WAGO Interface Electronics

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

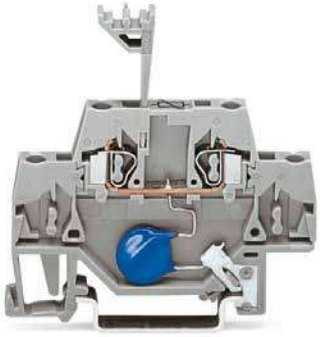
- Printer
- Software
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Marker Carriers

WAGO Interface Electronics

The Right Interface

WAGO Coupler Relays and WAGO Solid-State Relays

WAGO Protective Devices and Protective Electronics

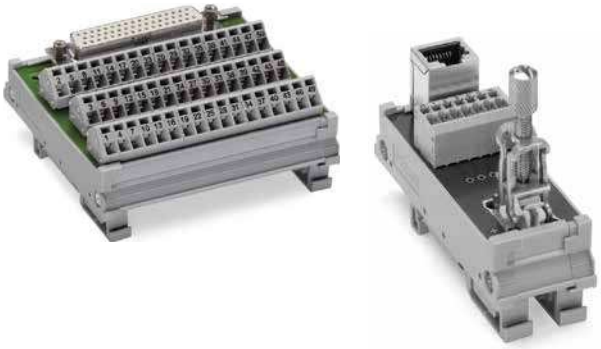


WAGO Power Supply Systems

for Every Application

WAGO Signal Conditioners
and WAGO Isolation Amplifiers

WAGO System Wiring



WAGO Energy Measurement Technology

WAGO Coupler Relays

WAGO Coupler Relays

WAGO Coupler Relays
Selection Guide

1

Nominal Input Voltage U_{Nom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals										Contact Material	For Railway Applications	Specialty Function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	DNV	UL 508	ATEX	IEC Ex					
5 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-302**	78
5 VDC	5 A			1			■				■	■			AgNi + Au			**859-312**	79
12 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-303**	78
12 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-353**	80
12 VDC	5 A			4			■					■			AgCe		With manual operation	**858-303**	64
12 VDC	6 A			1			■					■	■	■	$AgSnO_2$			**857-303**	10
12 VDC	8 A			2			■					■			AgNi 90/10			**788-311**	30
12 VDC	16 A			1			■					■			AgNi 90/10			**788-303**	28
12 VDC	16 A			1			■					■			$AgSnO_2$		For lamp loads	**788-353**	36
24 VDC	0,3 A			2					■			■			AgNi + Au		Force-guided contacts	**788-906**	40
24 VDC	5 A	1													$AgSnO_2$			**286-364**	118
24 VDC	5 A	1													AgNi 0,15			**288-364**	90
24 VDC	5 A	4			■		■								AgNi	■		**2042-3024**	110
24 VDC	5 A	2	2			■	■								AgNi	■		**2042-3084**	112
24 VDC	5 A	3	1			■	■								AgNi	■		**2042-3074**	111
24 VDC	5 A		1												AgNi 0,15			**288-368**	91
24 VDC	5 A		1												AgNi			**286-368**	119
24 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-304**	78
24 VDC	5 A			1			■				■	■			$AgSnO_2$	■		**859-390**	82
24 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-398**	85
24 VDC	5 A			1			■				■	■			AgNi + Au			**859-314**	79
24 VDC	5 A			1			■				■	■			AgNi + Au	■		**859-392**	83
24 VDC	5 A			2											AgNi 10 +Au		Force-guided contacts	**288-437**	95
24 VDC	5 A			4			■				■	■			AgCe		With manual operation	**858-304**	64
24 VDC	5 A			4			■					■			AgCe + Au		With manual operation	**858-314**	64
24 VDC	5 A			4			■					■			AgCe	■	With manual operation	**858-354**	68
24 VDC	5 A			4			■					■			AgCe + Au	■	With manual operation	**858-355**	69
24 VDC	6 A	1			■		■								$AgSnO_2$	■		**2042-3004**	98
24 VDC	6 A	1	1												$AgSnO_2$			**286-320**	124
24 VDC	6 A	2													$AgSnO_2$			**286-328**	125
24 VDC	6 A		1		■		■								$AgSnO_2$	■		**2042-3054**	99
24 VDC	6 A			1			■				■	■	■	■	$AgSnO_2$			**857-304**	10
24 VDC	6 A			1			■				■	■	■	■	AgNi + Au			**857-314**	11
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-640**	20
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-642**	21
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-604**	22
24 VDC	6 A			1											AgNi 0,15		Bistable	**286-380**	126
24 VDC	6 A			1											AgNi 90/10			**288-304**	92
24 VDC	6 A			1											AgNi 0,15		Bistable	**288-380**	94
24 VDC	6 A			2											AgNi 0,15			**288-312**	93
24 VDC	6 A			2				■	■			■			AgNi		Force-guided contacts	**788-384**	39
24 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-390**	70
24 VDC	7 A			1											AgNi 0,15			**286-304**	120
24 VDC	7 A			2											AgNi 0,15			**286-312**	122
24 VDC	8 A	2			■		■								AgNi	■		**2042-3014**	104
24 VDC	8 A	1	1		■		■								AgNi	■		**2042-3064**	106
24 VDC	8 A			2			■					■			AgNi 90/10			**788-312**	30
24 VDC	8 A			2			■					■			AgNi + Au			**788-412**	31
24 VDC	8 A			2			■					■			AgNi		With manual operation	**788-346**	43
24 VDC	8 A			2			■								AgNi	■	With manual operation	**788-390**	46
24 VDC	8 A			2											AgNi 90/10			**789-312**	130
24 VDC	8 A			2											AgNi		With manual operation	**789-1346**	136

WAGO Coupler Relays
Selection Guide

Nominal Input Voltage U_{Nom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals										Contact Material	For Railway Applications	Specialty Function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	DNV	UL 508	ATEX	IEC Ex					
24 VDC	8 A			2		■	■								AgNi	■		**2042-3044**	105
24 VDC	10 A			1	■		■								AgNi	■		**2042-3034**	102
24 VDC	12 A			1											AgNi 90/10			**789-304**	128
24 VDC	12 A			1											AgNi		With manual operation	**789-1341**	134
24 VDC	12 A			1					■						$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-326**	141
24 VDC	12 A			1											$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-329**	142
24 VDC	12 A			2								■			AgNi		With manual operation	**858-324**	72
24 VDC	16 A	1					■					■			$AgSnO_2$		For lamp loads	**788-356**	37
24 VDC	16 A	1					■								$AgSnO_2$		For lamp loads	**788-357**	39
24 VDC	16 A	1													$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-323**	138
24 VDC	16 A	1							■						$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-324**	139
24 VDC	16 A	1													$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-325**	140
24 VDC	16 A	1													$AgSnO_2$			**789-571**	143
24 VDC	16 A			1			■					■			AgNi 90/10			**788-304**	28
24 VDC	16 A			1			■					■			AgNi + Au			**788-404**	29
24 VDC	16 A			1			■					■			$AgSnO_2$		For lamp loads	**788-354**	36
24 VDC	16 A			1			■					■			AgNi		With manual operation	**788-341**	42
24 VDC	16 A			1			■								AgNi	■	With manual operation	**788-391**	47
36 VDC	5 A			1			■								AgNi + Au	■		**859-386**	83
48 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-305**	78
48 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-397**	85
48 VDC	5 A			4			■					■			AgCe		With manual operation	**858-305**	64
48 VDC	6 A			1			■					■			$AgSnO_2$			**857-305**	10
48 VDC	8 A			2			■					■			AgNi 90/10			**788-313**	30
48 VDC	12 A			2								■			AgNi		With manual operation	**858-325**	72
48 VDC	16 A			1			■					■			AgNi 90/10			**788-305**	28
60 VDC	8 A			2			■					■			AgNi 90/10			**788-314**	30
60 VDC	16 A			1			■					■			AgNi 90/10			**788-306**	28
110 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-307**	78
110 VDC	5 A			1			■				■	■			$AgSnO_2$	■		**859-391**	84
110 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-399**	85
110 VDC	5 A			1			■				■	■			AgNi + Au	■		**859-317**	83
110 VDC	5 A			4			■					■			AgCe		With manual operation	**858-307**	64
110 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-392**	70
110 VDC	8 A			2			■					■			AgNi 90/10			**788-315**	30
110 VDC	12 A			2								■			AgNi		With manual operation	**858-327**	72
110 VDC	16 A			1			■					■			AgNi 90/10			**788-307**	28
220 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-308**	78
220 VDC	5 A			4			■					■			AgCe		With manual operation	**858-308**	64
220 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-391**	70
220 VDC	12 A			2								■			AgNi		With manual operation	**858-328**	72

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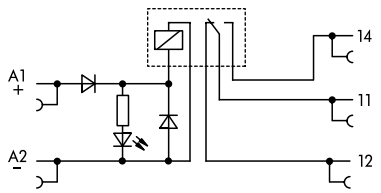
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	DNV	UL 508	ATEX	IEC Ex					
24 VAC	5 A			4			■					■			AgCe		With manual operation	**858-504**	66
24 VAC	5 A			4			■					■			AgCe + Au		With manual operation	**858-514**	67
24 VAC	8 A			2			■					■			AgNi 90/10			**788-512**	34
24 VAC	8 A			2			■					■			AgNi		With manual operation	**788-546**	45
24 VAC	16 A			1			■					■			AgNi 90/10			**788-506**	32
24 VAC	16 A			1			■					■			AgNi		With manual operation	**788-541**	44
115 VAC	5 A			1			■				■	■			$AgSnO_2$		Defined switch-on threshold	**859-367**	86
115 VAC	5 A			4			■					■			AgCe		With manual operation	**858-507**	66
115 VAC	5 A			4			■					■			AgCe + Au		With manual operation	**858-517**	67
115 VAC	7 A			1											AgNi 0,15			**286-507**	121
115 VAC	8 A			2			■					■			AgNi 90/10			**788-515**	34
115 VAC	8 A			2			■					■			AgNi + Au			**788-615**	35
115 VAC	8 A			2			■					■			AgNi		With manual operation	**788-548**	45
115 VAC	16 A			1			■					■			AgNi 90/10			**788-507**	32
115 VAC	16 A			1			■					■			AgNi + Au			**788-607**	33
115 VAC	16 A			1			■					■			AgNi		With manual operation	**788-543**	44
230 VAC	5 A			4			■				■	■			AgCe		With manual operation	**858-508**	66
230 VAC	5 A			4			■				■	■			AgCe + Au		With manual operation	**858-518**	67
230 VAC	5 A			1			■				■	■			$AgSnO_2$		Defined switch-on threshold	**859-368**	87
230 VAC	6 A			1			■								$AgSnO_2$		Integrated base load module	**857-358/006-000**	14
230 VAC	6 A			1			■								AgNi + Au		Integrated base load module	**857-368/006-000**	15
230 VAC	7 A			1											AgNi 0,15			**286-508**	121
230 VAC	7 A			2											AgNi 0,15			**286-516**	123
230 VAC	8 A			2			■					■			AgNi 90/10			**788-516**	34
230 VAC	8 A			2			■					■			AgNi + Au			**788-616**	35
230 VAC	8 A			2			■					■			AgNi		With manual operation	**788-549**	45
230 VAC	8 A			2											AgNi		With manual operation	**789-1549**	137
230 VAC	12 A			1											AgNi 90/10			**789-508**	129
230 VAC	12 A			1											AgNi		With manual operation	**789-1544**	135
230 VAC	12 A			2								■			AgNi		With manual operation	**858-528**	73
230 VAC	16 A	1													$AgSnO_2$			**789-570**	143
230 VAC	16 A			1			■					■			AgNi		With manual operation	**788-544**	44
230 VAC	16 A			1			■					■			AgNi 90/10			**788-508**	32
230 VAC	16 A			1			■					■			AgNi + Au			**788-608**	33

WAGO Coupler Relays
Selection Guide

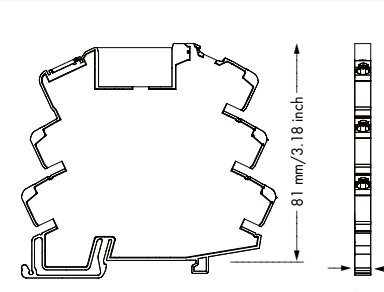
Nominal Input Voltage U_{Nom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals									Contact Material	For Railway Applications	Specialty Function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	DNV	UL 508	ATEX	IEC Ex					
12 VAC/VDC	5 A			1			■				■	■			$AgSnO_2$			**859-353**	80
24 VAC/VDC	4 A	1					■					■	■	■	$AgSnO_2$			**857-1330**	18
24 VAC/VDC	4 A	4													AgNi + Au			**789-552**	132
24 VAC/VDC	4 A	2	2												AgNi + Au			**789-536**	133
24 VAC/VDC	5 A	1													AgNi 0,15			**288-564**	90
24 VAC/VDC	5 A			1			■				■	■			$AgSnO_2$			**859-354**	80
24 VAC/VDC	6 A	4	4					■				■			$AgSnO_2$		Force-guided contacts	**288-414**	96
24 VAC/VDC	6 A			1			■					■	■	■	$AgSnO_2$			**857-354**	12
24 VAC/VDC	6 A			1											AgNi 90/10			**288-504**	92
24 VAC/VDC	6 A			1			■					■	■	■	AgNi + Au			**857-364**	13
24 VAC/VDC	6 A			2											AgNi 0,15			**288-512**	93
24 VAC/VDC	16 A	1													$AgSnO_2$		For lamp loads	**789-520**	131
48 VAC/VDC	5 A			1			■				■	■			$AgSnO_2$			**859-355**	80
115 VAC/VDC	5 A			1			■				■	■			AgNi + Au			**859-360**	81
115 VAC/VDC	5 A			1			■				■	■			$AgSnO_2$			**859-357**	80
115 VAC/VDC	6 A			1			■					■	■	■	$AgSnO_2$			**857-357**	12
230 VAC/VDC	5 A			1			■				■	■			$AgSnO_2$			**859-358**	80
230 VAC/VDC	5 A			1			■				■	■			AgNi + Au			**859-359**	81
230 VAC/VDC	6 A	4	4					■				■			$AgSnO_2$		Force-guided contacts	**288-418**	97
230 VAC/VDC	6 A			1			■				■	■	■	■	$AgSnO_2$			**857-358**	12
230 VAC/VDC	6 A			1			■				■	■	■	■	AgNi + Au			**857-368**	13
24 … 230 VAC/VDC	3 A	1			■		■								$AgSnO_2$			**2042-3809**	100
24 … 230 VAC/VDC	3 A	4				■	■								AgNi			**2042-3829**	113
24 … 230 VAC/VDC	3 A	2	2			■	■								AgNi			**2042-3889**	115
24 … 230 VAC/VDC	3 A	3	1			■	■								AgNi			**2042-3879**	114
24 … 230 VAC/VDC	4 A			1		■	■								AgNi			**2042-3839**	103
24 … 230 VAC/VDC	5 A	2			■		■								AgNi			**2042-3819**	107
24 … 230 VAC/VDC	5 A	1	1		■		■								AgNi			**2042-3869**	109
24 … 230 VAC/VDC	5 A			2	■		■								AgNi			**2042-3849**	108
24 … 230 VAC/VDC	6 A		1			■	■								$AgSnO_2$			**2042-3859**	101
24 … 230 VAC/VDC	6 A			1	■		■					■			$AgSnO_2$			**857-359**	16
24 … 230 VAC/VDC	6 A			1	■		■					■			AgNi + Au			**857-369**	17

Relay module; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm
857 Series

1

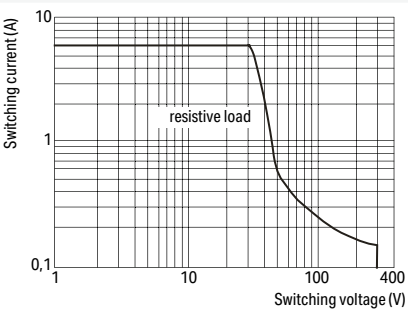


U_N	I_N	Item No.	PU
12 VDC	17 mA	857-303	25
24 VDC	10 mA	857-304	25
48 VDC	7 mA	857-305	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



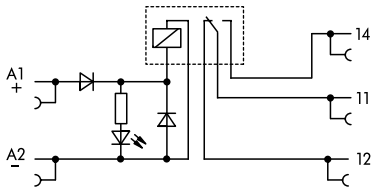
DC Load Limit Curve

Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX; IEC Ex

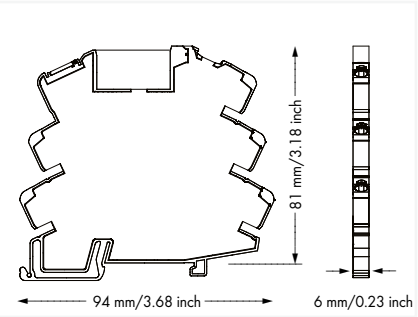
» Accessories Page 24

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Yellow status indicator; Module width: 6 mm

