040-000 Filter Module is mandatory for marine approval (observe power supply instructions)!











<sup>2)</sup> This I/O module shall only be used in connection with the 24 VDC Ex i XTR supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## I/O System 750 XTR

Surrounding Air Temperature (Operation): -40 ... +70 °C

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|   | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                               | Item Description                         | ATEX/IECEx | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|--|--|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Analog Input Modules XTR</b>        |  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
|  |  | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL     |          |
| 750-492/040-001                        | 2AI; 4-20mA; Diff; NE43; XTR             | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 505      |
| 750-495/040-000                        | 3-PHASE POM; 690VAC 1A; XTR              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 514      |
| 750-495/040-001                        | 3-PHASE POM; 690VAC 5A; XTR              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 514      |
| 750-495/040-002                        | 3-PHASE POM; 690VAC R.C.; XTR            | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 514      |
| <b>Analog Output Modules XTR</b>       |  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-557/040-000                        | 4AO; ±10V DC; XTR                        | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 516      |
| 750-559/040-000                        | 4AO; 0-10V DC; XTR                       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 517      |
| 750-563/040-000                        | 2AO; 0/4-20mA; 16Bit; 6-18 VDC; XTR      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 515      |
| 750-585/040-000 <sup>2)</sup>          | 2AO; 0-20mA; Ex i; XTR                   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 545      |
| <b>Function/Technology Modules XTR</b> |  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-404/040-003                        | Counter; Adjust; XTR                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 518      |
| 750-630/040-001                        | SSI Interface; Adjust; XTR               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 521      |
| 750-633/040-000 <sup>2)</sup>          | Up/Down Counter; Ex i; XTR               | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 546      |
| 750-637/040-000                        | Inc. Encoder; RS422; 32Bit; XTR          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 520      |
| 750-637/040-001                        | Inc. Encoder; 24 VDC; Diff; 32Bit; XTR   | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 520      |
| <b>Communication Modules XTR</b>       |  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-652/040-000                        | RS232/485 Interface; XTR                 | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 522      |
| 750-658/040-000                        | CAN Gateway; XTR                         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 523      |
| 750-677/040-000                        | 4PWM; 24 VDC; 0.2A; 20kHz; XTR           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 519      |
| <b>Supply and Segment Modules XTR</b>  |  |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 750-600/040-000                        | End Module; XTR                          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 536      |
| 750-601/040-000                        | Power Supply; 24 VDC; Fuse; XTR          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 525      |
| 750-602/040-000                        | Power Supply; 24 VDC; XTR                | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 524      |
| 750-606/040-000                        | Power Supply; 24 VDC; Ex i; XTR          | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 539      |
| 750-610/040-000                        | Power Supply; 24 VDC; Fuse Diagn; XTR    | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 526      |
| 750-612/040-000                        | Power Supply; 0-230 VAC/VDC; XTR         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 527      |
| 750-613/040-000                        | System Power Supply; 24 VDC; XTR         | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 528      |
| 750-614/040-000                        | Potential Distribution; XTR              | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 529      |
| 750-616/040-000                        | Distance Module; XTR                     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 535      |
| 750-624/040-000                        | Field Supply Filter; 24 VDC; HI; XTR     | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 532      |
| 750-624/040-001                        | Field Supply Filter; 24 VDC; HI; NC; XTR | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 533      |
| 750-626/040-000                        | Supply Filter; 24 VDC; HI; XTR           | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 534      |
| 750-1605/040-000                       | Potential Distribution; 16*24V; XTR      | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 530      |
| 750-1606/040-000                       | Potential Distribution; 16*0V; XTR       | ■          | ■                | ■      | ■    | ■   | ■  | ■  | ■  | ■   | ■  | ■   | ■      | 531      |











<sup>1)</sup> Notice: WAGO's 750-626/040-000 Filter Module is mandatory for marine approval (observe power supply instructions)!

<sup>2)</sup> This I/O module shall only be used in connection with the 24 VDC Ex i XTR supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

# Approvals Overview

## I/O System Field

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18; TE/2190/880590/18  |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|   | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |











| Item No.         | Item Description                | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc                   | See Page |
|------------------|---------------------------------|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------------------------|----------|
| Fieldbus Modules |                                 | Ex         | Marine Approvals |        |      |     |    |    |    |     |    |     | UL                       |          |
| 765-1101/100-000 | 16DI FLD PN DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 560      |
| 765-1102/100-000 | 16DIO FLD PN DC 24V             |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 556      |
| 765-1103/100-000 | 16DO FLD PN DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 558      |
| 765-1104/100-000 | 8DIO FLD PN DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 557      |
| 765-1105/100-000 | 8DIO FLD PN DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 559      |
| 765-1201/100-000 | 16DI FLD EC DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 560      |
| 765-1202/100-000 | 16DIO FLD EC DC 24V             |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 556      |
| 765-1203/100-000 | 16DO FLD EC DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 558      |
| 765-1204/100-000 | 8DIO FLD EC DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 557      |
| 765-1205/100-000 | 8DIO FLD EC DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 559      |
| 765-1501/100-000 | 16DI FLD EI DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 560      |
| 765-1502/100-000 | 16DIO FLD EI DC 24V             |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> |          |
| 765-1503/100-000 | 16DO FLD EI DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 562      |
| 765-1504/100-000 | 8DIO FLD EI DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 563      |
| 765-1505/100-000 | 8DIO FLD EI DC 24V              |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 564      |
| IO-Link Master   |                                 |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 565      |
| 765-4101/100-000 | 8PORT IOL-A FLD PN DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 562      |
| 765-4102/100-000 | 8PORT IOL-B FLD PN DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 563      |
| 765-4103/100-000 | 4PORT IOL-A FLD PN DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 564      |
| 765-4104/100-000 | 4PORT IOL-B FLD PN DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 565      |
| 765-4201/100-000 | 8PORT IOL-A FLD EC DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 562      |
| 765-4202/100-000 | 8PORT IOL-B FLD EC DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 563      |
| 765-4203/100-000 | 4PORT IOL-A FLD EC DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 564      |
| 765-4204/100-000 | 4PORT IOL-B FLD EC DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 565      |
| 765-4501/100-000 | 8PORT IOL-A FLD EI DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> |          |
| 765-4502/100-000 | 8PORT IOL-B FLD EI DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 566      |
| 765-4503/100-000 | 4PORT IOL-A FLD EI DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 568      |
| 765-4504/100-000 | 4PORT IOL-B FLD EI DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 570      |
| IO-Link Hub      |                                 |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 567      |
| 765-1701/200-000 | 8DIO FLD IOL-A HUB DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 569      |
| 765-1702/200-000 | 8DIO FLD IOL-A HUB DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 571      |
| 765-1703/200-000 | 16DIO FLD IOL-A HUB DC 24V 2.0A |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 564      |
| 765-1704/200-000 | 8DIO FLD IOL-B HUB DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 561      |
| 765-1705/200-000 | 8DIO FLD IOL-B HUB DC 24V 2.0A  |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 563      |
| 765-1706/200-000 | 16DIO FLD IOL-B HUB DC 24V 2.0A |            |                  |        |      |     |    |    |    |     |    |     | <input type="checkbox"/> | 565      |

■ Approval is available. □ Approval is pending.