857 Series

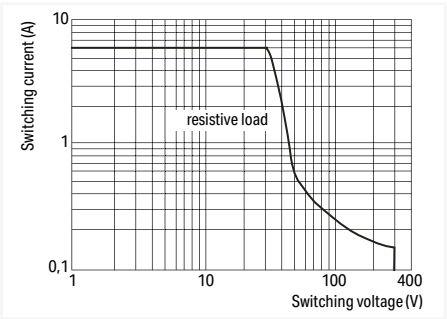


U_N	I_N	Item No.	PU
24 VDC	10 mA	857-314	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



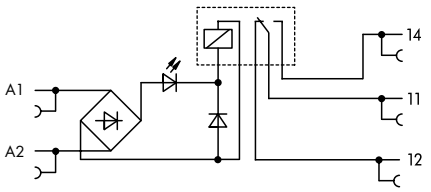
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	10 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	6 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX; IEC Ex; DNV

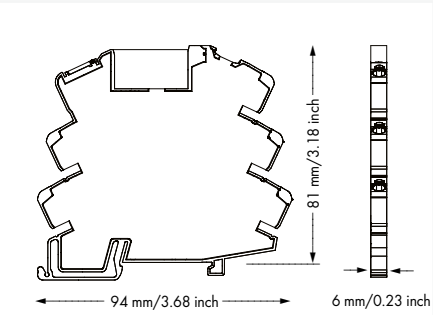
» Accessories Page 24

Relay module; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm
857 Series

1

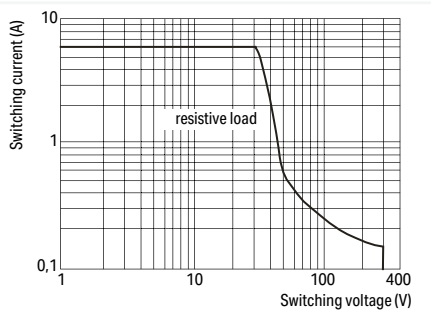


U_N	I_N	Item No.	PU
24 VAC/VDC	9 mA	857-354	25
115 VAC/VDC	4 mA	857-357	25
230 VAC/VDC	4 mA	857-358	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



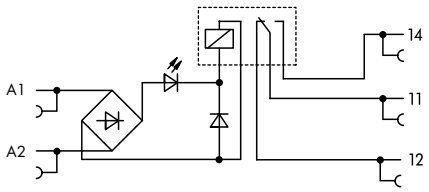
DC Load Limit Curve

Control circuit	
Input voltage range	-15 … +20 %
Nominal frequency range (input voltage)	50 … 60 HzAC / 0 HzDC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX; IEC Ex

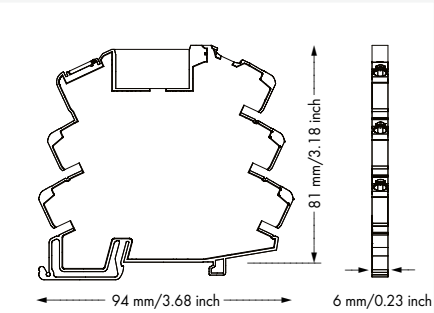
» Accessories Page 24

Relay module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Yellow status indicator; Module width: 6 mm

857 Series

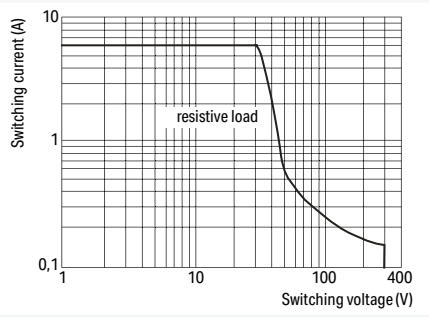


U_N	I_N	Item No.	PU
24 VAC/VDC	9 mA	857-364	25
230 VAC/VDC	4 mA	857-368	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



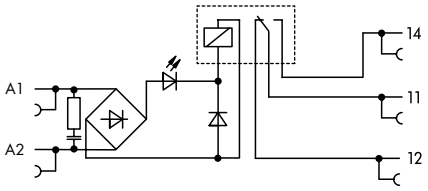
DC Load Limit Curve

Control circuit	
Input voltage range	-15 … +20 %
Nominal frequency range (input voltage)	50 … 60 HzAC / 0 HzDC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN A2:C6061010-2-201; EN 61810-1; EN 61373; UL 508; ATEX; IEC Ex

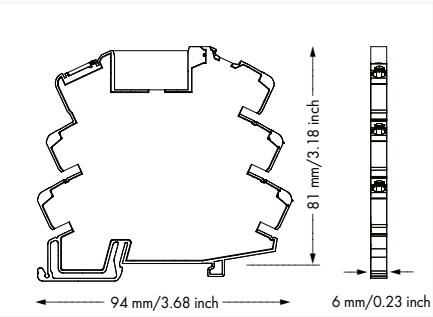
Relay module; Nominal input voltage: 230 VAC; 1 changeover contact; Limiting continuous current: 6 A; with integrated base load module; Yellow status indicator; Module width: 6 mm
857 Series

1

Similar to pictured device

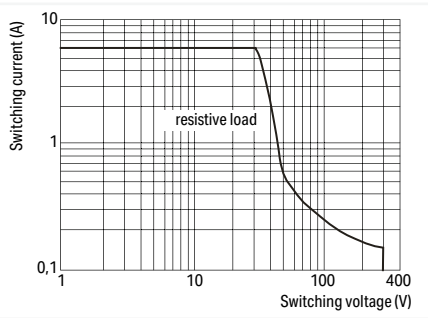


U_N	I_N	Item No.	PU
230 VAC	16 mA	857-358/006-000	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

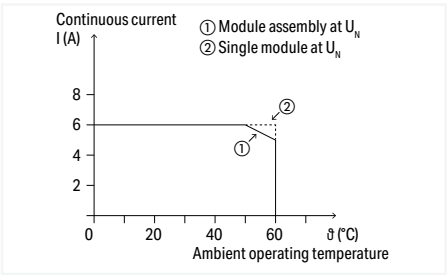
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 24

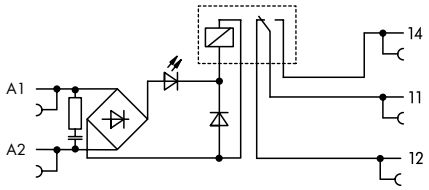
Control circuit	
Input voltage range	-15 … +10 %
Line capacitance (max.)	170 nF
Cable length (control circuit)	≤ 350 m (for a line capacitance of 330 nF/km)
Nominal frequency range (input voltage)	50 … 60 HzAC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373



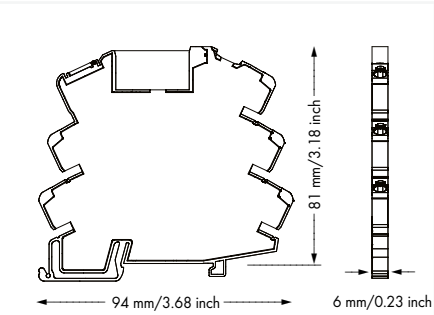
Relay module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; with integrated base load module; Yellow status indicator; Module width: 6 mm

857 Series

Similar to pictured device

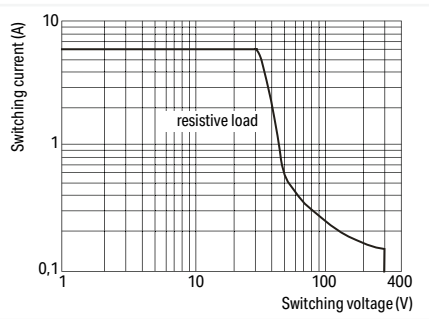


U_N	I_N	Item No.	PU
230 VAC	16 mA	857-368/006-000	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

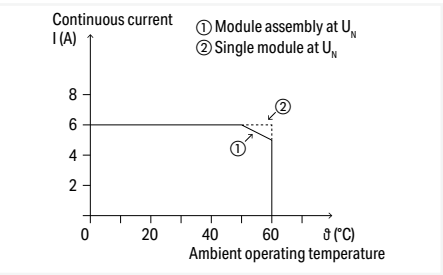
Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



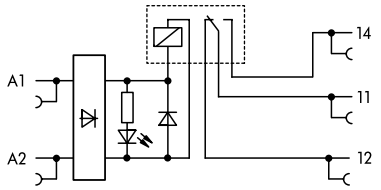
DC Load Limit Curve

» Accessories Page 24

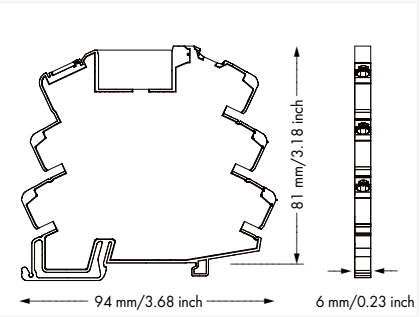
Control circuit	
Input voltage range	-15 … +10 %
Line capacitance (max.)	170 nF
Cable length (control circuit)	≤ 350 m (for a line capacitance of 330 nF/km)
Nominal frequency range (input voltage)	50 … 60 HzAC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201;EN 61810-1; EN 61373



Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm
857 Series

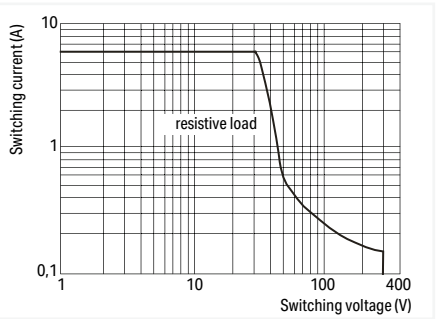


U_N	Item No.	PU
24 … 230 VAC/VDC	857-359	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

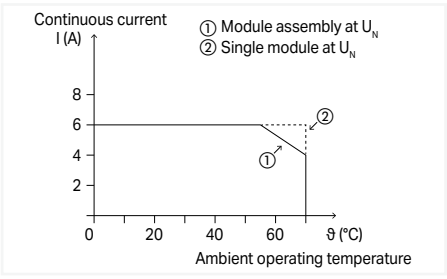
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

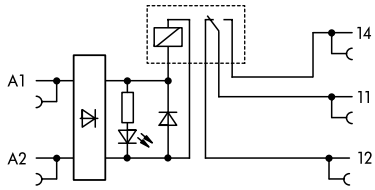
» Accessories Page 24

Control circuit	
Input voltage range	-30 … +10 %
Nominal input current at U_N	4 mA (230 VAC); 20 mA (24 VDC)
Nominal frequency range (input voltage)	50 … 60 HzAC / 0 HzDC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 50121-3-2; EN 61010-2-201; EN 61810-1; EN 61373; EN 61000-6-2; EN 61000-6-3; EN 50121-3; UL 508

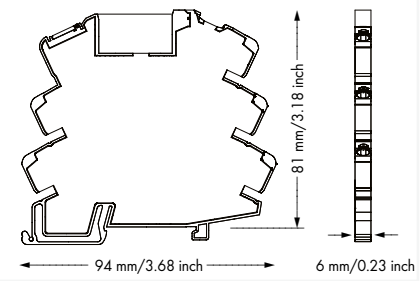


Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Yellow status indicator; Module width: 6 mm

857 Series

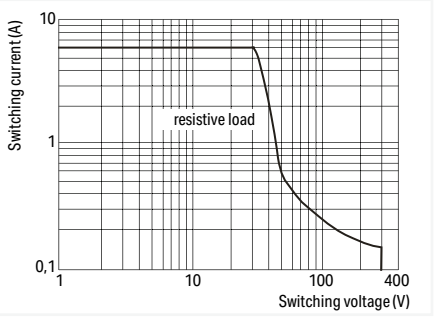


U_N	Item No.	PU
24 … 230 VAC/VDC	857-369	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

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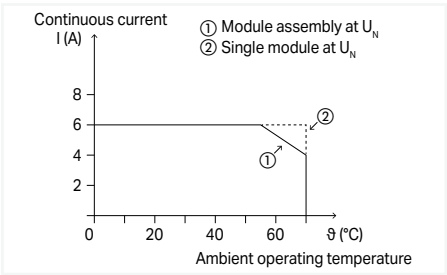
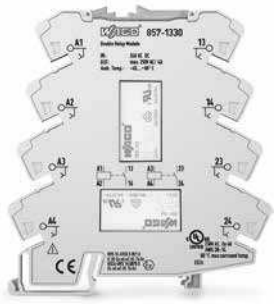
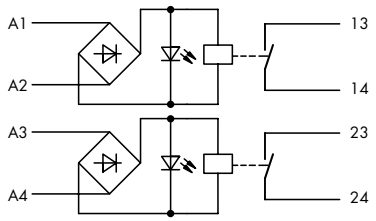
Control circuit	
Input voltage range	-30 … +10 %
Nominal input current at U_N	4 mA (230 VAC); 20 mA (24 VDC)
Nominal frequency range (input voltage)	50 … 60 HzAC / 0 HzDC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 50121-3-2; EN 61010-2-201; EN 61810-1; EN 61373; EN 61000-6-2; EN 61000-6-3; EN 50121-3; UL 508

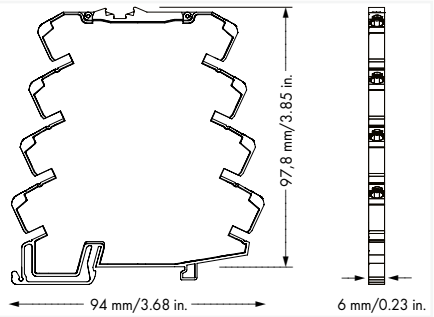


Relay module; 2-port; Nominal input voltage: 24 V AC/DC; 1 make contact; Limiting continuous current: 4 A; Yellow status indicator; Module width: 6 mm
857 Series

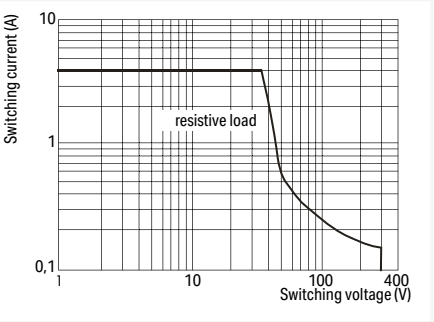




U_N	I_N	Item No.	PU
24 VAC/VDC	10 mA	857-1330	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	4 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min.)	3 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX; IEC Ex

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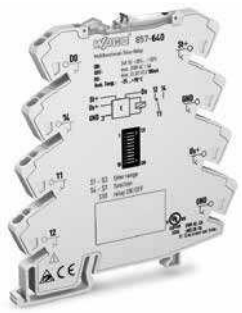
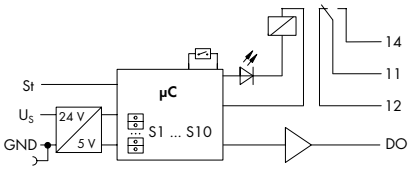
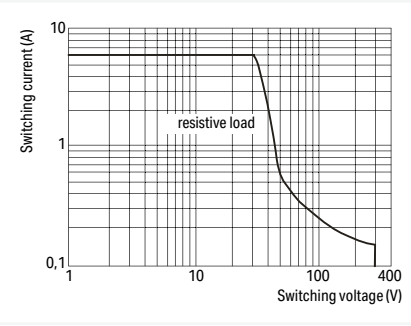
Timer relay module; Nominal input voltage: 24 VDC; Limiting continuous current: 6 A; Railway; Multifunction/Multitime; Yellow status indicator; Module width: 6 mm
857 Series



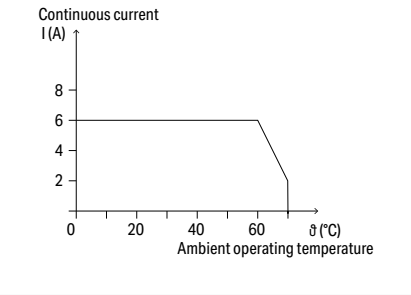


U_N	I_N	Item No.	PU
24 VDC	18 mA	857-640	1

Features:
- 14 functions
- Function and time range adjustable via DIP switch



DC Load Limit Curve



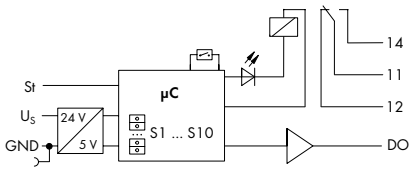
Current-Carrying Capacity Curve

Control circuit	
Input voltage range	±30 %
Time range	Adjustable: 0.01 … 0.1 s; 0.1 … 1 s; 1 … 10 s; 10 … 100 s; 1 … 10 min; 10 … 100 min; 1 … 10 h; 10 … 100 h
Reset time	50 ms
Minimum pulse length (control input)	10 ms
Functions	On-delay; On-delay (with control input); Off-delay (with control input); On- and off-delay (with control input); Single-shot leading edge; Single-shot leading edge (with control input); Single-shot trailing edge (with control input); Single-shot leading and trailing edge (with control input); On-delay and single-shot leading edge; On-delay and single-shot leading edge (with control input); Step switching; Flashing (pulse start); Flashing, interval start; Relay switching
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Digital output (DO)	U_N - 1 V ; 100 mA
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

» Accessories Page 24

Timer relay module; Nominal input voltage: 24 VDC; Limiting continuous current: 6 A; Railway; Multifunction/Multitime; Yellow status indicator; Module width: 6 mm

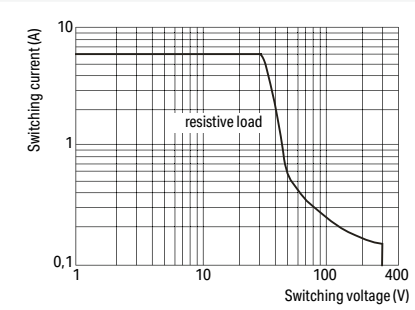
857 Series



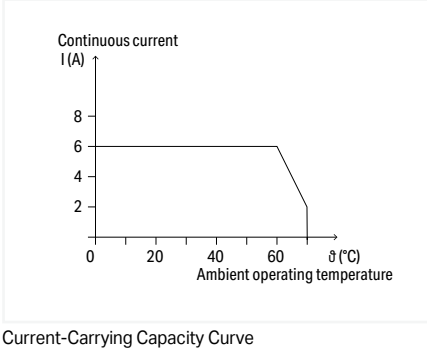
U_N	I_N	Item No.	PU
24 VDC	18 mA	857-642	1

Features:

- 7 functions
- 2 separately adjustable time ranges
- Function and time range adjustable via DIP switch



DC Load Limit Curve



Current-Carrying Capacity Curve

Control circuit	
Input voltage range	±30 %
Time range	Adjustable: 0.01 … 0.1 s; 0.1 … 1 s; 1 … 10 s; 10 … 100 s; 1 … 10 min; 10 … 100 min; 1 … 10 h; 10 … 100 h
Reset time	50 ms
Minimum pulse length (control input)	10 ms
Functions	On- and off-delay (with control input); On-delay and single-shot leading edge; On-delay and single-shot leading edge (with control input); Single-shot leading and trailing edge (with control input); Pulse sequence evaluation (with control input); Repeat cycle timer (pulse start); Repeat cycle timer (interval start), control input

Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Digital output (DO)	U_N - 1 V ; 100 mA

Signaling	
Status indicator	Yellow LED

Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting type	DIN-35 rail

Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

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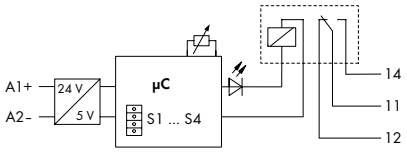
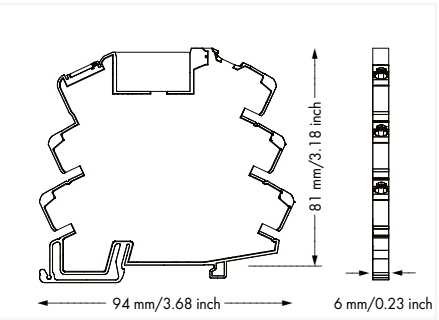
Timer relay module; Nominal input voltage: 24 VDC; Limiting continuous current: 6 A; Railway; Multifunction; Yellow status indicator; Module width: 6 mm
857 Series

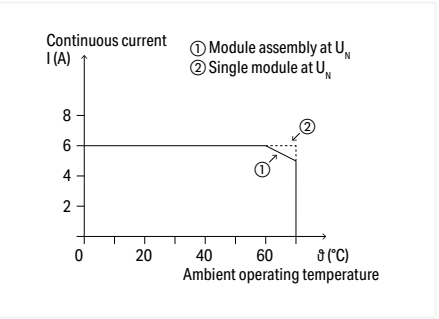
1



U_N	I_N	Item No.	PU
24 VDC	18 mA	857-604	1



Features:
- 4 functions
- Function and time range adjustable via DIP switch



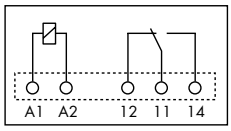
Current-Carrying Capacity Curve

Control circuit	
Input voltage range	±30 %
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Repeat accuracy	1 %
Minimum pulse length (control input)	10 ms
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1 s fixed); Flashing
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at UN)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

» Accessories Page 24

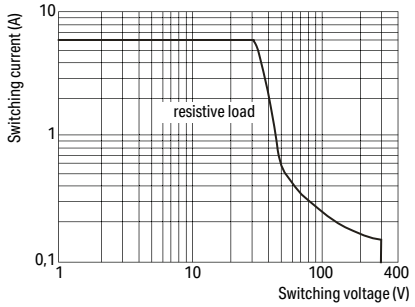
Basic relay; 1 changeover contact; Limiting continuous current: 6 A; Module width: 5 mm; Module height: 15 mm
857 Series

1



U_N	Item No.	PU
12 VDC	**857-150**	20
24 VDC	**857-152**	20
48 VDC	**857-154**	20
60 VDC	**857-155**	20

Note:
- The 60 VDC basic relay must be used for 60 VDC, 110 VDC, 220 VDC and 115 VAC/DC, 230 VAC/DC relay modules.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

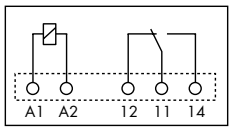


DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.09 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61810-1; EN 61373; VDE; UR

Basic relay; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Module width: 5 mm

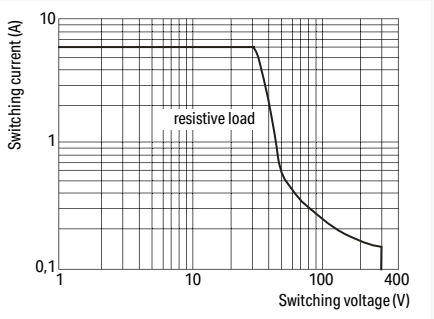
857 Series



U_N	Item No.	PU
12 VDC	857-151	20
24 VDC	857-153	20
60 VDC	857-157	20

Note:

- The 60 VDC basic relay must be used for 60 VDC, 110 VDC, 220 VDC and 115 VAC/DC, 230 VAC/DC relay modules.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.
- 30 VDC switching voltages and 50 mA currents must not be exceeded for gold-plated basic relays. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



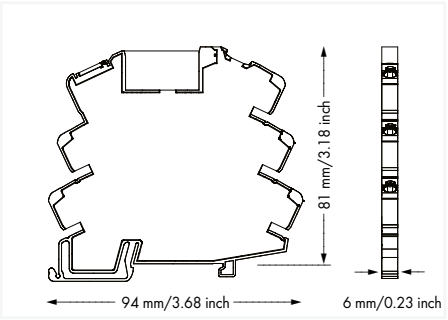
DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.09 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61810-1; EN 61373; VDE; UR

Relay socket; Nominal input voltage: 24 V AC/DC; for 5 mm basic relays; Yellow status indicator
857 Series

1

U_N	Item No.	PU
24 VAC/VDC	857-104	25



Note:
The relay/SSR used influences the electrical properties of the module.

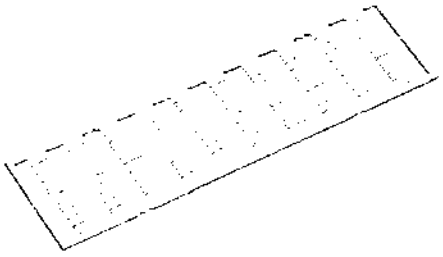
Load circuit	
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; UR

Accessories

Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	PU
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
blue	**... /000-006**	

Comb-style jumper bar; insulated; for conductor entry		
Description	**Item No.**	PU
2-way	**281-482**	100

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	PU
	210-720	50



WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	**Item No.**	PU
plain	**793-501**	5 cards
1 ...10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

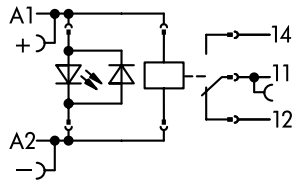
WMB Inline; for terminal block width: 5 ... 5.2 mm; plain; 1500 markers/reel; white		
Marking	**Item No.**	PU
plain	**2009-115**	1

Marking strip; plain; 11 mm wide; 50 m reel; white		
Marking	**Item No.**	PU
plain	**2009-110**	1

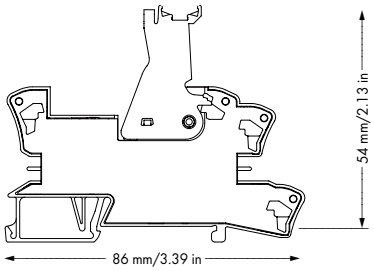
Relay module; 1 changeover contact; Limiting continuous current: 16 A; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
12 VDC	36 mA	788-303	20
24 VDC	19 mA	788-304	20
48 VDC	11 mA	788-305	20
60 VDC	115 mA	788-306	20
110 VDC	6 mA	788-307	20

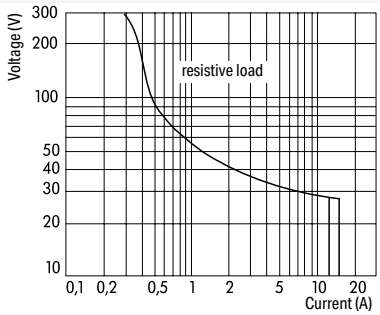


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

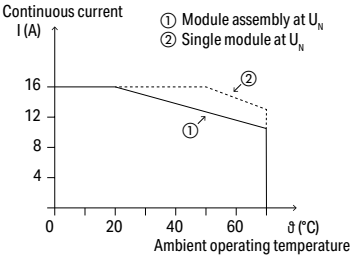
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 1200 min-1
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical Data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

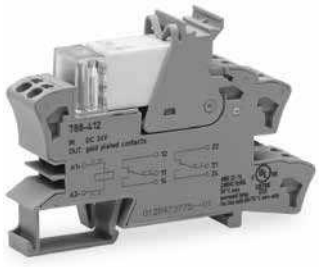


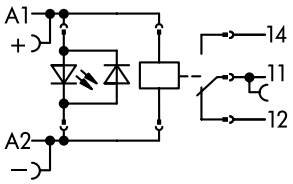
Current-Carrying Capacity Curve

» Accessories Page 48

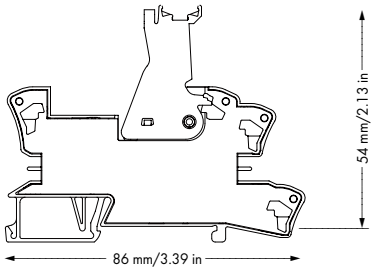
Relay module; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
24 VDC	19 mA	788-404	20

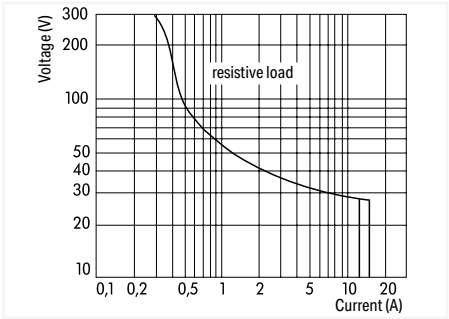


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

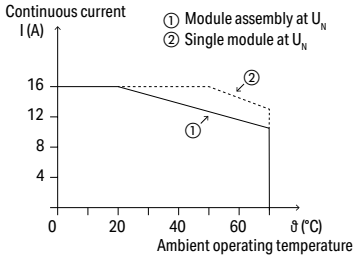
Note:

- Reinforced insulation between coil and contacts
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	70 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	10 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



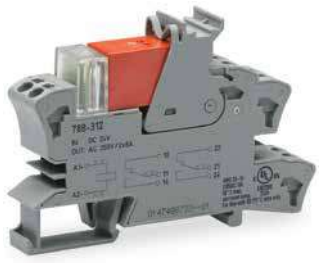
Current-Carrying Capacity Curve

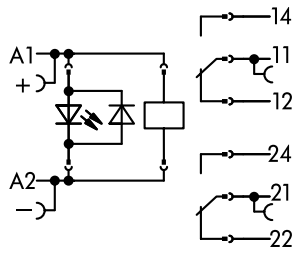
» Accessories Page 48

Relay module; 2 changeover contacts; Limiting continuous current: 8 A; Red status indicator; Module width: 15 mm

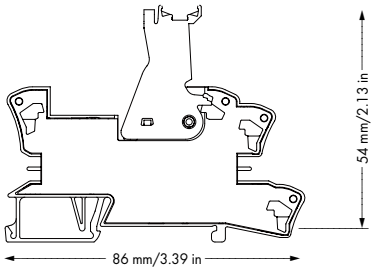
788 Series

1





U_N	I_N	Item No.	PU
12 VDC	36 mA	788-311	20
24 VDC	19 mA	788-312	20
48 VDC	11 mA	788-313	20
60 VDC	8 mA	788-314	20
110 VDC	6 mA	788-315	20

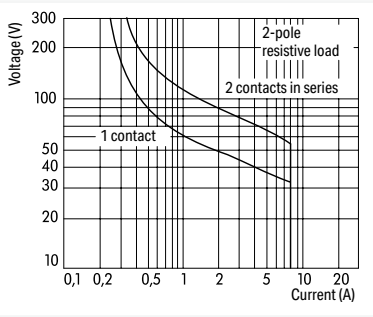


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

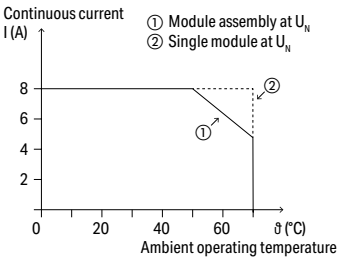
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	13 ms
Bounce time (typ.)	10 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

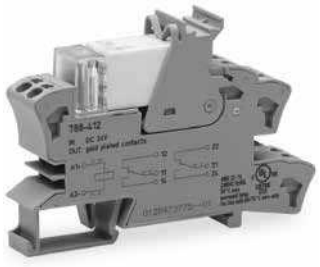


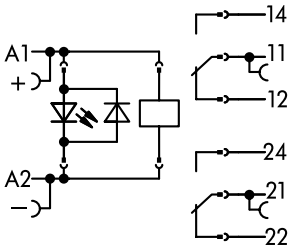
Current-Carrying Capacity Curve

» Accessories Page 48

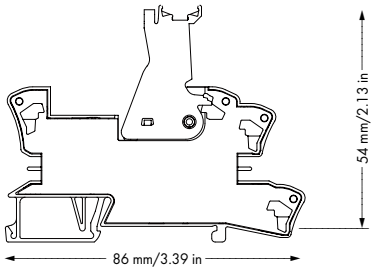
Relay module; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; Red status indicator; Module width: 15 mm

788 Series



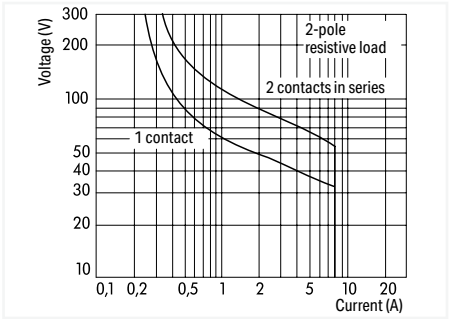


U_N	I_N	Item No.	PU
24 VDC	17 mA	788-412	20



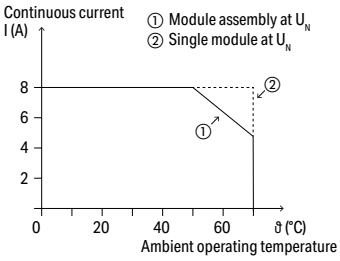
Safety information:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Note:
- Reinforced insulation between coil and contacts
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi + Au
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	10 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



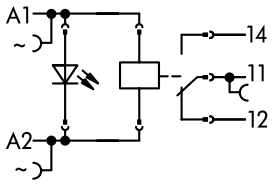
Current-Carrying Capacity Curve

» Accessories Page 48

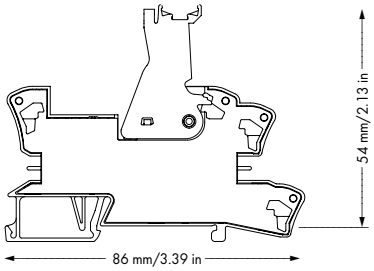
Relay module; 1 changeover contact; Limiting continuous current: 16 A; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
24 VAC	34 mA	788-506	20
115 VAC	8 mA	788-507	20
230 VAC	4 mA	788-508	20