# Approvals Overview

## Operation and Monitoring – Touch Panels

|   |                                   |   |
|---|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS  |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18; TE/2190/880590/18  |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|   | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|   | TÜV                               | 07ATEX554086 X; IECEx TUN 09.0001 X<br>12ATEX106032 X; IECEx TUN 12.0039 X<br>14ATEX148929 X; IECEx TUN 14.0035 X<br>17ATEX193969 X; IECEx TUN 16.0046 X<br>17ATEX196484 X; IECEx TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                              | Item Description                                | ATEX/IECEX | BRA-Ex           | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|---------------------------------------|---|------------|------------------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Touch Panel; 600 Standard Line</b> |   |            |                  |        |      |     |    |    |    |     |    |     |        |          |
|                                       |   | Ex         | Marine Approvals |        |      |     |    |    |    |     |    | UL  |        |          |
| 762-4101                              | Web Panel; TP600; 4.3; 480x272; PIO1; WP        |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 76       |
| 762-4102                              | Web Panel; TP600; 5.7; 640x480; PIO1; WP        |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 77       |
| 762-4103                              | Web Panel; TP600; 7.0; 800x480; PIO1; WP        |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 78       |
| 762-4104                              | Web Panel; TP600; 10.1; 1280x800; PIO1; WP      |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 79       |
| 762-4201/8000-001                     | Visu Panel; TP600; 4.3; 480x272; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 76       |
| 762-4202/8000-001                     | Visu Panel; TP600; 5.7; 640x480; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 77       |
| 762-4203/8000-001                     | Visu Panel; TP600; 7.0; 800x480; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 78       |
| 762-4204/8000-001                     | Visu Panel; TP600; 10.1; 1280x800; PIO2; VP     |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 79       |
| 762-4205/8000-001                     | Visu Panel; TP600; 15.6; 1920x1080; PIO2; VP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 80       |
| 762-4206/8000-001                     | Visu Panel; TP600; 21.5; 1920x1080; PIO2; VP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 81       |
| 762-4301/8000-002                     | Control Panel; TP600; 4.3; 480x272; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 76       |
| 762-4302/8000-002                     | Control Panel; TP600; 5.7; 640x480; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 77       |
| 762-4303/8000-002                     | Control Panel; TP600; 7.0; 800x480; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 78       |
| 762-4304/8000-002                     | Control Panel; TP600; 10.1; 1280x800; PIO3; CP  |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 79       |
| 762-4305/8000-002                     | Control Panel; TP600; 15.6; 1920x1080; PIO3; CP |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 80       |
| 762-4306/8000-002                     | Control Panel; TP600; 21.5; 1920x1080; PIO3; CP |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 81       |
| <b>Touch Panel; 600 Advanced Line</b> |   |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 762-5203/8000-001                     | Visu Panel; TP600; 7.0; 800x480; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 82       |
| 762-5204/8000-001                     | Visu Panel; TP600; 10.1; 1280x800; PIO2; VP     |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 83       |
| 762-5205/8000-001                     | Visu Panel; TP600; 15.6; 1920x1080; PIO2; VP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 84       |
| 762-5206/8000-001                     | Visu Panel; TP600; 21.5; 1920x1080; PIO2; VP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 85       |
| 762-5303/8000-002                     | Control Panel; TP600; 7.0; 800x480; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 82       |
| 762-5304/8000-002                     | Control Panel; TP600; 10.1; 1280x800; PIO3; CP  |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 83       |
| 762-5305/8000-002                     | Control Panel; TP600; 15.6; 1920x1080; PIO3; CP |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 84       |
| 762-5306/8000-002                     | Control Panel; TP600; 21.5; 1920x1080; PIO3; CP |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 85       |
| <b>Touch Panel; 600 Marine Line</b>   |   |            |                  |        |      |     |    |    |    |     |    |     |        |          |
| 762-6201/8000-001                     | Visu Panel; TP600; 4.3; 480x272; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 86       |
| 762-6202/8000-001                     | Visu Panel; TP600; 5.7; 640x480; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 87       |
| 762-6203/8000-001                     | Visu Panel; TP600; 7.0; 800x480; PIO2; VP       |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 88       |
| 762-6204/8000-001                     | Visu Panel; TP600; 10.1; 1280x800; PIO2; VP     |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 89       |
| 762-6301/8000-002                     | Control Panel; TP600; 4.3; 480x272; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 86       |
| 762-6302/8000-002                     | Control Panel; TP600; 5.7; 640x480; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 87       |
| 762-6303/8000-002                     | Control Panel; TP600; 7.0; 800x480; PIO3; CP    |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 88       |
| 762-6304/8000-002                     | Control Panel; TP600; 10.1; 1280x800; PIO3; CP  |            |                  |        |      |     |    |    |    | ■   |    |     | ■      | 89       |

■ Approval is available. □ Approval is pending.

# Approvals Overview

## Infrastructure – Industrial Switches

|  |                                   |   |
|--|-----------------------------------|---|
|  | cULus OrdLoc                      | E175199 Sec. 1, UL 508, UL 61010  |
|  | ABS (American Bureau of Shipping) | 19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA  |
|  | BV (Bureau Veritas)               | 13453/D0 BV, 30389/B0 BV  |
|  | DNV (Det Norske Veritas)          | TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS; A-14050   |
|  | KR (Korean Register of Shipping)  | HMB05880-AC001  |
|  | LR (Lloyd's Register)             | 02/20026 (E5); 17/20073 (E2)  |
|  | NK (Nippon Kaiji Kyokai)          | TA17255M  |
|  | Polski Rejestr Statkow            | TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18   |
|  | RINA (Registro Italiano Navale)   | ELE343217XG   |
|  | cULus HazLoc                      | E198726 Sec. 1, ANSI/ISA 12.12.01<br>E480271 Sec. 1, AEx UL60079  |
|  | INMETRO                           | TÜV 12.1297 X; TÜV 14.1911 X  |
|  | TÜV                               | 07ATEX554086 X; IECEX TUN 09.0001 X<br>12ATEX106032 X; IECEX TUN 12.0039 X<br>14ATEX148929 X; IECEX TUN 14.0035 X<br>17ATEX193969 X; IECEX TUN 16.0046 X<br>17ATEX196484 X; IECEX TUN 17.0005 X<br>DEKRA 11ATEX0203 X |

| Item No.                   | Item Description   | Ex | ATEX/IECEX | BRA-Ex | HazLoc | RINA | PRS | NK | LR | KR | DNV | BV | ABS | OrdLoc | See Page |
|----------------------------|--|----|------------|--------|--------|------|-----|----|----|----|-----|----|-----|--------|----------|
| <b>Industrial Switches</b> |  |    |            |        |        |      |     |    |    |    |     |    |     |        |          |
| 852-101                    | Industrial-Switch; 5Port   |    |            |        |        |      |     |    |    |    |     |    |     |        | 597      |
| 852-102                    | Industrial-Switch; 8Port   |    |            |        |        |      |     |    |    |    |     |    |     |        | 598      |
| 852-103                    | Industrial-Switch; 8Port; 2-Slot 100BASE-FX                            |    |            |        |        |      |     |    |    |    |     |    |     |        | 599      |
| 852-111                    | Industrial-Eco-Switch; 5Port   |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 588      |
| 852-111/000-001            | Industrial-Eco-Switch; 5Port   |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 589      |
| 852-112                    | Industrial-Eco-Switch; 8Port   |    |            |        |        |      |     |    |    |    |     |    |     |        | 590      |
| 852-112/000-001            | Industrial-Eco-Switch; 8Port   |    |            |        |        |      |     |    |    |    |     |    |     | □      | 591      |
| 852-112/000-002            | Industrial-Eco-Switch; 8Port   |    |            |        |        |      |     |    |    |    |     |    |     | □      | 592      |
| 852-303                    | Managed-Switch; 8Port; 2-Slot 1000BASE-SX/LX                           |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 609      |
| 852-602                    | Managed-Switch; 8Port 100BASE-TX; PROFINET; T                          |    |            |        |        |      |     |    |    |    |     |    |     |        | 614      |
| 852-603                    | Managed-Switch; 8Port 100BASE-TX; 2Slot 1000BASE-SX/LX; PROFINET; T    |    |            |        |        |      |     |    |    |    |     |    |     |        | 615      |
| 852-1102                   | Industrial-Switch; 8-Port Gb   |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 600      |
| 852-1106                   | Industrial-Switch; 16-Port Gb  |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 601      |
| 852-1111/000-001           | Industrial-Eco-Switch; 5-Port Gb                                       |    |            |        |        |      |     |    |    |    |     |    |     |        | 593      |
| 852-1112                   | Industrial-Eco-Switch; 8-Port Gb                                       |    |            |        |        |      |     |    |    |    |     |    |     |        | 594      |
| 852-1305                   | Managed-Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX                       |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 610      |
| 852-1305/000-001           | Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; USB            |    |            |        |        |      |     |    |    |    |     |    |     |        | 611      |
| 852-1322                   | Managed Switch; 8Port Gb; MACsec                                       |    |            |        |        |      |     |    |    |    |     |    |     |        | 607      |
| 852-1328                   | Managed Switch; 6Port Gb; 2FOC Gb; MACsec                              |    |            |        |        |      |     |    |    |    |     |    |     |        | 608      |
| 852-1411                   | Industrial-Eco-Switch; 5Port Gb; 4PoE                                  |    |            |        |        |      |     |    |    |    |     |    |     |        | 595      |
| 852-1411/000-001           | Industrial-Eco-Switch; 5Port Gb; 4PoE                                  |    |            |        |        |      |     |    |    |    |     |    |     |        | 595      |
| 852-1417                   | Industrial-Eco-Switch; 5Port Gb; 2-Slot 1000BASE-SX/LX; 4PoE           |    |            |        |        |      |     |    |    |    |     |    |     |        | 596      |
| 852-1505                   | Managed-Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX; 8PoE                 |    |            |        |        |      |     |    |    |    |     |    |     |        | 612      |
| 852-1505/000-001           | Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; EXT; 8PoE; USB |    |            |        |        |      |     |    |    |    | ■   |    |     |        | 613      |
| 852-1605                   | Managed-Switch; 8Port 1000BASE-T; 4Slot 1000BASE-SX/LX; PROFINET; T    |    |            |        |        |      |     |    |    |    |     |    |     |        | 616      |
| 852-1812                   | Lean-Managed-Switch; 8 Ports 1000BASE-T                                |    |            |        |        |      |     |    |    |    |     |    |     |        | 603      |
| 852-1813                   | Lean-Managed-Switch; 8 Ports 1000BASE-T; 2 Slots 1000BASE-SX/LX        |    |            |        |        |      |     |    |    |    |     |    |     |        | 604      |
| 852-1813/000-001           | Lean-Managed-Switch; 8 Ports 1000BASE-T; 2 Slots 1000BASE-SX/LX; +PoE  |    |            |        |        |      |     |    |    |    |     |    |     |        | 605      |
| 852-1816                   | Lean-Managed-Switch; 16 Ports 1000BASE-T                               |    |            |        |        |      |     |    |    |    |     |    |     |        | 606      |