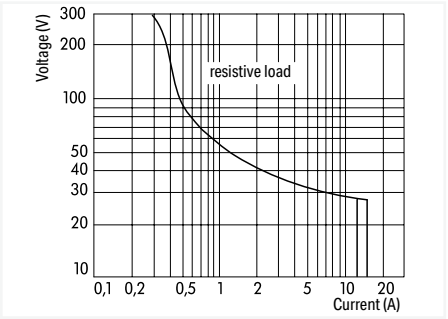


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

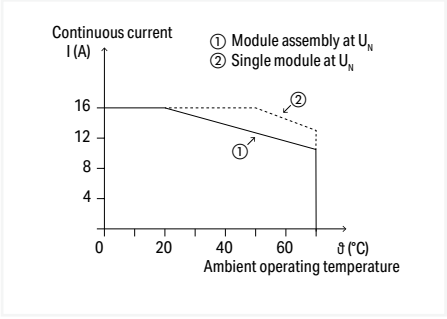
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 600 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

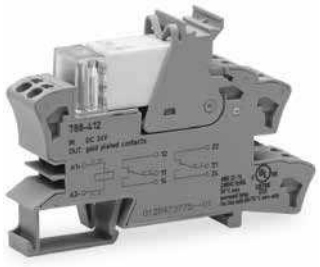


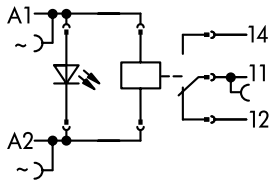
Current-Carrying Capacity Curve

» Accessories Page 48

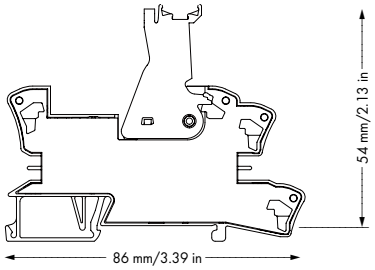
Relay module; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
115 VAC	9 mA	788-607	20
230 VAC	5 mA	788-608	20

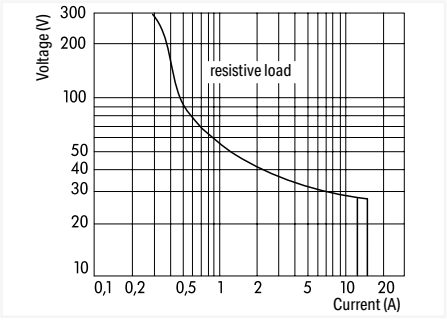


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

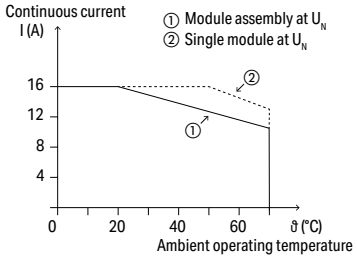
Note:

- Reinforced insulation between coil and contacts
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	70 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	10 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV



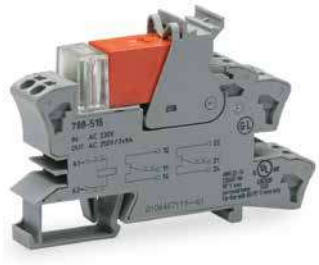
Current-Carrying Capacity Curve

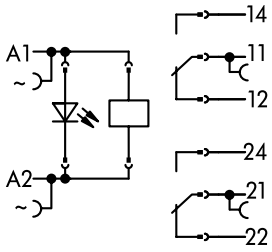
» Accessories Page 48

Relay module; 2 changeover contacts; Limiting continuous current: 8 A; Red status indicator; Module width: 15 mm

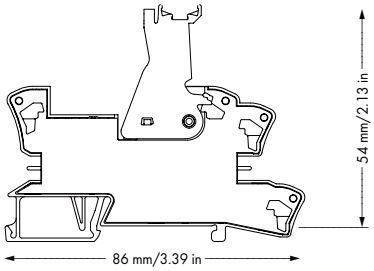
788 Series

1





U_N	I_N	Item No.	PU
24 VAC	34 mA	788-512	20
115 VAC	8 mA	788-515	20
230 VAC	4 mA	788-516	20

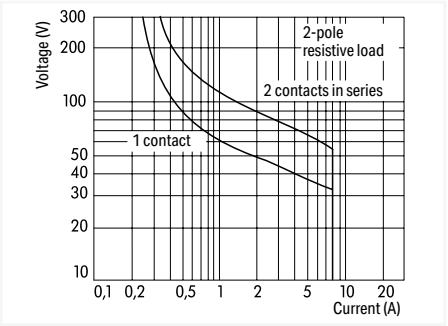


Safety information.

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

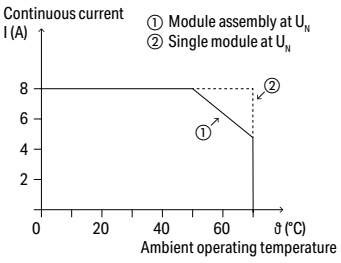
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	10 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

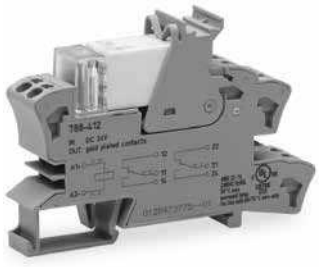


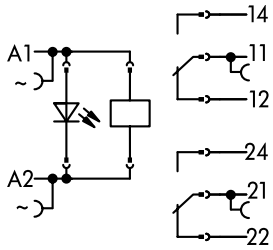
Current-Carrying Capacity Curve

» Accessories Page 48

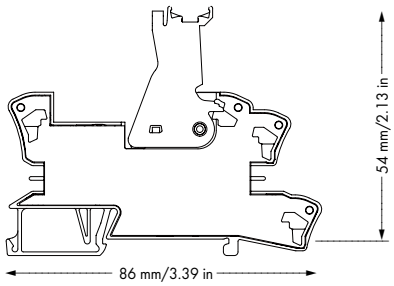
Relay module; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
115 VAC	9 mA	788-615	20
230 VAC	5 mA	788-616	20

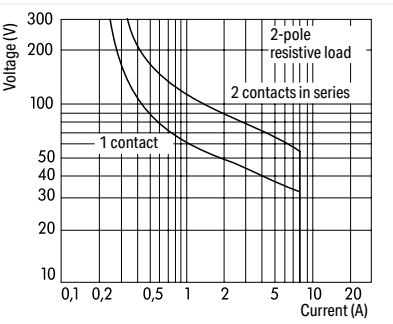


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

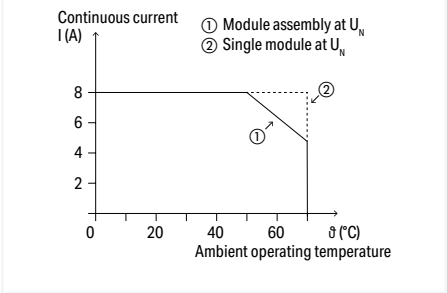
Note:

- Reinforced insulation between coil and contacts
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi + Au
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	10 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV



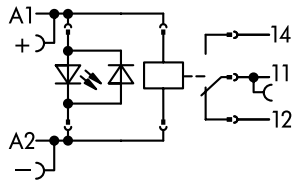
Current-Carrying Capacity Curve

» Accessories Page 48

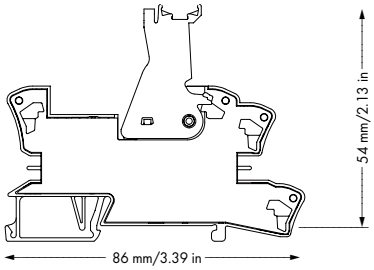
Relay module; 1 changeover contact; Limiting continuous current: 16 A; for lamp loads; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
12 VDC	35 mA	788-353	20
24 VDC	19 mA	788-354	20

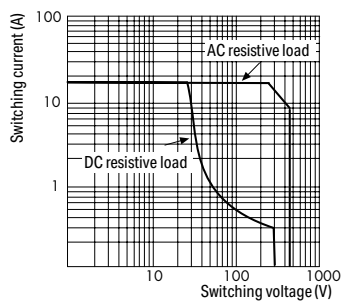


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

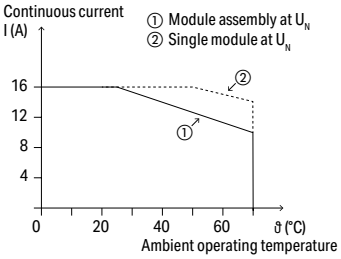
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Lastgrenzkurve

Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Recommended minimum load	5 V / 100 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

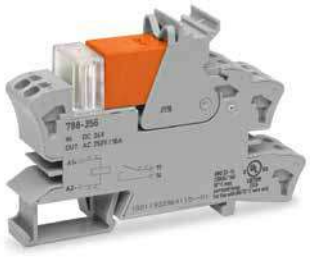


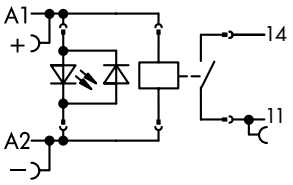
Current-Carrying Capacity Curve

» Accessories Page 48

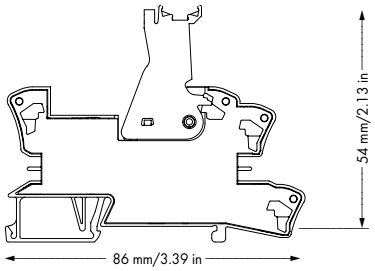
Relay module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
24 VDC	19 mA	788-356	20

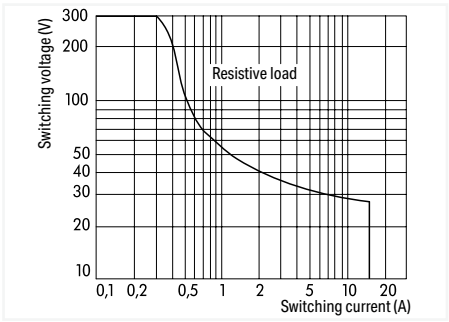


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

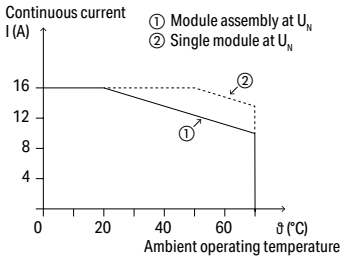
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 80 A / 0.02 s; (AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

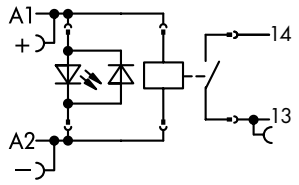


Current-Carrying Capacity Curve

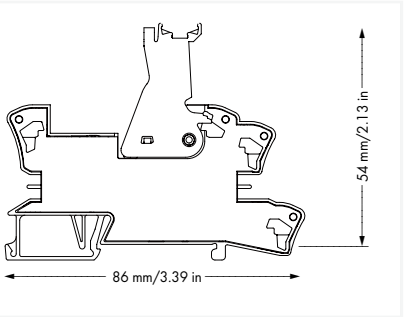
» Accessories Page 48

Relay module; 1 make contact; Limiting continuous current: 16 A; Red status indicator; Module width: 15 mm
788 Series

1

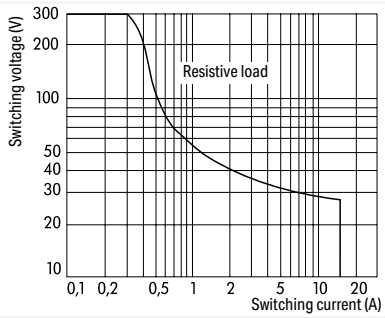


U_N	I_N	Item No.	PU
24 VDC	17 mA	788-357	20



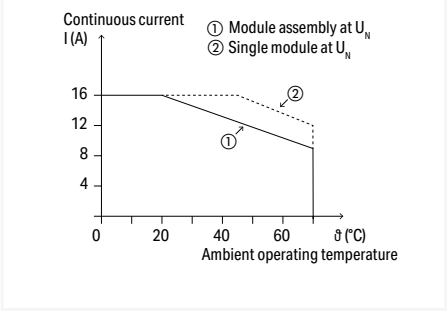
Safety information:
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Note:
- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-10 … +20 %
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$, W pre-make contact
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 165 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	5 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	5 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.25 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373

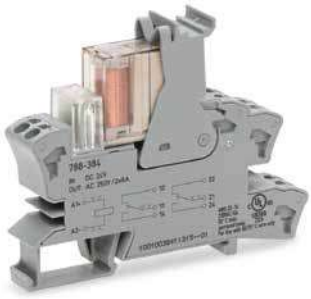


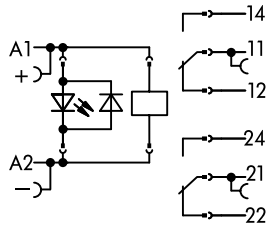
Current-Carrying Capacity Curve

» Accessories Page 48

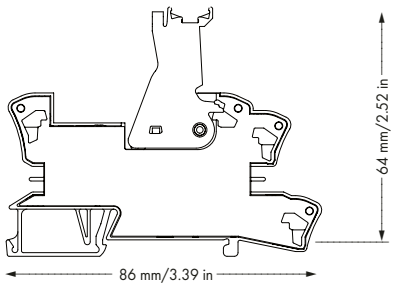
Relay module with driven contacts; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 6 A; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
24 VDC	31 mA	788-384	10

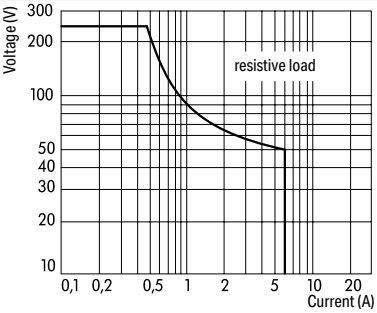


Safety information:

- Per EN 61810-3, it is only permitted to use 1 make contact/1 break contact for safety circuits (11-14 and 22-21 or 12-11 and 21-24).
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Note:

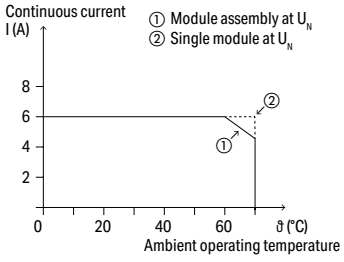
- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 48

Control circuit	
Input voltage range	-15 … +10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 14 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC see load limit curve
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 3 A / 24 VDC
Recommended minimum load	5 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Mechanical force-guided operation	Type A
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	3 kV_{rms}
B10d (AC 1)	250 V; 6 A; 1 NO: 600,000 switching operations 250 V; 3 A; 1 NO: 900,000 switching operations 250 V; 1.5 A; 1 NO: 1,800,000 switching operations
B10d (AC 15)	250 V; 3 A; 1 NO: 180,000 switching operations 250 V; 2 A; 1 NO: 560,000 switching operations 250 V; 0.75 A; 1 NO: 4,600,000 switching operations
B10d (DC 13)	24 V; 3 A; 1 NO: 360,000 switching operations 24 V; 1.5 A; 1 NO: 740,000 switching operations 24 V; 0.75 A; 1 NO: 4,200,000 switching operations
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	64 mm / 2.52 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

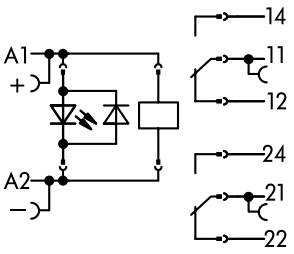


Current-Carrying Capacity Curve

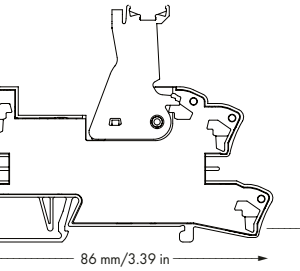
Relay module with driven contacts; 2 changeover contacts; Limiting continuous current: 0.3 A; Green status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
24 VDC	30 mA	788-906	10

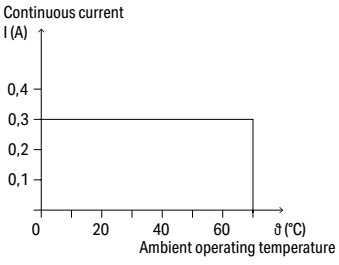


Safety information:

- Per EN 61810-3, it is only permitted to use 1 make contact/1 break contact for safety circuits (11-14 and 22-21 or 12-11 and 21-24).
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Current-Carrying Capacity Curve

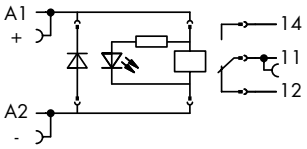
Control circuit	
Input voltage range	-15 … +10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi + Au
Limiting continuous current	0.3 A
Switching voltage (max.)	60 VAC
Switching power (resistive) max.	AC 18 VA
Recommended minimum load	0.1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	12 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 600 min^{-1}
Mechanical force-guided operation	Type A
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	64 mm / 2.52 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61810-3; UL 508 (max. 40 °C)

» Accessories Page 48

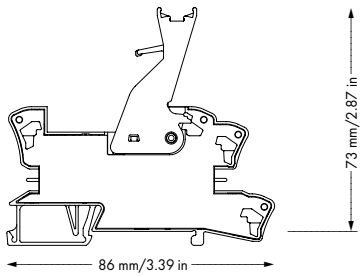
Relay module; 1 changeover contact; Limiting continuous current: 16 A; with manual operation; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
24 VDC	17 mA	788-341	15

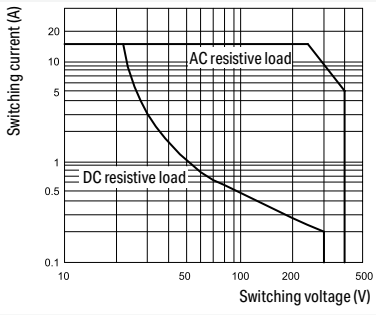


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

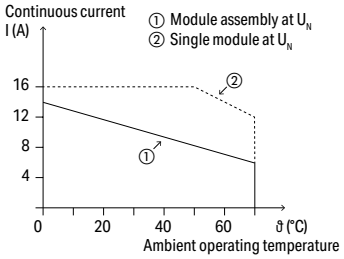
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 32 A / 0.02 s; (AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

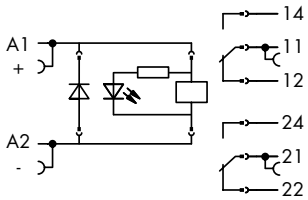


Current-Carrying Capacity Curve

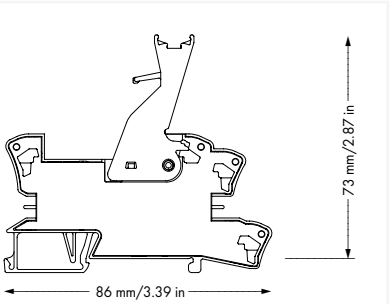
» Accessories Page 48

Relay module; 2 changeover contacts; Limiting continuous current: 8 A; with manual operation; Red status indicator; Module width: 15 mm

788 Series



U_N	I_N	Item No.	PU
24 VDC	17 mA	788-346	15

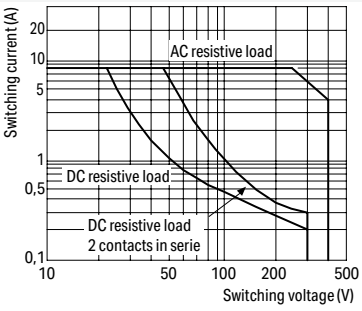


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

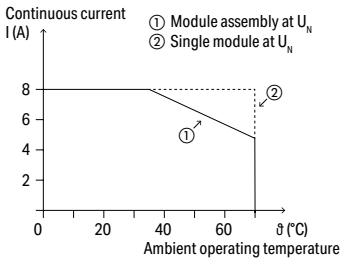
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 16 A / 0.02 s; (AC) 12 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



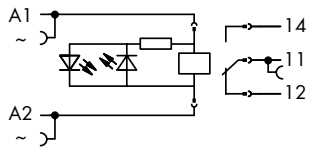
Current-Carrying Capacity Curve

» Accessories Page 48

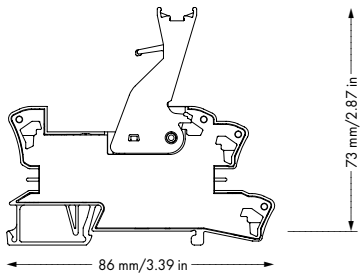
Relay module; 1 changeover contact; Limiting continuous current: 16 A; with manual operation; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
24 VAC	32 mA	788-541	15
115 VAC	7 mA	788-543	15
230 VAC	4 mA	788-544	15

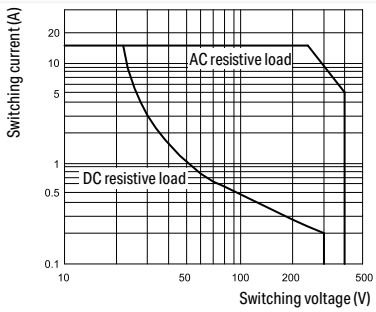


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

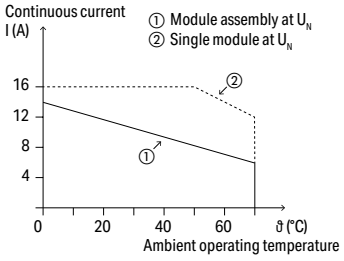
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 32 A / 0.02 s; (AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

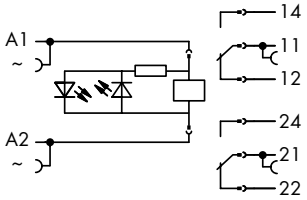


Current-Carrying Capacity Curve

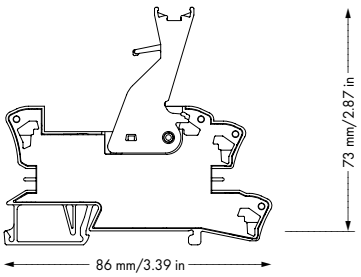
» Accessories Page 48

Relay module; 2 changeover contacts; Limiting continuous current: 8 A; with manual operation; Red status indicator; Module width: 15 mm

788 Series



U_N	I_N	Item No.	PU
24 VAC	32 mA	788-546	15
115 VAC	7 mA	788-548	15
230 VAC	4 mA	788-549	15

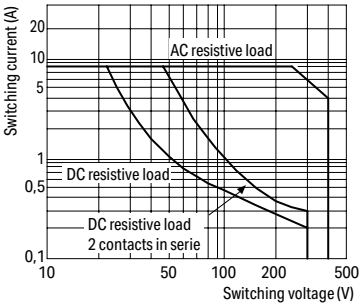


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

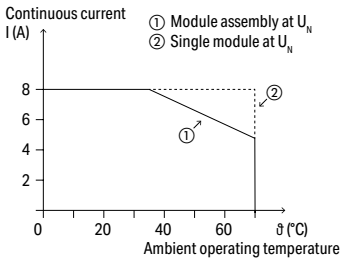
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 16 A / 0.02 s; (AC) 12 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



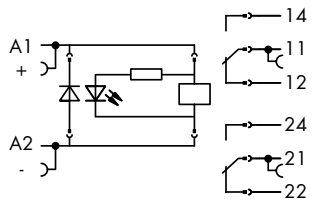
Current-Carrying Capacity Curve

» Accessories Page 48

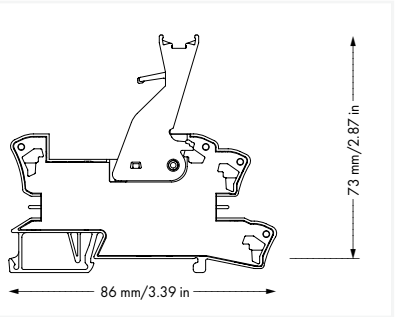
Relay module; 2 changeover contacts; Limiting continuous current: 8 A; Railway; Red status indicator; Module width: 15 mm

788 Series

1



U_N	I_N	Item No.	PU
24 VDC	20 mA	788-390	15

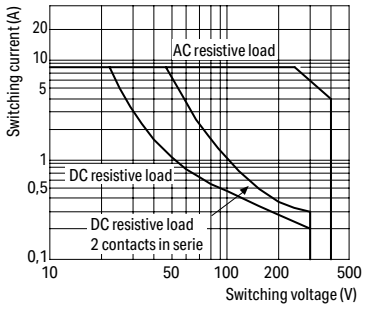


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

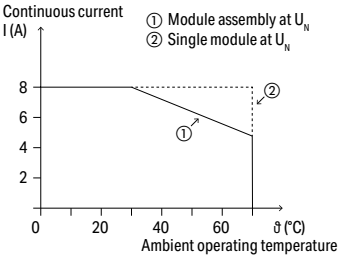
Note

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 16 A / 0.02 s; (AC) 12 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373

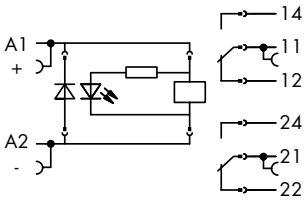


Current-Carrying Capacity Curve

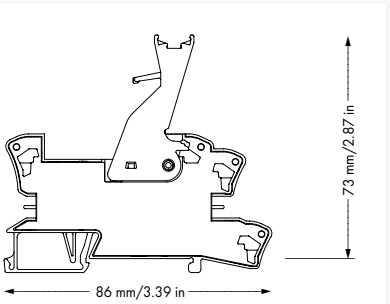
» Accessories Page 48

Relay module; 1 changeover contact; Limiting continuous current: 16 A; with manual operation; Railway; Red status indicator; Module width: 15 mm

788 Series



U_N	I_N	Item No.	PU
24 VDC	20 mA	788-391	15

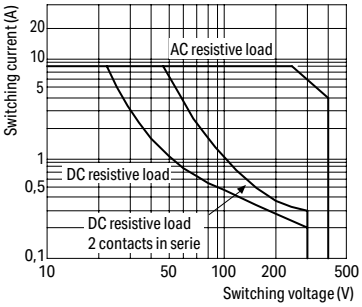


Safety information:

- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

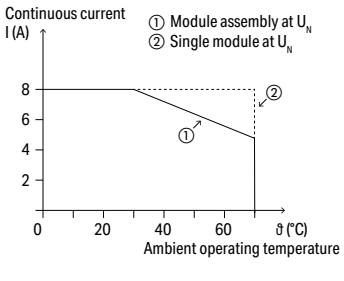
Note:

- Reinforced insulation between coil and contacts
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 32 A / 0.02 s; (AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373



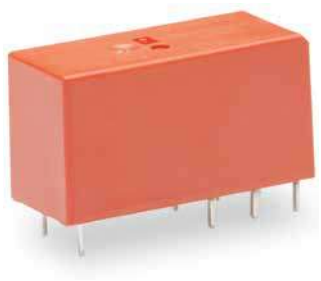
Current-Carrying Capacity Curve

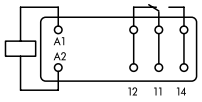
» Accessories Page 48

Basic relay; 1 changeover contact; Limiting continuous current: 16 A; Module width: 13 mm; Module height: 15 mm

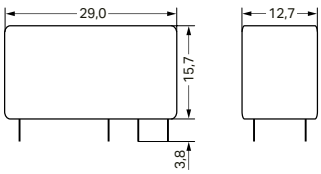
788 Series

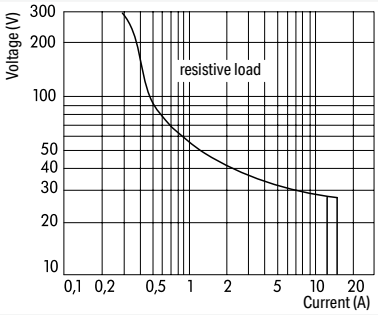
1





U_N	Item No.	PU
12 VDC	788-150	20
24 VDC	788-154	20
48 VDC	788-158	20
60 VDC	788-162	20
110 VDC	788-166	20
24 VAC	788-170	20
115 VAC	788-174	20
230 VAC	788-178	20



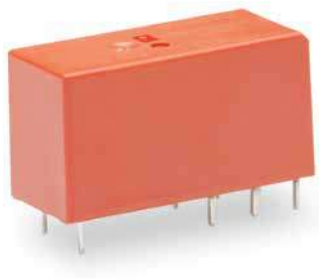


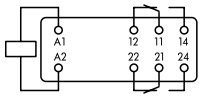
DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 1200 min^{-1}
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP40
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

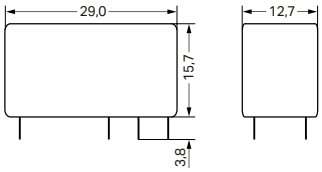
Basic relay; 2 changeover contacts; Limiting continuous current: 8 A; Module width: 13 mm; Module height: 15 mm

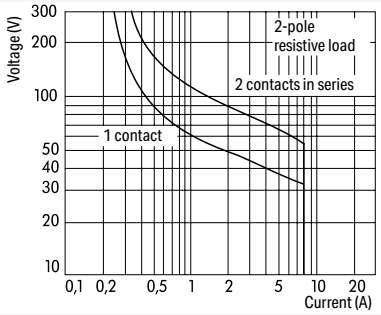
788 Series





U_N	Item No.	PU
12 VDC	788-152	20
24 VDC	788-156	20
48 VDC	788-160	20
60 VDC	788-164	20
110 VDC	788-168	20
24 VAC	788-172	20
115 VAC	788-176	20
230 VAC	788-180	20





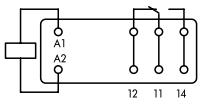
DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	10 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 1200 min^{-1}
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP40
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

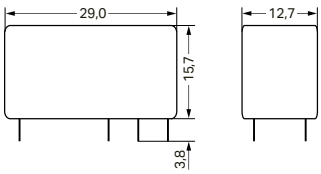
Basic relay; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; Module width: 13 mm; Module height: 15 mm

788 Series

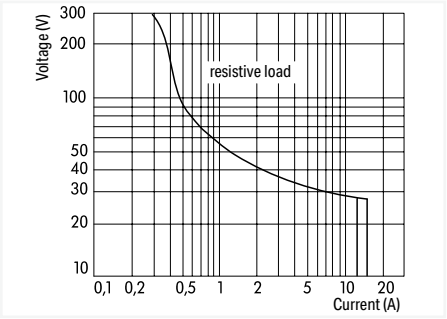
1



U_N	Item No.	PU
24 VDC	788-155	20
115 VAC	788-175	20
230 VAC	788-179	20



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.

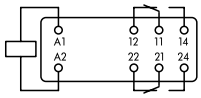


DC Load Limit Curve

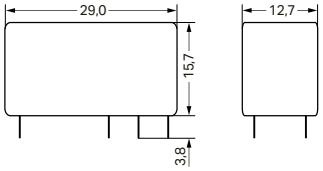
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP40
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

Basic relay; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; Module width: 13 mm; Module height: 15 mm

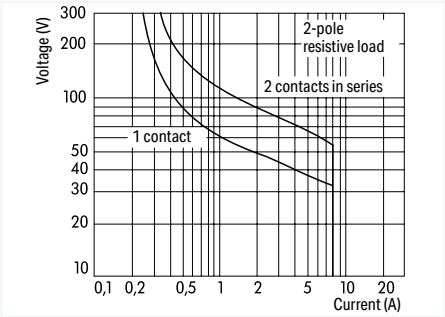
788 Series



U_N	Item No.	PU
24 VDC	788-157	20
115 VAC	788-177	20
230 VAC	788-181	20



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

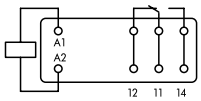
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi + Au
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP40
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

Basic relay; 1 changeover contact; Limiting continuous current: 16 A; with manual operation; Module width: 13 mm

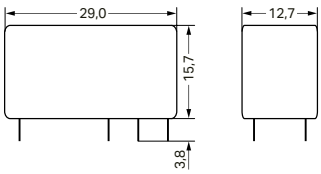
788 Series

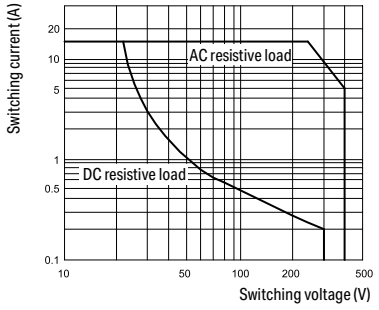
1

Similar to pictured device



U_N	Item No.	PU
24 VDC	788-931	20
230 VAC	788-944	20





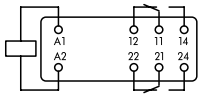
DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 24 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Mechanical
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

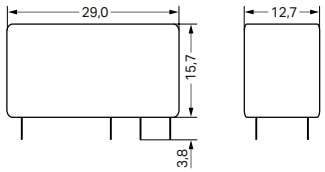
Basic relay; 2 changeover contacts; Limiting continuous current: 8 A; with manual operation; Module width: 13 mm

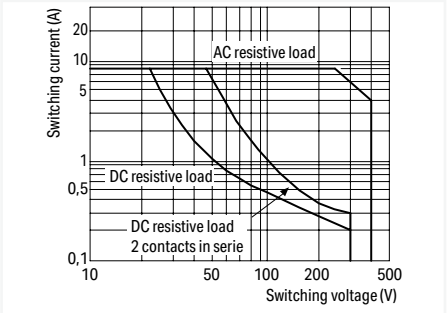
788 Series

Similar to pictured device



U_N	Item No.	PU
24 VDC	788-936	20
24 VAC	788-946	20
230 VAC	788-949	20

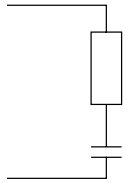




DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max	(AC) 12 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max	AC 2000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Mechanical
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Physical data/Mechanical data	
Width	12.7 mm / 0.5 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Standards/specifications	EN 61810-1

Filter module; RC filter element; Nominal voltage: 230 VAC
788 Series



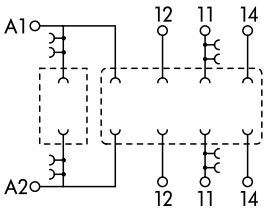
U_N	Item No.	PU
110 … 230 VAC	788-148	50

Note:
- To guarantee safe operation, residual voltages (due to the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) must be lower than the release voltage of the relays.
- For DC relays, the release voltage is specified with ≤ 5% of the nominal voltage; for AC relays, it is 15% of the nominal voltage (per VDE 0435).
- The relay may not reset if a high residual voltage exists. Depending on the reason for the residual voltage, changing the cable routing or a parallel connection of an RC element could remedy this situation.