■ Approval is available. □ Approval is pending.



## Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

### PUSH-IN CAGE CLAMP®



Push-in CAGE CLAMP® terminates the following copper conductors:  
solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

The universal connection with an additional advantage:

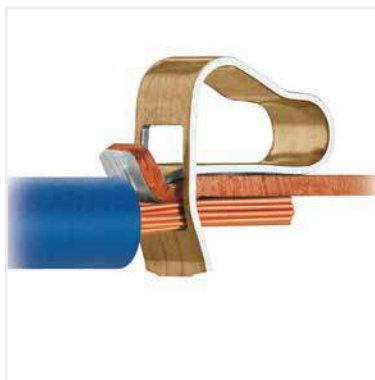
Push-in connection

Terminate solid and stranded (Class B 7 strands or less), as well as ferruled conductors, by simply pushing them in – no tools required.

Termination for all conductor types:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

### CAGE CLAMP®



CAGE CLAMP® terminates the following copper conductors:  
solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

The universal connection for solid, stranded and fine-stranded conductors

Termination:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

## Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

### POWER CAGE CLAMP®



POWER CAGE CLAMP terminates the following copper conductors:  
solid



stranded



fine-stranded,  
also with tinned  
single strands



fine-stranded,  
with ferrule  
(gastight crimped)

The universal connection for conductors larger than 35 mm<sup>2</sup> (2 AWG)

Termination:

- Open clamp by turning a T-wrench counter-clockwise.
- Press the integrated latch to open clamping unit for hands-free wiring.
- Insert the conductor.
- A small counter-clockwise rotation closes the clamp, securing conductor.

### PUSH WIRE®



PUSH WIRE® terminates the following copper conductors:  
solid

PUSH WIRE® connection for solid and stranded conductors (depending on the model used)

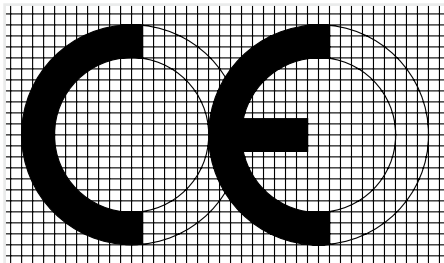
Termination:

Tool-free, twist-free terminations for solid and rigid stranded conductors – simply push into the unit.

## CE Marking and EU Directives

### CE Conformity Marking

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne  
(European Community)

The CE conformity marking must be applied to all electrical equipment; should on-unit marking not be possible, mark the smallest packaging unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EU "Declaration of Conformity" for their products. This declaration of conformity must be retained and submitted to a national surveillance authority upon request.

**EU directives are legally binding specifications for the European Union.** Their goal is aligning legal and administrative specifications in the various EU member countries, in order to prevent trading hindrances arising from different national specifications.

In order to launch a product on the market, it must comply with the relevant directives. Several directives may apply for one single product, for example, EMC and low voltage directives.

### Low Voltage Directive (LVD)

The safety of electrical equipment is guaranteed by the Low Voltage Directive (LVD). The LVD covers all electrical equipment operating with a voltage between 50 and 1000 V and between 75 V and 1500 V. Products falling within the scope of the LVD that are designed in such a way that they can be used in other electrical devices and whose safety, for the most part, is dependant on how these components were built into the end product and what features the end product has are defined as basic components in accordance with the LVD. The LVD doesn't apply to basic components.

### EMC Directive

The EMC Directive stipulates that a product must meet the limits on radiated electromagnetic disturbance and also requires that a product must be immune to electromagnetic interference. Electromagnetic passive components or components with no direct function, such as resistors, diodes, capacitors, switching relays or cables (in the form of passive printed circuit boards) are not considered as apparatus within the meaning of the EMC Directive.

### Machinery Directive

The Machinery Directive does not apply to WAGO products.

### Explosive Atmospheres Directive (ATEX)

Directive for devices and protective systems intended for use in hazardous locations.

### Radio Equipment Directive

A device or relevant component thereof, capable of communication by emitting and/or receiving radio waves utilizing the spectrum allocated to terrestrial/space radio communication, falls within the scope of the Radio Equipment Directive. As such, these devices and components are tested and labeled accordingly. This label implicitly includes both Low Voltage and EMC Directives, since the Radio Equipment Directive also encompasses the safety targets for both of these directives.

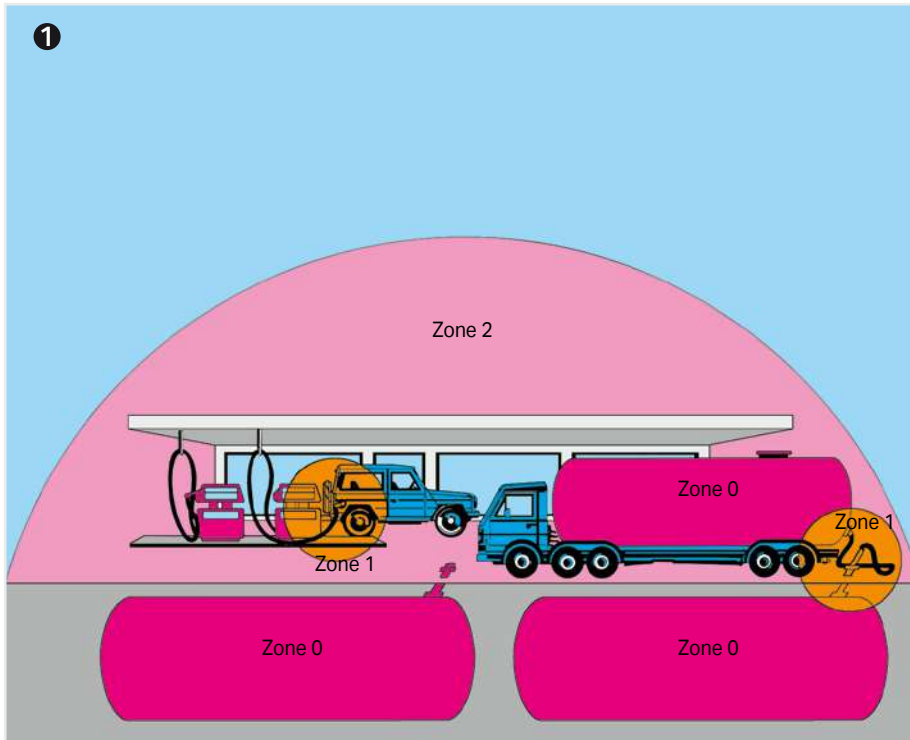
## General Technical Information for Electrical Equipment Used in Hazardous Areas