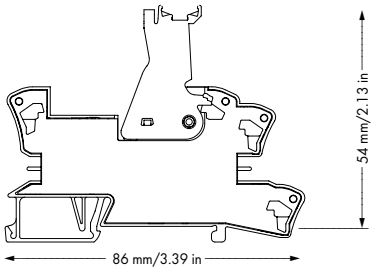
Operating data	
Nominal operating voltage	230 VAC
Operating voltage	0 … 230 VAC
Current consumption at U_N	7.2 mA (230 VAC; 50 Hz); 3.6 mA (115 VAC; 50 Hz)
Nominal mains frequency range	50 … 60 Hz
Module characteristics	
Resistance	470 Ω
Capacitance	100 nF
Safety and protection	
Protection type	IP20
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	10 mm / 0.394 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Standards and specifications	
Standards/specifications	EN 60664-1

Relay socket; 1 changeover contact; for 15 mm basic relays
788 Series

1



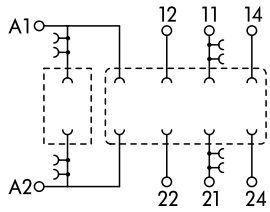
	Item No.	PU
	788-100	20



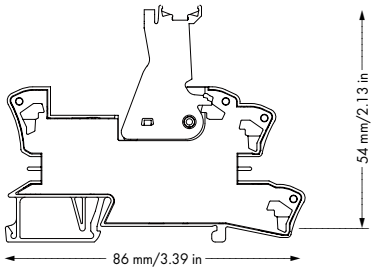
Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min.)	(depending on relay)
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay socket; 2 changeover contacts; for 15 mm basic relays
788 Series



	Item No.	PU
	788-102	20

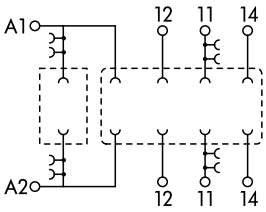


Note:
The specified technical data are maximum values. They may be limited by the accessories used.

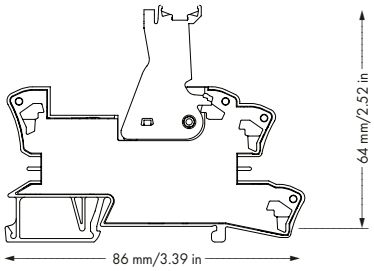
Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay socket; 1 changeover contact; for basic relays 15 mm x 25 mm
788 Series

1



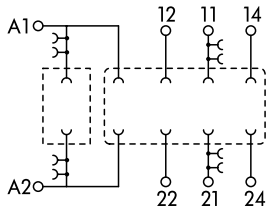
	Item No.	PU
	788-101	15



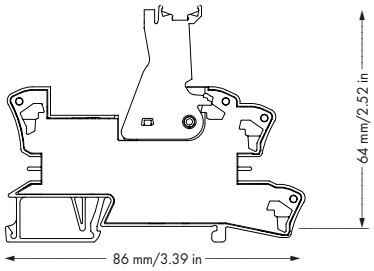
Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.59 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	64 mm / 2.52 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay socket; 2 changeover contacts; for 25 mm basic relays
788 Series



	Item No.	PU
	788-103	15



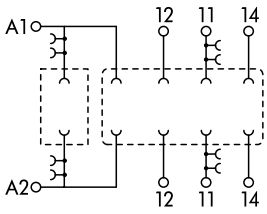
Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	(depending on relay))
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	64 mm / 2.52 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

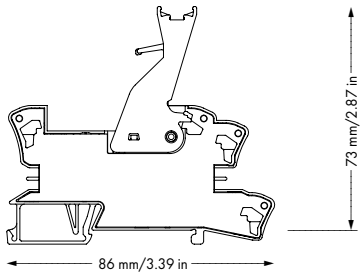
Relay socket; 1 changeover contact; with manual operation; for 25 mm basic relays
788 Series

1

Similar to pictured device



	Item No.	PU
	788-108	15

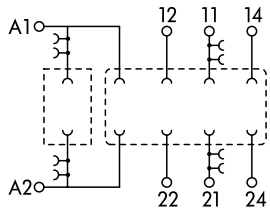


Note:
The specified technical data are maximum values. They may be limited by the accessories used.

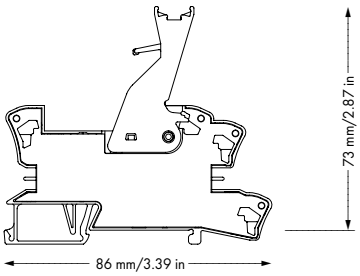
Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay socket; 2 changeover contacts; with manual operation; for 25 mm basic relays
788 Series

Similar to pictured device



	Item No.	PU
	788-109	15



Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	AC/DC 230 V
Input voltage range	AC/DC 0 … 250 V
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	AC 300 V
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Material data	
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Accessories for relay modules; Operation status indicator: red			
U_N	I_N	Item No.	PU
24 VDC	2.4 mA	788-120	50(2x25)
48 VDC	1.9 mA	788-121	50(2x25)
110 VDC	1.9 mA	788-122	50(2x25)
24 VAC	2.1 mA	788-123	50(2x25)
115 VAC	1.7 mA	788-124	50(2x25)
230 VAC	1.6 mA	788-125	50(2x25)

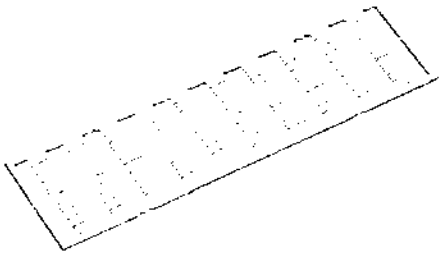
Twin ferrule; Sleeve for 2 x 1 mm² / 2 x 18 AWG; red, insulated; 12 mm long		
Color	Item No.	PU
red	216-542	500

Comb-style jumper bar; insulated; 18 A		
Description	Item No.	PU
2-way	788-113	200 (8x25)
3-way	788-114	100 (4x25)
4-way	788-115	100 (4x25)
6-way	788-116	100 (4x25)
8-way	788-117	100 (4x25)
from 1 to 3	788-118	100 (4x25)

Push-in type jumper bar; light gray; insulated; 18 A		
Description	Item No.	PU
2-way	859-402	200 (8x25)

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	PU
	210-720	50

Accessories



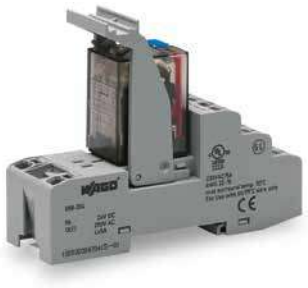
WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	Item No.	PU
plain	**793-501**	5 cards
1 ...10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

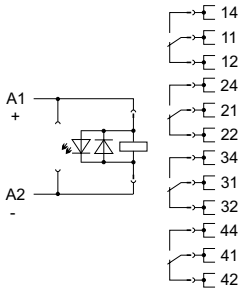
WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	Item No.	PU
plain	**2009-115**	1

Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with manual operation; Red status indicator; Module width: 31 mm

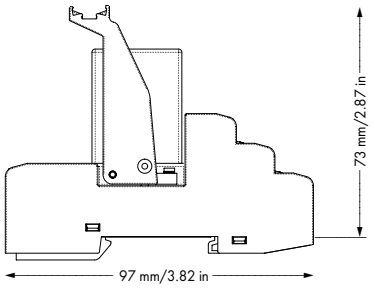
858 Series

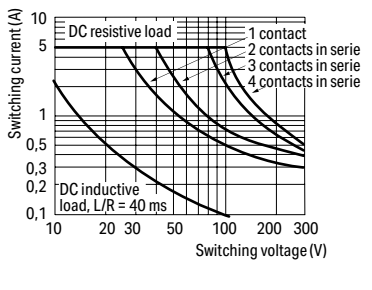
1





U_N	I_N	Item No.	PU
12 VDC	75 mA	858-303	5
24 VDC	37 mA	858-304	5
48 VDC	19 mA	858-305	5
110 VDC	10 mA	858-307	5
220 VDC	5 mA	858-308	5





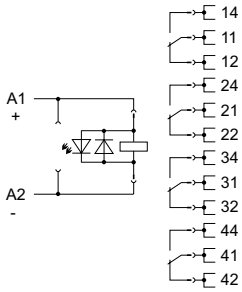
DC Load Limit Curve

Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

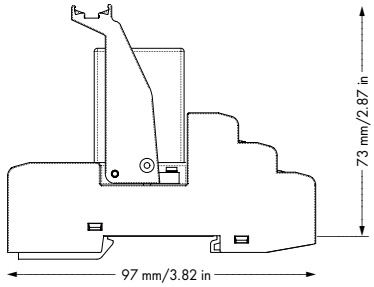
» Accessories Page 74

Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; with manual operation; Red status indicator; Module width: 31 mm

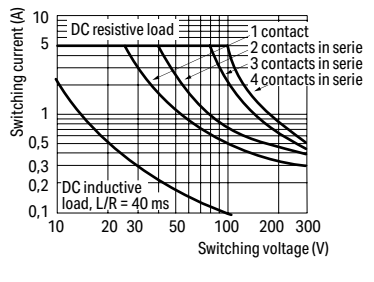
858 Series



U_N	I_N	Item No.	PU
24 VDC	37 mA	858-314	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



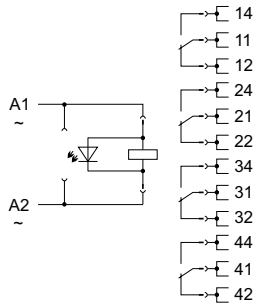
DC Load Limit Curve

Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C); DNV

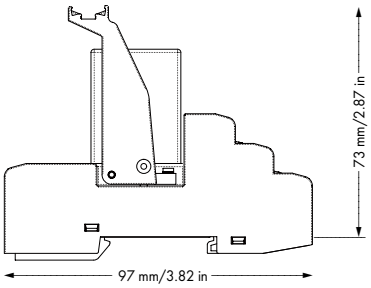
» Accessories Page 74

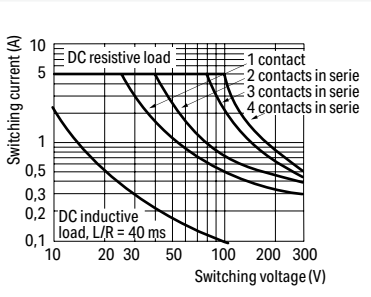
Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with manual operation; Red status indicator; Module width: 31 mm
858 Series

1



U_N	I_N	Item No.	PU
24 VAC	50 mA	858-504	5
115 VAC	10 mA	858-507	5
230 VAC	9 mA	858-508	5





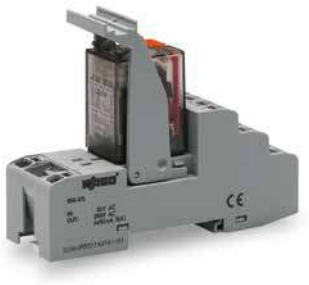
DC Load Limit Curve

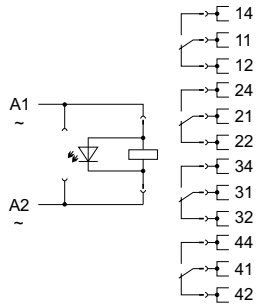
Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

» Accessories Page 74

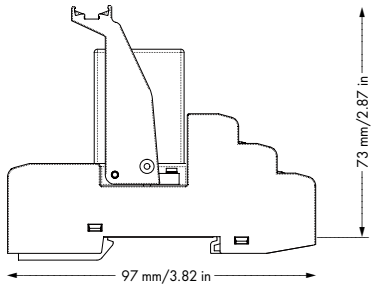
Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; with manual operation; Red status indicator; Module width: 31 mm

858 Series

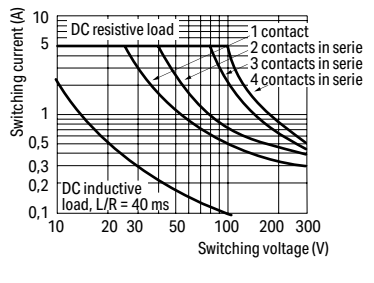




U_N	I_N	Item No.	PU
24 VAC	50 mA	858-514	5
115 VAC	10 mA	858-517	5
230 VAC	9 mA	858-518	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.

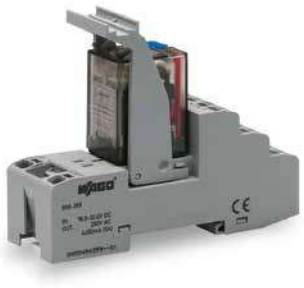


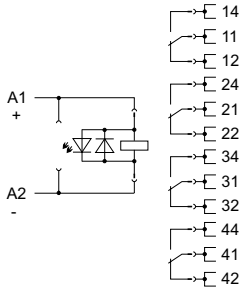
DC Load Limit Curve

Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … 50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

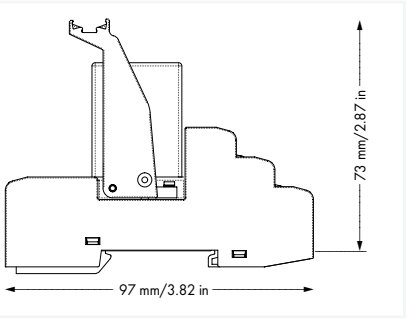
» Accessories Page 74

Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with manual operation; Railway; Red status indicator; Module width: 31 mm
858 Series

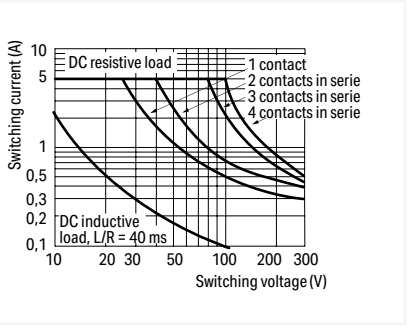




U_N	I_N	Item No.	PU
24 VDC	42 mA	858-354	5



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

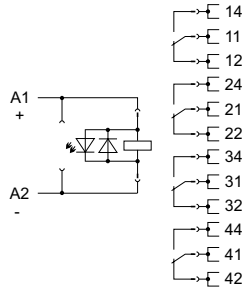


DC Load Limit Curve

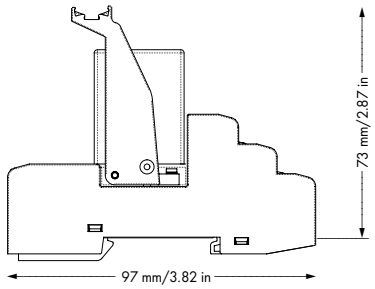
Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

» Accessories Page 74

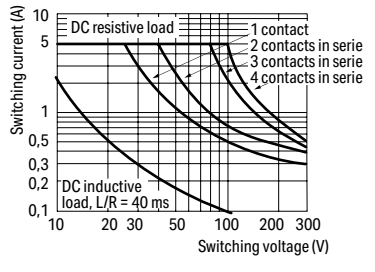
Relay module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; with manual operation; Railway; Red status indicator; Module width: 31 mm
858 Series



U_N	I_N	Item No.	PU
24 VDC	42 mA	858-355	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



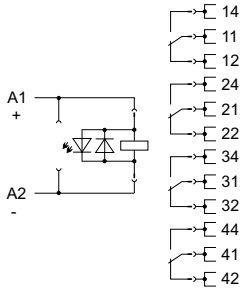
DC Load Limit Curve

Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1 A / 240 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

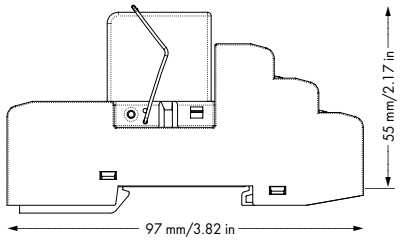
» Accessories Page 74

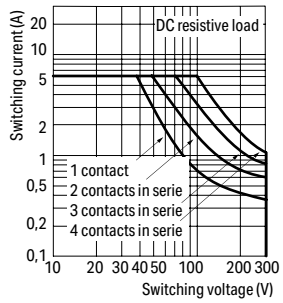
Relay module; 4 changeover contacts; Limiting continuous current: 6 A; with manual operation; Red status indicator; Module width: 31 mm
858 Series