### Hazardous Areas

Hazardous areas are zones in which the atmosphere may become explosive. An explosive atmosphere is a mixture of flammable substances in the form of gases, vapors or mixtures with air

under atmospheric conditions in critically mixed ratios such that excessive high temperature, arcs or sparks may cause an explosion.

DIN EN 1127-1 and all other well-known standards rank hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



#### 1 Hazardous areas due to explosive gases, vapors and mists

##### Zone 0

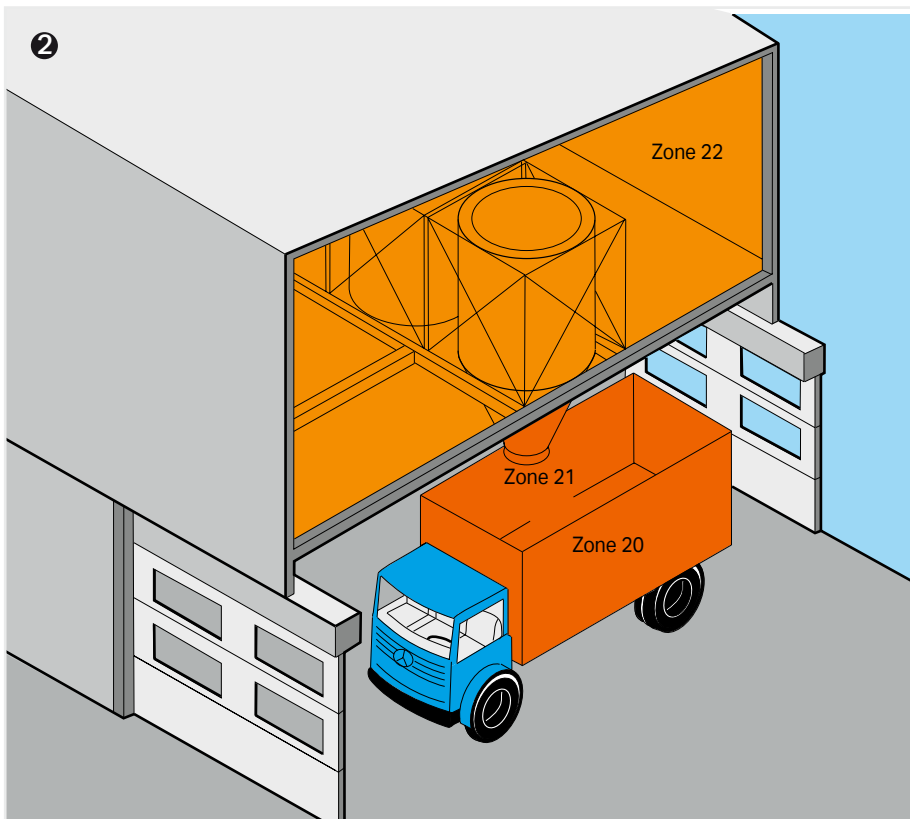
Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

##### Zone 1

Areas in which an explosive atmosphere is likely to occur occasionally during normal operation.

##### Zone 2

Areas in which an explosive atmosphere is likely to occur rarely or only for a short period during normal operation.



#### 2 Hazardous areas due to explosive dust/air mixtures

##### Zone 20

Areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently and in which dust deposits of known or excessive thickness may form. Dust deposits alone do not constitute a Zone 20.

##### Zone 21

Areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally and in which deposits or layers of combustible dust can generally be present.

##### Zone 22

Areas in which an explosive atmosphere due to dust/air mixtures is not likely to occur during normal operation and, if it occurs, will only exist for a short period, or in which accumulations or layers of combustible dust are present.

Please refer to the manuals for more information on explosion protection.

## Electromagnetic Compatibility and Mechanical Strength (Industrial and Residential Environments)

### Immunity for Industrial Environments per EN 61000-6-2

| Test Specification |                        | Test Value  | Evaluation Criteria *) |
|--------------------|------------------------|---|------------------------|
| EN 61000-4-2       | ESD                    | 4 kV/8 kV (contact/air)   | B                      |
| EN 61000-4-3       | Electromagnetic fields | 10 V/m: 80 MHz ... 1 GHz  | A                      |
|                    |                        | 3V/m: 1.4 ... 2.0 GHz   | A                      |
|                    |                        | 1V/m: 2.0 ... 2.7 GHz   | A                      |
| EN 61000-4-4       | Burst                  | 1 kV/2 kV (data/supply)   | B                      |
| EN 61000-4-5       | Surge                  | Data: - / 1 kV (line : line – line : ground)  | B                      |
|                    |                        | DC supply: 0.5 kV / 0.5 kV (line : line – line : ground)  | B                      |
|                    |                        | AC supply: 1 kV / 2 kV (line : line – line : ground)  | B                      |
| EN 61000-4-6       | RF interference        | 10 V/m, 80 % AM (0.15 ... 80 MHz)   | A                      |
| EN 61000-4-8       | Magnetic field         | 30 A/m, 50/60Hz   | A                      |
| *)                 |                        | Criteria A: The device must work in accordance with the regulations during and after the test.<br>Criteria B: The device must work in accordance with the regulations after the test. |                        |

### Emission Standard for Residential Environments per EN 61000-6-3

| Test Specification |  | Limits<br>(Quasi-Peak) | Frequency Range                       | Distance |
|--------------------|--|------------------------|---------------------------------------|----------|
| EN 55016-2-1       | AC supply, conducted                               | 66 ... 56 dB(μV)       | 150 ... 500 kHz                       |          |
|                    |  | 56 dB(μV)              | 500 kHz ... 5 MHz                     |          |
|                    |  | 60 dB(μV)              | 5 ... 30 MHz                          |          |
| EN 55016-2-1       | DC supply/data lines<br>Conducted                  | 79 dB(μV)              | 150 ... 500 kHz                       |          |
|                    |  | 73 dB(μV)              | 500 kHz ... 30 MHz                    |          |
| EN 55016-2-3       | Radiated   | 30 dB(μV/m)            | 30 ... 230 MHz                        | 10 m     |
|                    |  | 37 dB(μV/m)            | 230 MHz ... 1 GHz                     | 10 m     |
| EN 55022           | Telecommunications/<br>Mains connection, conducted | 84 ... 74 dB(μV)       | 150 ... 500 kHz<br>500 kHz ... 30 MHz |          |

### Emission Standard for Industrial Environments per EN 61000-6-4

| Test Specification |  | Limits<br>(Quasi-Peak) | Frequency Range                       | Distance |
|--------------------|--|------------------------|---------------------------------------|----------|
| EN 55016-2-1       | AC supply, conducted                               | 79 dB(μV)              | 150 ... 500 kHz                       |          |
|                    |  | 73 dB(μV)              | 500 kHz ... 30 MHz                    |          |
| EN 55016-2-3       | Radiated   | 40 dB(μV/m)            | 30 ... 230 MHz                        | 10 m     |
|                    |  | 47 dB(μV/m)            | 230 MHz ... 1 GHz                     | 10 m     |
| EN 55022           | Telecommunications/<br>Mains connection, conducted | 97 ... 87 dB(μV)       | 150 ... 500 kHz<br>500 kHz ... 30 MHz |          |

### Mechanical Strength per EN 61131-2

| Test Specification |           | Frequency Range  | Limits                        |
|--------------------|-----------|--|-------------------------------|
| IEC 60068-2-6      | Vibration | 5 Hz ≤ f < 9 Hz  | 1.75 mm amplitude (permanent) |
|                    |           |  | 3.5 mm amplitude (short term) |
|                    |           | 9 Hz ≤ f < 150 Hz  | 0.5g (permanent)              |
|                    |           |  | 1g (short term)               |
|                    |           | Note on vibration test:<br>a) Frequency change: max. 1 octave/minute<br>b) Vibration direction: 3 axes                                 |                               |
| IEC 60068-2-27     | Shock     |  | 15g                           |
|                    |           | Note on shock test:<br>a) Type of shock: half sine<br>b) Shock duration: 11 ms   |                               |
|                    |           | c) Shock direction: 3x in positive and 3x in negative direction for each of the three mutually perpendicular axes of the test specimen |                               |
|                    |           |  |                               |



## Electromagnetic Compatibility and Mechanical Strength (Marine Environments)

### Immunity Standard for Marine Environments per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

| Test Specification  | EMC Class <sup>1)</sup> | Designation                 | Test Value   | Performance Criterion 2) |
|---|-------------------------|-----------------------------|--|--------------------------|
| IEC 61000-4-2   | A+B                     | ESD                         | 6 kV (contact)<br>8 kV (air)   | B                        |
| IEC 61000-4-3   | A+B                     | Electromagnetic fields      | 10 V/m; 80 MHz ... 2 GHz   | A                        |
| IEC 61000-4-4   | A+B                     | Burst                       | 1 kV (data ports)<br>2 kV (power supply/ground ports)  | B                        |
| IEC 61000-4-5   | A+B                     | Surge                       | 0.5 kV; line-to-line<br>1.0 kV; line-to-ground   | B                        |
| IEC 61000-4-6   | A<br>B                  | RF interference             | 3 V r.m.s.; 150 kHz ... 80 MHz; 80 % AM at 1000 Hz<br>10 V r.m.s.; 2/3/4/6.2/8.2/12.6/16.5/18.8/22/25 MHz (spot frequencies) | A                        |
| Performance test  | A+B                     | AF disturbances (harmonics) | 3 V r.m.s.; 2 W; 50 Hz ... 10 kHz  | A                        |
| Performance test  | -                       | High voltage                | 775 VDC<br>1500 VAC  | -                        |
| <sup>1)</sup> EMC Class A: All locations except bridge and open deck<br>EMC Class B: All locations including bridge and open deck   |                         |                             |  |                          |
| <sup>2)</sup> Performance criteria A: The device must work in accordance with the regulations during and after the test.<br>Performance criteria B: The device must work in accordance with the regulations after the test. |                         |                             |  |                          |

### Emission Standard for Marine Environments per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

| Test Specification  | EMC Class <sup>1)</sup> | Emission  | Frequency Range                              | Limits (Quasi-Peak)                | Distance |
|---|-------------------------|-----------|--|------------------------------------|----------|
| Performance test  | A                       | Radiated  | 0.15 ... 30 MHz                              | 80 ... 50 dB $\mu$ V/m             | 3 m      |
|   |                         |           | 30 ... 100 MHz                               | 60 ... 54 dB $\mu$ V/m             | 3 m      |
|   |                         |           | 100 ... 2000 MHz<br>(except 156 ... 165 MHz) | 54 dB $\mu$ V/m<br>24 dB $\mu$ V/m | 3 m      |
| Performance test  | A                       | Conducted | 10 ... 150 kHz                               | 120 ... 69 dB $\mu$ V              |          |
|   |                         |           | 150 ... 500 kHz                              | 79 dB $\mu$ V                      |          |
|   |                         |           | 0.50 ... 30 MHz                              | 73 dB $\mu$ V                      |          |
| Performance test  | B                       | Radiated  | 150 ... 300 kHz                              | 80 ... 52 dB $\mu$ V/m             | 3 m      |
|   |                         |           | 0.30 ... 30 MHz                              | 52 ... 34 dB $\mu$ V/m             | 3 m      |
|   |                         |           | 30 ... 2000 MHz<br>(except 156 ... 165 MHz)  | 54 dB $\mu$ V/m<br>24 dB $\mu$ V/m | 3 m      |
| Performance test  | B                       | Conducted | 10 ... 150 kHz                               | 96 ... 50 dB $\mu$ V               |          |
|   |                         |           | 150 ... 350 kHz                              | 60 ... 50 dB $\mu$ V               |          |
|   |                         |           | 0.35 ... 30 MHz                              | 50 dB $\mu$ V                      |          |
| <sup>1)</sup> EMC Class A: All locations except bridge and open deck<br>EMC Class B: All locations including bridge and open deck |                         |           |  |                                    |          |

### Mechanical Strength per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

| Test Specification | Vibration Class | Frequency Range  | Amplitude                                  | Location   |
|--------------------|-----------------|--|--|--|
| IEC 60068-2-6      | A               | 2 Hz (+3/-0) $\leq$ f < 13.2 Hz<br>13.2 Hz $\leq$ f < 100 Hz | 1.0 mm (peak value)<br>0.7g (acceleration) | On bulkheads, beams, deck, bridge  |
| IEC 60068-2-6      | B               | 2 Hz (+3/-0) $\leq$ f < 25 Hz<br>25 Hz $\leq$ f < 100 Hz     | 1.6 mm (peak value)<br>4.0g (acceleration) | On machinery such as internal combustion engines, compressors, pumps, including piping on such machinery |
|                    |                 | 40 Hz $\leq$ f < 2000 Hz                                     | 10g (acceleration)                         | Only for equipment installed on the exhaust gas pipes of diesel engines                                  |
| IEC 60068-2-6      | C               | 2 Hz (+3/-0) $\leq$ f < 15 Hz<br>15 Hz $\leq$ f < 50 Hz      | 2.6 mm (peak value)<br>2.3g (acceleration) | Masts  |