1



U_N	I_N	Item No.	PU
24 VDC	32 mA	858-390	5
110 VDC	8 mA	858-392	5
220 VDC	5 mA	858-391	5





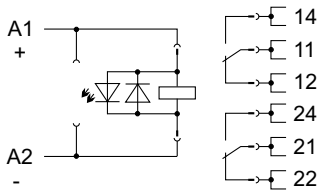
DC Load Limit Curve

Control circuit	
Input voltage range	-10 … +30 %
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 12 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	18 ms
Bounce time (typ.)	8 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.2 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

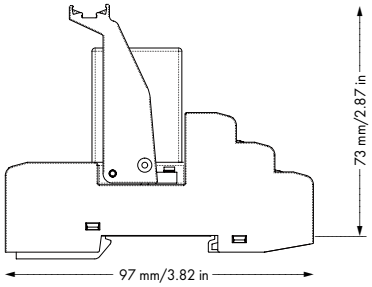
» Accessories Page 74

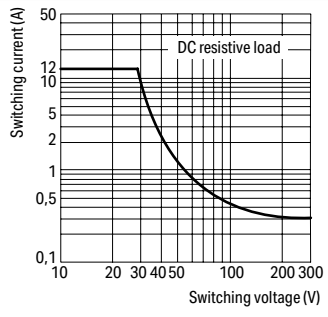
Relay module; 2 changeover contacts; Limiting continuous current: 12 A; with manual operation; Red status indicator; Module width: 31 mm
858 Series

1



U_N	I_N	Item No.	PU
24 VDC	38 mA	858-324	5
48 VDC	19 mA	858-325	5
220 VDC	5 mA	858-328	5





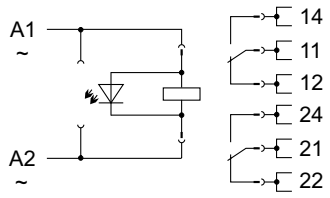
DC Load Limit Curve

Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 0.1 A / DC 250 V
Recommended minimum load	10 V / 5 mA / 300 mW
Pull-in time (typ.)	13 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Switching frequency with/without load (max.)	20 min^{-1} / 200 min^{-1}
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +55 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; UL 508

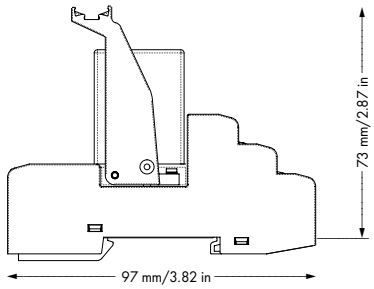
» Accessories Page 74

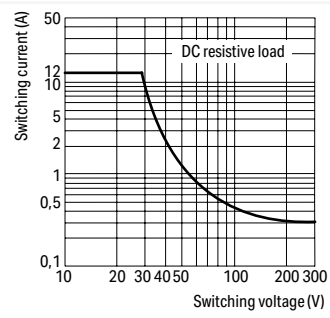
Relay module; 2 changeover contacts; with manual operation; Red status indicator; Module width: 31 mm

858 Series



U_N	I_N	Item No.	PU
230 VAC	11 mA	858-528	5





DC Load Limit Curve

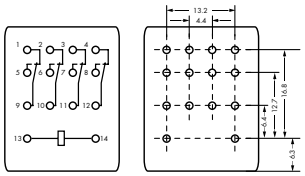
Control circuit	
Input voltage range	-20 … +10 %
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Switching capacity	AC-15: 1.5 A / 240 VAC; DC-13: 0.1 A / DC 250 V
Recommended minimum load	10 V / 5 mA / 300 mW
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	8 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Switching frequency with/without load (max.)	20 min^{-1} / 200 min^{-1}
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Rated voltage	300 V
Rated surge voltage	2.5 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	73 mm / 2.874 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +55 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; UL 508

» Accessories Page 74

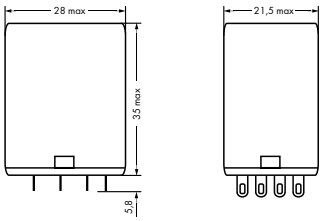
Basic relay; 4 changeover contacts; Limiting continuous current: 5 A; with manual operation; Module width: 22 mm; Module height: 25 mm
858 Series

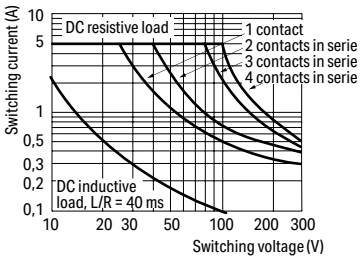
1

Similar to pictured device



U_N	I_N	Item No.	PU
12 VDC	75 mA	858-164	3
24 VDC	37 mA	858-150	3
24 VAC	50 mA	858-154	3
230 VAC	9 mA	858-151	3





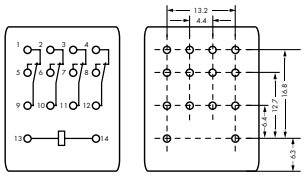
DC Load Limit Curve

Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data	
Width	21.5 mm / 0.846 inches
Height from the surface	35 mm / 1.378 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	EN 61810-1

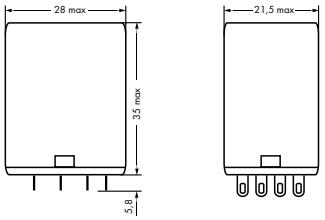
Basic relay; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; with manual operation; Module width: 22 mm; Module height: 25 mm

858 Series

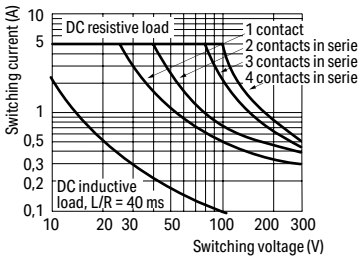
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	37 mA	858-152	3
230 VAC	9 mA	858-153	3



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.

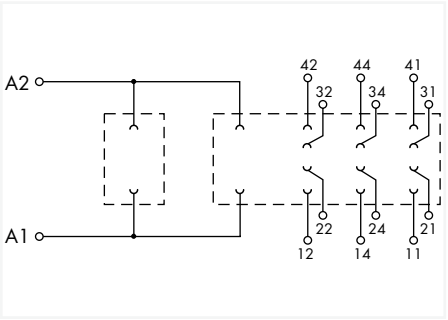


DC Load Limit Curve

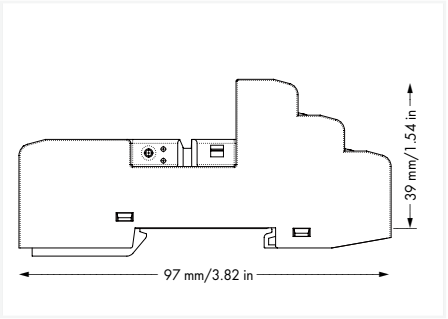
Load circuit	
Number of changeover/switchover contacts	4
Contact material (relay)	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; Mechanical
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data	
Width	21.5 mm / 0.846 inches
Height from the surface	35 mm / 1.378 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	EN 61810-1

Relay socket; 4 changeover contacts
858 Series

1



	Item No.	PU
	858-100	10



Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	5 … 250 VAC/VDC
Input voltage range	0 … 250 VAC/VDC
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	4
Limiting continuous current	8 A (4 x); 12 A (2 x)
Switching voltage (max.)	250 VAC; 250 VDC
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Note (conductor cross-section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical data/Mechanical data	
Width	31 mm / 1.22 inches
Height	97 mm / 3.819 inches
Depth from upper-edge of DIN-rail	39 mm / 1.535 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; UR

Accessories

Accessories for relay modules; Operation status indicator: red			
U_N	Power consumption at U_N	Item No.	PU
24 VDC	2.4 mA	788-120	50(2x25)
48 VDC	1.9 mA	788-121	50(2x25)
110 VDC	1.9 mA	788-122	50(2x25)
24 VAC	2.1 mA	788-123	50(2x25)
115 VAC	1.7 mA	788-124	50(2x25)
230 VAC	1.6 mA	788-125	50(2x25)

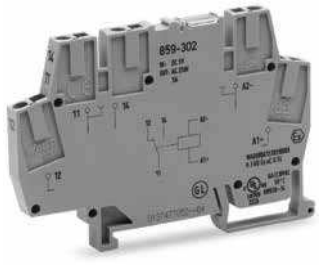
Holding bracket		
	Item No.	PU
	858-110	10 (1)

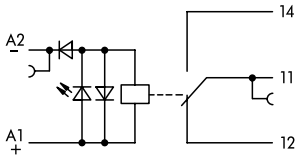
Push-in type jumper bar; for the coil side		
Description	Item No.	PU
I_N 12 A	858-402	200 (8x25)

Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		
	Item No.	PU
	210-719	50

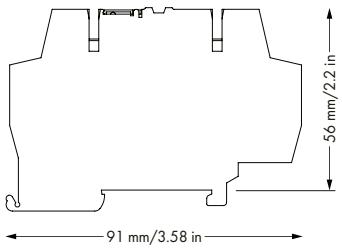
Relay module; 1 changeover contact; Red status indicator; Module width: 6 mm
859 Series

1

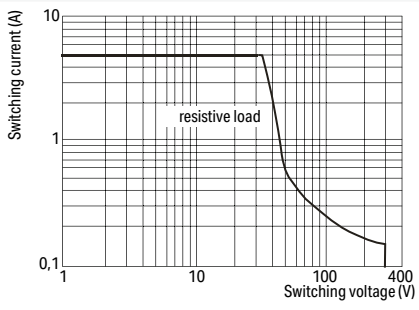




U_N	I_N	Item No.	PU
5 VDC	31 mA	859-302	10
12 VDC	17 mA	859-303	10
24 VDC	10 mA	859-304	10
48 VDC	7 mA	859-305	10
110 VDC	4 mA	859-307	10
220 VDC	4 mA	859-308	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



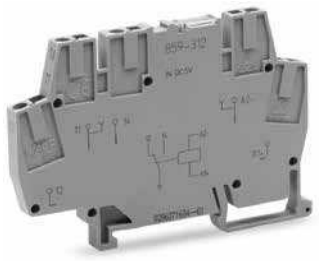
DC Load Limit Curve

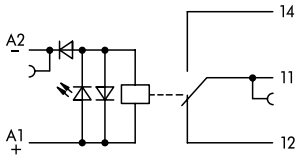
Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

» Accessories Page 88

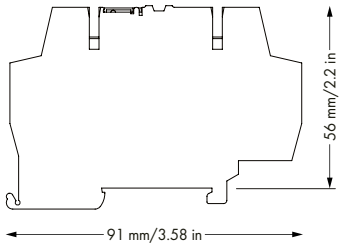
Relay module; 1 changeover contact; with gold contacts; Red status indicator; Module width: 6 mm

859 Series

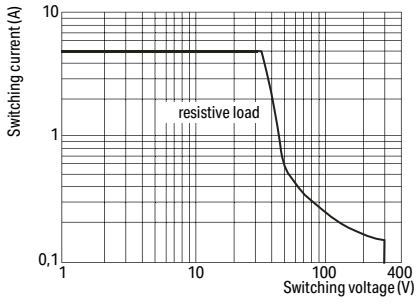




U_N	I_N	Item No.	PU
5 VDC	31 mA	859-312	10
24 VDC	10 mA	859-314	10



Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



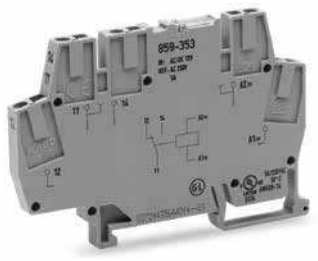
DC Load Limit Curve

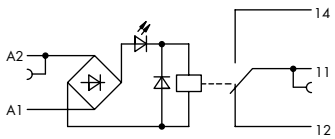
Control circuit	
Input voltage range	-15 … +20 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; DNV; UL 508

» Accessories Page 88

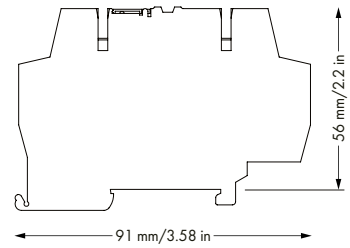
Relay module; 1 changeover contact; Red status indicator; Module width: 6 mm
859 Series

1

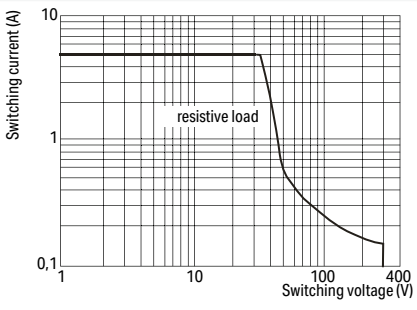




U_N	I_N	Item No.	PU
12 VAC/VDC	15 mA	859-353	10
24 VAC/VDC	8 mA	859-354	10
48 VAC/VDC	6 mA	859-355	10
115 VAC/VDC	4 mA	859-357	10
230 VAC/VDC	4 mA	859-358	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



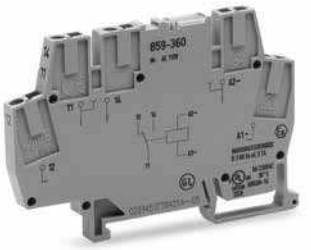
DC Load Limit Curve

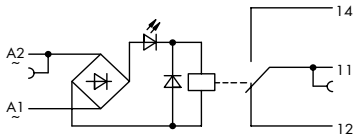
Control circuit	
Input voltage range	-15 … +10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

» Accessories Page 88

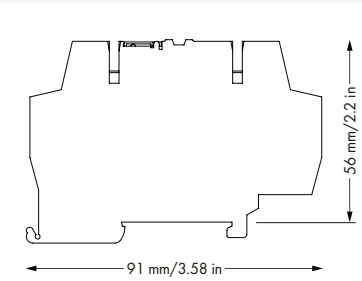
Relay module; 1 changeover contact; with gold contacts; Red status indicator; Module width: 6 mm

859 Series

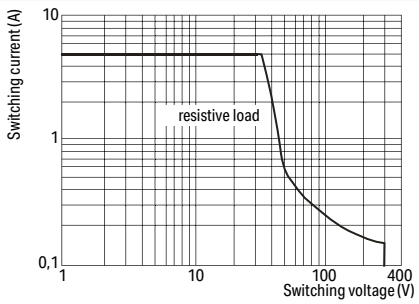




U_N	I_N	Item No.	PU
115 VAC/VDC	4 mA	859-360	10
230 VAC/VDC	4 mA	859-359	10



Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



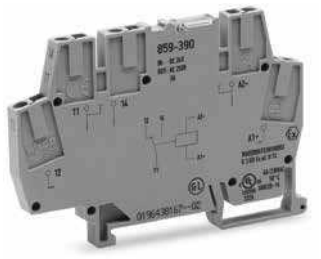
DC Load Limit Curve

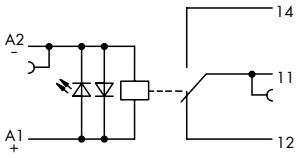
Control circuit	
Input voltage range	-15 … +10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	30 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

» Accessories Page 88

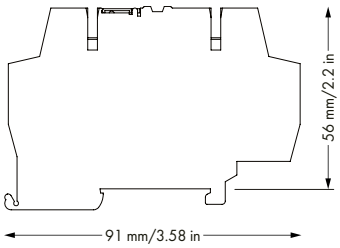
Relay module; 1 changeover contact; Railway; Red status indicator; Module width: 6 mm
859 Series

1

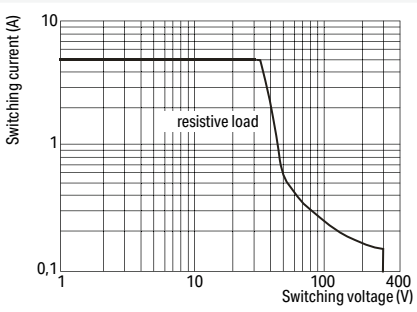




U_N	I_N	Item No.	PU
24 VDC	12 mA	859-390	10

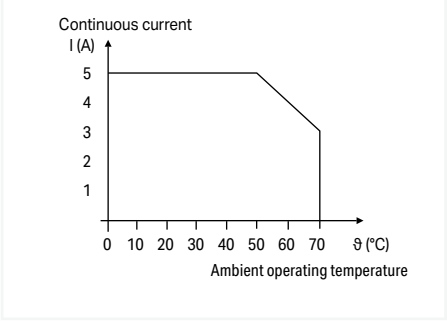


Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	6 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