## Specifications and Test Results

|   |   |   |
|---|---|---|
| The following standards apply to the design and application of the electrical components contained in this catalog:   | IEC 60529<br>EN 60529<br>VDE 0470-1<br>Degrees of protection provided by enclosures (IP code)   | IEC 60998-2-2<br>EN 60998-2-2<br>VDE 0613-2-2<br>Connecting devices for low-voltage circuits for household and similar purposes<br>– Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units |
| DIN VDE 0100<br>Construction of high-current installations with nominal voltages up to 1000 V   | IEC 60603-1<br>EN 60603-1<br>Connectors for frequencies below 3 MHz for use with printed boards<br>– Part 1: Generic specification: General requirements and guide for the preparation of detail specifications, with assessed quality  | IEC 60947-1<br>EN 60947-1<br>VDE 0660-100<br>Low-voltage switchgear and controlgear<br>– Part 1: General rules  |
| EN 50110-1<br>VDE 0105-1<br>Operation of electrical installations   | IEC 61140<br>EN 61140<br>VDE 0140-1<br>Protection against electric shock – Common aspects for installation and equipment  | IEC 60947-5-6<br>EN 60947-5-6<br>VDE 0660-212<br>Low-voltage switchgear and controlgear<br>– Part 5-6: Control circuit devices and switching elements, DC interface for proximity sensors and switching amplifiers (NAMUR)                            |
| IEC 60664-1<br>EN 60664-1<br>VDE 0110-1<br>Insulation coordination for equipment within low-voltage systems<br>– Part 1: Principles, requirements and tests | IEC 60999-1<br>EN 60999-1<br>VDE 0609-1<br>Connecting devices – Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units<br>– Part 1: General requirements and particular requirements for clamping units for conductors 0.2 mm <sup>2</sup> up to 35 mm <sup>2</sup> | IEC 60439-1<br>EN 60439-1<br>VDE 0660-500<br>Low-voltage switchgear and controlgear assemblies<br>– Part 1: Type-tested and partially type-tested assemblies  |
| IEC 60204-1<br>EN 60204-1<br>VDE 0113-1<br>Safety of machinery – Electrical equipment of machines – Part 1:<br>General requirements                         | IEC 60617-2<br>EN 60617-2<br>Graphical symbols for diagrams<br>– Part 2: Symbol elements, qualifying symbols and other symbols having general application   | IEC 60555-1<br>EN 60555 Part 1<br>VDE 0838-1<br>Disturbances in supply systems caused by household appliances and similar electrical equipment;<br>Part 1: definitions  |
| EN 50178<br>VDE 0160<br>Electronic equipment for use in power installations   | IEC 61558-1<br>EN 61558-1<br>VDE 0570-1<br>Safety of power transformers, power supplies, reactors and similar products<br>– Part 1: General requirements and tests  | IEC 60715<br>EN 60715<br>Dimensions of low-voltage switchgear and controlgear – Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations   |
| IEC 62305-1<br>EN 62305-1<br>VDE 0185-305-1<br>Protection against lightning<br>– Part 1: General principles   | IEC 60669-2-1<br>EN 60669-2-1<br>VDE 0632-2-1<br>Switches for household and similar fixed electrical installations<br>– Part 2-1: Particular requirements – Electronic switches   | IEC 60950-1<br>EN 60950-1<br>VDE 0805-1<br>Information technology equipment – Safety<br>– Part 1: General requirements  |
| IEC 60060-1<br>HD 588.1 S1<br>VDE 0432-1<br>High-voltage test techniques<br>– Part 1: General specifications and test requirements                          | IEC 60947-7-1<br>EN 60947-7-1<br>VDE 0611-1<br>Low-voltage switchgear and controlgear<br>– Part 7-1: Ancillary equipment – Terminal blocks for copper conductors  | IEC 60127-6<br>EN 60127-6<br>VDE 0820-6<br>Miniature fuses<br>– Part 6: Fuse-holders for miniature fuse-links   |
| IEC 60085<br>EN 60085<br>VDE 0301-1<br>Electrical insulation – Thermal evaluation and designation   |   |   |

|   |   |  |
|---|---|--|
| EN 50155<br>VDE 0115-200<br>Railway applications – Electronic equipment used on rolling stock   | <b>Interfaces – Fieldbuses</b>  | IEC 60079-14<br>EN 60079-14<br>VDE 0165-1<br>Explosive atmospheres<br>– Part 14: Electrical installations design, selection and erection   |
| EN 50090-2-2<br>VDE 0829-2-2<br>Home and Building Electronic Systems (HBES)<br>– Part 2-2: System overview – General technical requirements; German version   | DIN 66259-1<br>Electrical characteristics for unbalanced double-current interchange circuits  | IEC 60079-15<br>EN 60079-15<br>VDE 0170-16<br>Electrical apparatus for explosive gas atmospheres<br>– Part 15: Construction, test and marking of type of protection "n" electrical apparatus |
| IEC 60099-1<br>EN 60099-1<br>VDE 0675-1<br>Surge arresters<br>– Part 1: Non-linear resistor type gapped surge arresters for a.c. systems  | EN 50325-1<br>Industrial communications subsystem based ISO 11898 (CAN) for controller-device interfaces<br>– Part 1: General requirements                | IEC 61241-0<br>EN 61241-0<br>VDE 0170-15-0<br>Electrical apparatus for use in the presence of combustible dust<br>– Part 0: General requirements   |
| IEC 61643-1<br>EN 61643-11<br>VDE 0675-6-11<br>Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and tests                                       | IEC 61784-1<br>EN 61784-1<br>Industrial communication networks – Profiles<br>– Part 1: Fieldbus profiles  | IEC 61241-1<br>EN 61241-1<br>VDE 0170-15-1<br>Electrical apparatus for use in the presence of combustible dust<br>– Part 1: Protection by enclosures "tD"                                    |
| IEC 61643-21<br>EN 61643-21<br>VDE 0845-3-1<br>Low voltage surge protective devices – Part 21: Surge protective devices connected to telecommunications and signalling networks; Performance requirements and testing methods | IEC 61158-2<br>EN 61158-2<br>Industrial communication networks – Fieldbus specifications<br>– Part 2: Physical layer specification and service definition | IEC 61241-11<br>EN 61241-11<br>VDE 0170-15-11<br>Electrical apparatus for use in the presence of combustible dust<br>– Part 11: Protection by intrinsic safety "ID"                          |
| IEC 61508-1<br>EN 61508-1<br>VDE 0803-1<br>Functional safety of electrical/electronic/programmable electronic safety-related systems<br>– Part 1: General requirements  | IEC 61158-6-x<br>EN 61158-6-x<br>DIN EN 61158-6-x<br>Industrial communication networks – Fieldbus specifications<br>– Part 6-x                            |  |
| IEC 62061<br>EN 62061<br>VDE 0113-50<br>Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems  | <b>Explosion Protection</b>   |  |
|   | IEC 60079-0<br>EN 60079-0<br>VDE 0170-1<br>Electrical apparatus for explosive gas atmospheres<br>– Part 0: General requirements                           |  |
|   | IEC 60079-7<br>EN 60079-7<br>VDE 0170-6<br>Explosive atmospheres<br>– Part 7: Equipment protection by increased safety "e"                                |  |
|   | IEC 60079-11<br>EN 60079-11<br>VDE 0170-7<br>Explosive atmospheres<br>– Part 11: Equipment protection by intrinsic safety "I"                             |  |

## Specifications and Test Results (continued)

### Environmental Testing

IEC 60068-2-6  
EN 60068-2-6  
VDE 0468-2-6  
Environmental testing  
– Part 2-6: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-27  
EN 60068-2-27  
Basic environmental testing procedures  
– Part 2: Tests  
– Test Ea and guidance: Shock

IEC 60068-2-42  
EN 60068-2-42  
Environmental testing  
– Part 2-42: Tests  
– Test Kc: Sulfur dioxide test for contacts and connections

IEC 60068-2-43  
EN 60068-2-43  
Environmental testing  
– Part 2-43: Tests  
– Test Kd: Hydrogen sulphide test for contacts and connections

### EMC Requirements

IEC 61000-6-1  
EN 61000-6-1  
VDE 0839-6-1  
Electromagnetic compatibility (EMC)  
– Part 6-1: Generic standards  
– Immunity for residential, commercial and light-industrial environments

IEC 61000-6-2  
EN 61000-6-2  
VDE 0839-6-2  
Electromagnetic compatibility (EMC)  
– Part 6-2: Generic standards  
– Immunity for industrial environments

IEC 61000-6-3  
EN 61000-6-3  
VDE 0839-6-3  
Electromagnetic compatibility (EMC)  
– Part 6-3: Generic standards  
– Emission standard for residential, commercial and light-industrial environments

IEC 61000-6-4  
EN 61000-6-4  
VDE 0839-6-4  
Electromagnetic compatibility (EMC)  
– Part 6-4: Generic standards  
– Emission standard for industrial environments

IEC 61000-3-2  
EN 61000-3-2  
VDE 0838-2  
Electromagnetic compatibility (EMC)  
– Part 3-2: Limits  
– Limits for harmonic current emissions (equipment input current  $\leq 16$  A per phase)

IEC/CISPR 11  
EN 55011  
VDE 0875-11  
Industrial scientific and medical (ISM) radio-frequency equipment  
– Electromagnetic disturbance characteristics  
– Limits and methods of measurement

IEC/CISPR 22  
EN 55022  
VDE 0878-22  
Information technology equipment  
– Radio disturbance characteristics  
– Limits and methods of measurement

IEC/CISPR 24  
EN 55024  
VDE 0878-24  
Information technology equipment  
– Immunity characteristics  
– Limits and methods of measurement

IEC 61326-3-1  
EN 61326-3-1  
VDE 0843-20-3-1  
Electrical equipment for measurement, control and laboratory use – EMC requirements  
– Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications

| PLC   | Relays   | Ship Classifications   |
|---|--|--|
| IEC 61131-1<br>EN 61131-1<br>Programmable Logic Controllers<br>– Part 1:<br>General Information                     | IEC 61810-1<br>EN 61810-1<br>VDE 0435-201<br>Electromechanical elementary relays<br>– Part 1: General requirements   | ABS (American Bureau of Shipping)<br>Steel Vessels<br>Part 4: Vessel Systems and Machinery   |
| IEC 61131-2<br>EN 61131-2<br>VDE 0411-500<br>Programmable controllers<br>– Part 2: Equipment requirements and tests | IEC 61810-2<br>EN 61810-2<br>VDE 0435-120<br>Electromechanical elementary relays<br>– Part 2: Reliability  | BV (Bureau Veritas)<br>Rules for the classification of steel ships and offshore units  |
| IEC 61131-3<br>EN 61131-3<br>Programmable controllers<br>– Part 3: Programming languages                            | IEC 61810-5<br>EN 50205<br>VDE 0435-2022<br>Electromechanical non-specified time all-or-nothing relays<br>– Part 5: Insulation coordination                                | DNV (Det Norsk Veritas)<br>Det Norsk Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norsk Veritas' Offshore Standards: 2007  |
|   | IEC 60255-5<br>EN 60255-5<br>VDE 0435-130<br>Electrical relays<br>– Part 5: Insulation coordination for measuring relays and protection equipment – Requirements and tests | GL (German Lloyd)<br>Rules for Classification and Construction VI Additional Rules and Guidelines<br>7 Guidelines for the Performance of Type Test 2 Test Requirements for Electrical/Electronic Devices and Systems |
|   | <b>UL Directives</b>   | LR (Lloyds Register)<br>Type Approval System<br>Test Specification Number 1  |
|   | UL 1059; ANSI 1059<br>Rail-Mount Terminal Blocks   | RINA (Registro Italiano Navale)<br>Rules for the classification of ships<br>Part C – Machinery, systems and fire protection Ch. 3, Sect. 6, Table 1  |
|   | UL 486E<br>Equipment wiring terminals for use with aluminum and/or copper conductors   | BSH (Federal Maritime and Hydrographic Agency)<br>Certificate measuring the safe distance to the standard magnetic and steering magnetic compass in accordance with ISO R 695 and DIN EN 60945 Section 11.2          |
|   | UL 508<br>Industrial control equipment   | KR (Korean Register of Shipping)<br>List of Approved Manufacturers and Type Approved Equipment; Pt. 6, Ch. 1, Sec. 3 of the Rules for Classification of Steel Ships  |
|   | ANSI/ISA12.12.01<br>Nonincendive electrical equipment for use in Class I and Class II, Division 2 and Class III hazardous (classified) locations                           | NKK (Nippon Kaiji Kyokai)<br>Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use   |
|   |  | PRS (Polski Rejestr Statkow)<br>Publication No. 11/P<br>Environmental Tests on Marine Equipment  |

## Electrical Engineering Laboratory Product Safety for Our Customers

To use terminal blocks globally, they must satisfy certain standards and obtain test certificates. These requirements apply to every manufacturer. WAGO also conducts its own tests to increase standards and offer greater reliability with its products. Products undergo a full range of mechanical, electrical and climatic testing, and we'll share a few of those processes with you.

### Pull-Out Test (per EN 60947-7-1, EN 60998-2-2)

During the pull-out force test, a conductor is pulled on until it is removed from the clamping unit. The design of the terminals means that extraction only occurs after the standard pull-out force has been exceeded many times over.

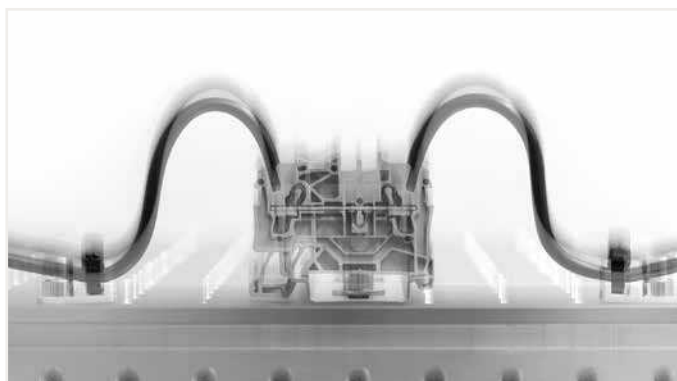
### WAGO Test Lab

This means that WAGO's products can be used safely and reliably both in Europe and anywhere globally for a wide variety of applications. We heavily emphasize the importance of global acceptance during development. As a result, we can present documentation that verifies our high levels of product safety and reliability while ensuring the fulfillment and accuracy of technical data, which are the highest priorities for our customers and users worldwide. On December 22, 2009, our test lab was accredited by the German Accreditation Association (Deutsche Gesellschaft für Akkreditierung GmbH) in accordance with DIN EN ISO/IEC 17025.



### Vibration Test (per IEC/EN 60068-2-6)

Depending on the application, such as railway (per EN 61373) or marine (per GL, LR, DNV), there are various testing requirements to determine if the long-term effects of vibrations degrade electrical connections. The test specimen is subjected to different loads on three axes in an electrodynamic vibration system. The amplitude, the acceleration, and particularly the frequency of the vibration vary during the test. The test values are increased many times over the standard values to meet special customer requirements.



### Shock Test (per IEC/EN 60068-2-27)

The shock test is very similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the test specimen. Shock tests are usually performed, for example, at an acceleration of 20g over a period of 11 ms. Tests for special requirements often call for much higher values and are also conducted in our laboratory.



### Voltage Drop Test under Bending Stress (per WAGO test requirements)

The voltage drop test under bending stress simulates mechanical stress on the clamping unit. In everyday use, this stress can occur during installation, for example, when an electrician shoves connected conductors to the side in order to access a specific component. The quality of the clamping unit when moving a connected conductor can be validated by the constantly stable measured value of the voltage drop.





## Deutsche Akkreditierungsstelle GmbH

**Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV**  
 Unterzeichnerin der Multilateralen Abkommen  
 von EA, ILAC und IAF zur gegenseitigen Anerkennung

# Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass

**das Prüflaboratorium WAGO Kontakttechnik GmbH & Co. KG**  
**Hansastraße 27, 32423 Minden**

die Kompetenz nach DIN EN ISO/IEC 17025:2018 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

**Elektrische und mechanische Prüfungen an Klemmen und Steckverbinder  
 sowie Umweltsimulation**

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 24.05.2019 mit der Akkreditierungsnummer D-PL-19704-01. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 08 Seiten.

**Registrierungsnummer der Urkunde: D-PL-19704-01-00**

Frankfurt am Main, 24.05.2019

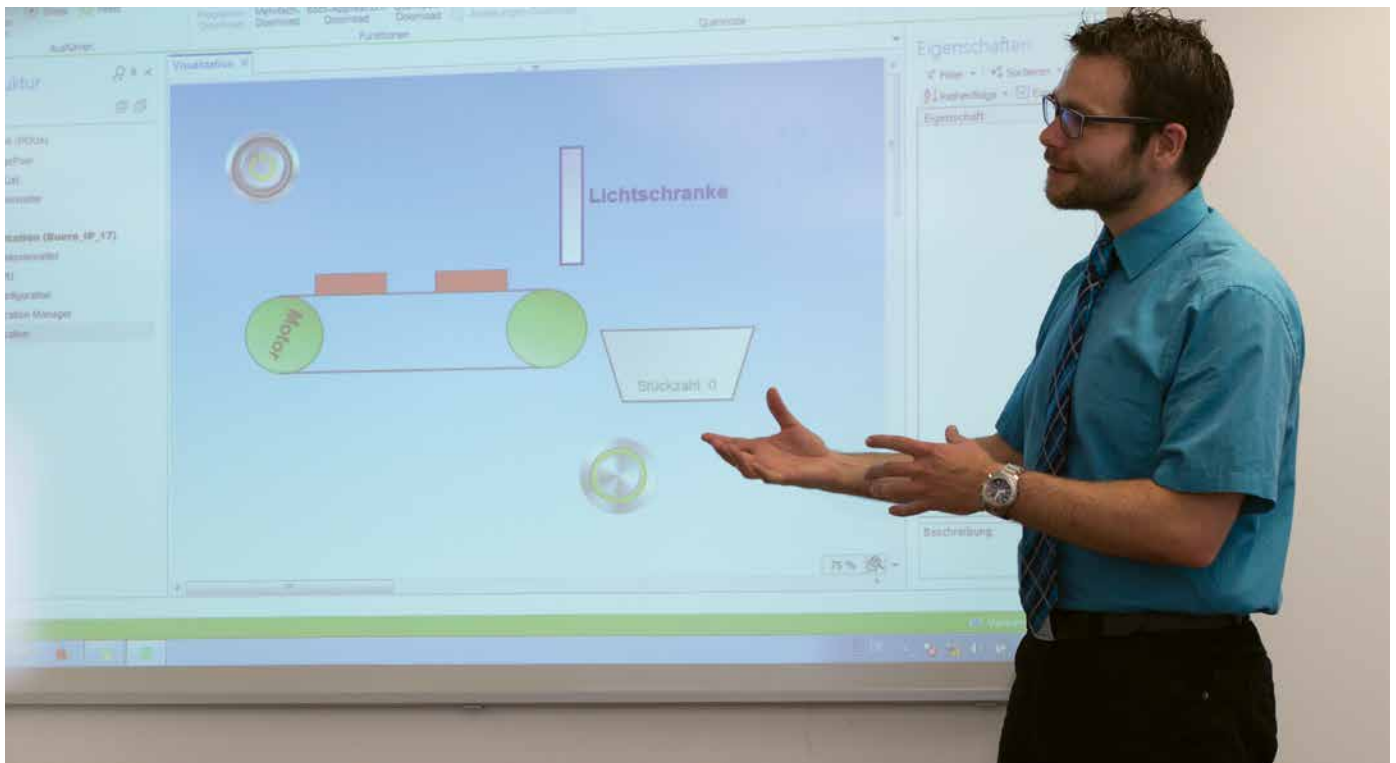
Im Auftrag Dipl.-Ing. (FH) Ralf Egner  
 Abteilungsleiter

*Die Urkunde samt Urkundenanlage gibt den Stand zum Zeitpunkt des Ausstellungsdatums wieder. Der jeweils aktuelle Stand des Geltungsbereiches der Akkreditierung ist der Datenbank akkreditierter Stellen der Deutschen Akkreditierungsstelle GmbH (DAkkS) zu entnehmen. <https://www.dakks.de/content/datenbank-akkreditierter-stellen>*

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## WAGO-Seminars

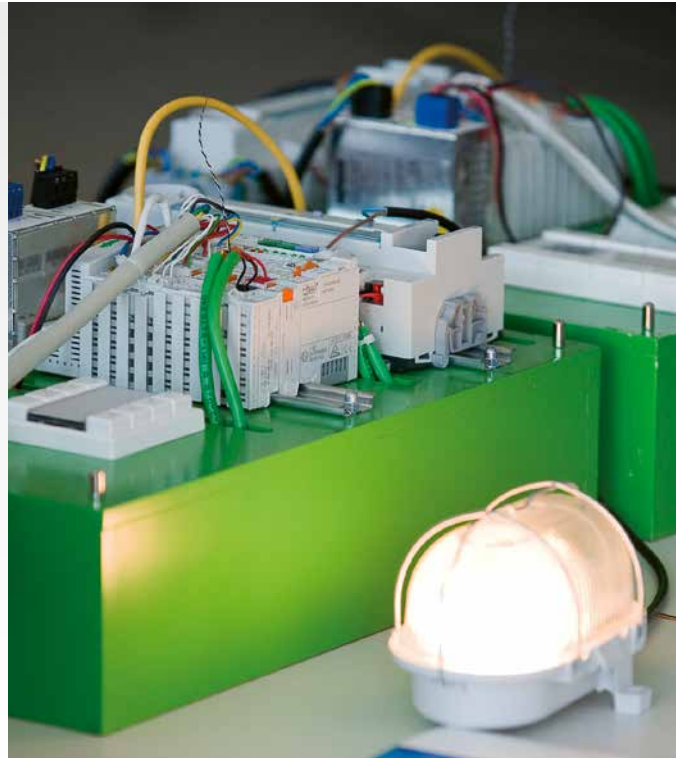
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| 787-1664/000-200  | 660  | 790-312           | 712  | 852-1328           | 607  | 2787-2347          | 654  |
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| 787-1664/004-1000 | 660  | 790-352/790-398   | 713  | 852-1411/000-001   | 594  | 2787-2357          | 654  |
| 787-1664/006-1000 | 660  | 790-360/790-398   | 713  | 852-1417           | 595  | 2787-2358          | 654  |
| 787-1664/006-1054 | 660  | 790-362/790-398   | 713  | 852-1505           | 611  | 2787-2448          | 654  |
| 787-1664/106-000  | 660  | 790-398           | 713  | 852-1505/000-001   | 612  |                    |      |
| 787-1664/106-011  | 660  | 790-400           | 713  | 852-1605           | 615  | <b>2789 Series</b> |      |
| 787-1664/212-1000 | 660  |                   |      | 852-1812           | 602  | 2789-9015          | 654  |
| 787-1668          | 660  | <b>791 Series</b> |      | 852-1813           | 603  | 2789-9023          | 654  |
| 787-1668/000-004  | 660  | 791-107           | 710  | 852-1813/000-001   | 604  | 2789-9052          | 654  |
| 787-1668/000-054  | 660  | 791-111           | 710  | 852-1816           | 605  | 2789-9080          | 654  |
| 787-1668/000-080  | 660  | 791-117           | 710  | 852-9101           | 617  |                    |      |
| 787-1668/000-200  | 660  | 791-124           | 710  |                    |      | <b>2851 Series</b> |      |
| 787-1668/000-250  | 660  |                   |      | <b>2009 Series</b> |      | 2851-8201          | 700  |
| 787-1668/006-1000 | 660  | <b>810 Series</b> |      | 2009-110           | 556  | 2851-8202          | 700  |
| 787-1668/006-1054 | 660  | 810-900/000-001   | 704  | 2009-115           | 556  | 2851-8301          | 698  |
| 787-1668/106-000  | 660  | 810-900/002-000   | 704  | 2009-145           | 714  | 2851-8302          | 698  |
| 787-1668/106-054  | 660  | 810-900/003-000   | 704  |                    |      | 2851-8303          | 698  |
| 787-1671          | 661  | 810-901/000-001   | 704  | <b>2687 Series</b> |      |                    |      |
| 787-1675          | 661  | 810-902/000-001   | 705  | 2687-2142          | 657  | <b>2852 Series</b> |      |
| 787-1685          | 661  | 810-902/000-002   | 705  | 2687-2144          | 657  | 2852-7110          | 703  |
| 787-1701          | 657  |                   |      | 2687-2146          | 655  | 2852-7111          | 703  |
| 787-1702          | 657  | <b>850 Series</b> |      |                    |      | 2852-7112          | 703  |
| 787-1711          | 657  | 850-814/002-000   | 693  |                    |      | 2852-7113          | 703  |
| 787-1712          | 657  | 850-815/002-000   | 693  | <b>2759 Series</b> |      | 2852-7114          | 703  |
| 787-1721          | 657  | 850-816/002-000   | 693  | 2759-106/1121-1000 | 38   | 2852-7115          | 703  |
| 787-1722          | 657  | 850-817/002-000   | 693  |                    |      | 2852-7210          | 702  |
| 787-1732          | 657  | 850-818/002-000   | 694  |                    |      |                    |      |





















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