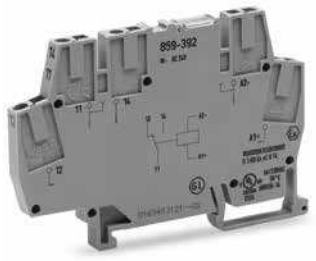


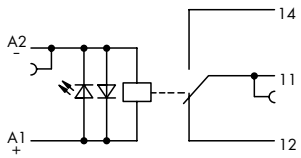
Current-Carrying Capacity Curve

» Accessories Page 88

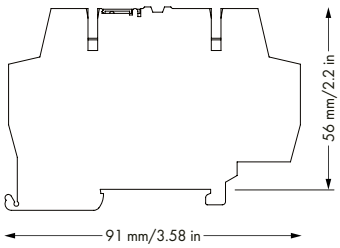
Relay module; 1 changeover contact; with gold contacts; Railway; Red status indicator; Module width: 6 mm

859 Series

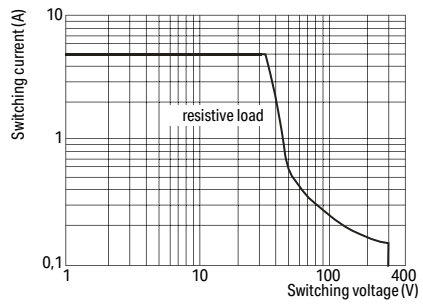




U_N	I_N	Item No.	PU
24 VDC	10 mA	859-392	10
36 VDC	11 mA	859-386	10
110 VDC	4 mA	859-317	10



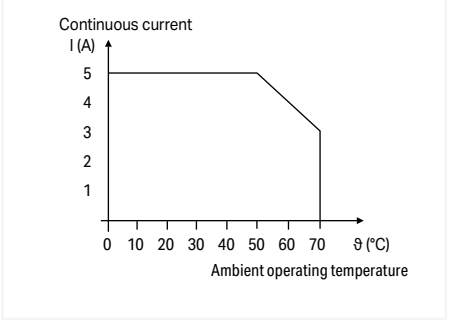
Note:
To prevent damaging the gold layer, 30 V switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life. To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 88

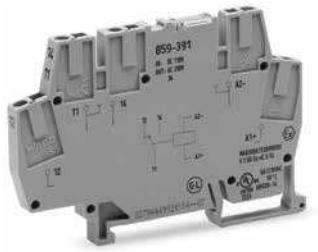
Control circuit	
Input voltage range	-30 … +25 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	6 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

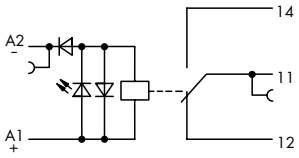


Current-Carrying Capacity Curve

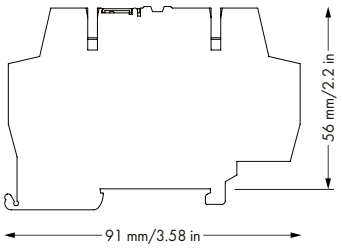
Relay module; 1 changeover contact; Railway; Red status indicator; Module width: 6 mm
859 Series

1

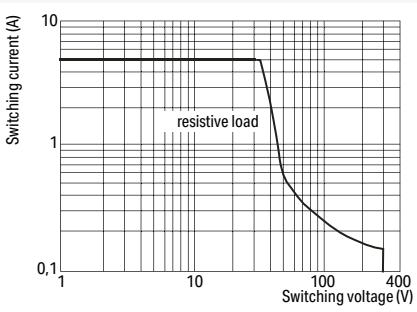




U_N	I_N	Item No.	PU
110 VDC	3 mA	859-391	10

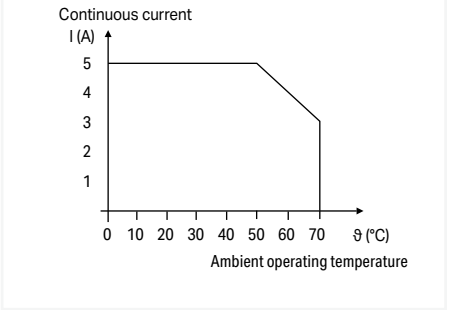


Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

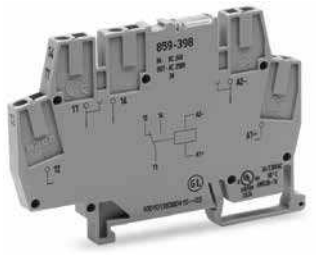
Control circuit	
Input voltage range	±30 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

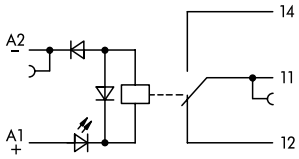


Current-Carrying Capacity Curve

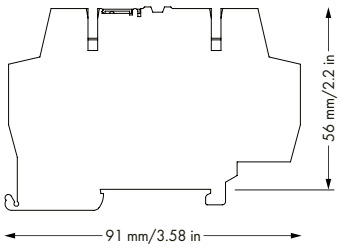
» Accessories Page 88

Relay module; 1 changeover contact; Railway; Red status indicator; Module width: 6 mm
859 Series

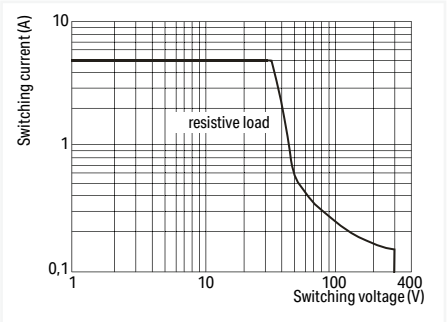




U_N	I_N	Item No.	PU
24 VDC	15 mA	859-398	10
48 VDC	8mA	859-397	10
110 VDC	4 mA	859-399	10

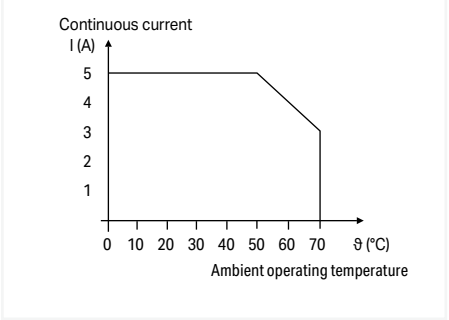


Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±40 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; EN 50121-3-2; DNV

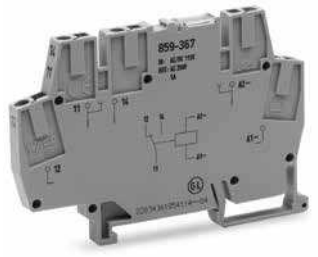


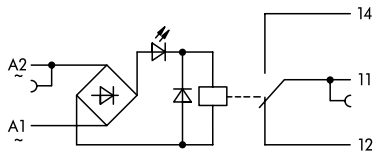
Current-Carrying Capacity Curve

» Accessories Page 88

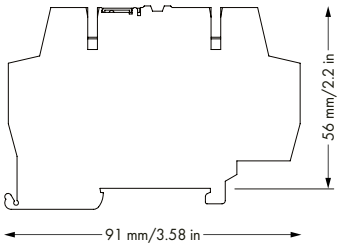
Relay module; 1 changeover contact; with defined switch-on threshold; Red status indicator; Module width: 6 mm

859 Series

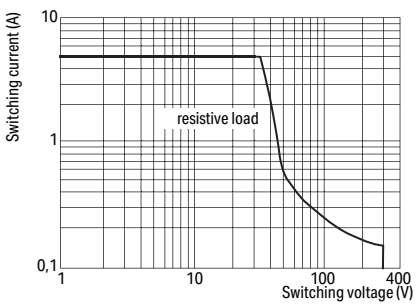




U_N	I_N	Item No.	PU
115 VAC	5 mA	859-367	10



Note
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



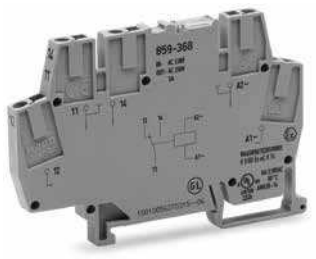
DC Load Limit Curve

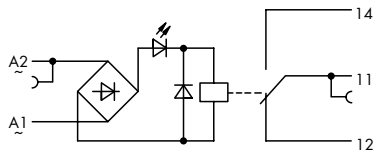
Control circuit	
Input voltage range	±10 %
Switch-on threshold (relay/LED)	95 VAC / 80 VAC
Switch-off threshold (relay/LED)	60 VAC / 60 VAC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

» Accessories Page 88

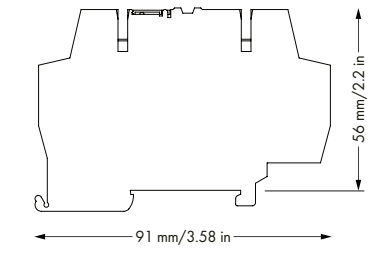
Relay module; 1 changeover contact; with defined switch-on threshold; Red status indicator; Module width: 6 mm

859 Series

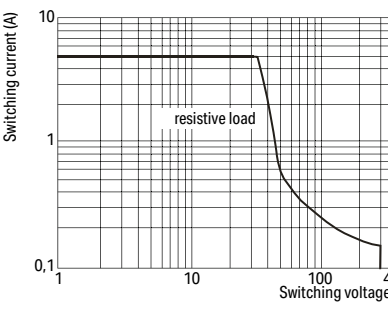




U_N	I_N	Item No.	PU
AC 230 V	5 mA	859-368	10



Note
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control circuit	
Input voltage range	±10 %
Switch-on threshold (relay/LED)	190 VAC / 165 VAC
Switch-off threshold (relay/LED)	140 VAC / 150 VAC
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 20 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; DNV

» Accessories Page 88

Accessories

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	PU
	210-720	50

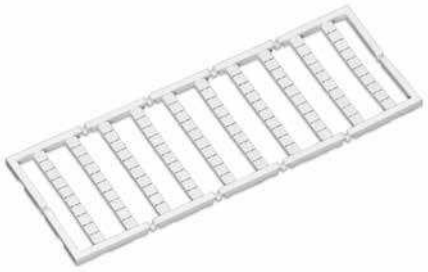
End and intermediate plate; 1 mm thick

	Item No.	PU
	859-525	100

Test pin; 1 mm Ø; with solder connection for test cable

	Item No.	PU
	859-500	100

Accessories



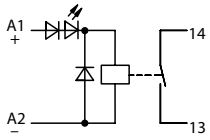
Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	PU
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
blue	**... /000-006**	

Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	**Item No.**	PU
plain	**248-501**	50
1 ... 10 (10 x)	**248-502**	50
11 ... 20 (10 x)	**248-503**	50
21 ... 30 (10 x)	**248-504**	50
31 ... 40 (10 x)	**248-505**	50
41 ... 50 (10 x)	**248-506**	50
1 ... 50 (2 x)	**248-566**	50
K1 ... K10	**248-450**	50
K11 ... K20	**248-451**	50
K100	**248-452**	50
U1 ... U10	**248-453**	50
U11 ... U20	**248-454**	50
U100	**248-455**	50

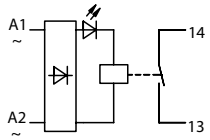
Mini-WSB Inline; for terminal block width: 5 ... 5.2 mm; plain; 1700 markers/reel; white		
Marking	**Item No.**	PU
plain	**2009-145**	1

Relay module; 1 make contact; Limiting continuous current: 5 A; Module width: 13 mm
288 Series

1



288-364



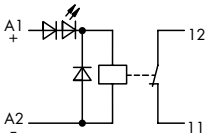
288-546; 288-567

U_N	I_N	Item No.	PU
24 VDC	20 mA	288-364	1
24 VAC/VDC	20 mA	288-564	1

Control circuit	
Input voltage range	±10 %
Nominal input current at U_N	20 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	AgNi 0.15
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 16 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Pull-in time (typ.)	4 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	13 mm / 0.512 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	47 mm / 1.85 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 75 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay module; Nominal input voltage: 24 VDC; 1 break contact; Limiting continuous current: 5 A; Module width: 13 mm

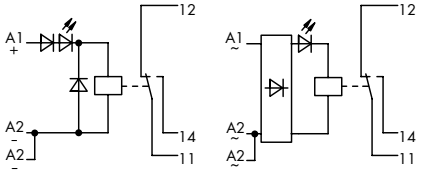
288 Series



U_N	I_N	Item No.	PU
24 VAC/VDC	20 mA	288-368	1

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	20 mA
Load circuit	
Number of break/switch-off contacts	1
Contact material (relay)	AgNi 0.15
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 16 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Pull-in time (typ.)	4 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	13 mm / 0.512 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	47 mm / 1.85 inches
Mounting type	DIN-35 rail
Weight	30.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 75 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay module; 1 changeover contact; Limiting continuous current: 6 A; Module width: 21 mm
288 Series

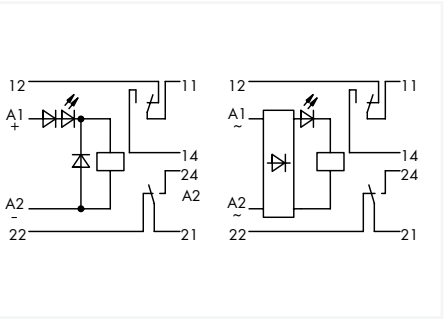


U_N	I_N	Item No.	PU
24 VDC	22 mA	288-304	1
24 VAC/VDC	22 mA	288-504	1

Note:
Reinforced insulation between control and load side per EN 61010-2-201

Control circuit	
Input voltage range	±10 %
Nominal input current at U_N	22 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 16 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	20.5 mm / 0.807 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 75 % (non-condensing)
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay module; 2 changeover contacts; Limiting continuous current: 6 A; Module width: 23 mm
288 Series



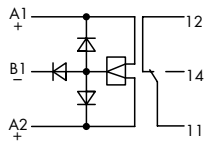
U_N	I_N	Item No.	PU
24 VDC	22 mA	288-312	1
24 VAC/VDC	22 mA	288-512	1

Control circuit	
Input voltage range	±10 %
Nominal input current at U_N	22 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 0.15
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 14 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Safety and protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	22.5 mm / 0.886 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

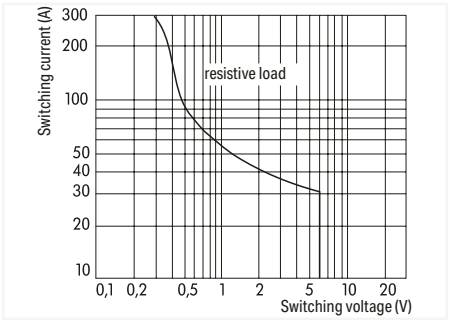
Bistable relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Module width: 21 mm

288 Series

1



U_N	I_N	Item No.	PU
24 VDC	51 mA	288-380	1

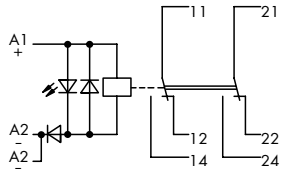


DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	51 mA
Functions	Set (closed 11-14 contacts): A1; Reset (closed 11-12 contacts): A2
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	10 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	20.5 mm / 0.807 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mounting type	DIN-35 rail
Weight	43.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 75 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay module with driven contacts; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 5 A; Module width: 19 mm

288 Series



U_N	I_N	Item No.	PU
24 VDC	36 mA	288-437	1

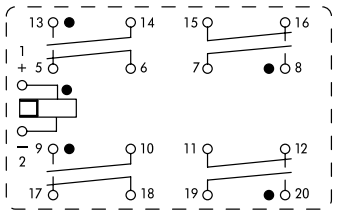
Note:
60 VDC switching voltages and 300 mA currents must not be exceeded for gold-plated basic relays. Higher switching power eventually evaporates the gold layer.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +10 %
Nominal input current at U_N	36 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 10 + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	0.1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	12 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Safety and protection	
Rated voltage	250 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	3 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Functional insulation
Insulation type (adjacent devices)	Basic insulation
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	19 mm / 0.748 inches
Height	75 mm / 2.953 inches
Depth from upper-edge of DIN-rail	38 mm / 1.496 inches
Mounting type	DIN-35 rail
Weight	44.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 50205

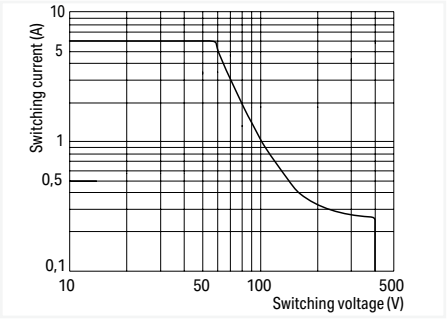
Relay module with driven contacts; Nominal input voltage: 24 V AC/DC; 4 break and 4 make contacts; Limiting continuous current: 6 A; Module width: 64 mm

288 Series

1



U_N	I_N	Item No.	PU
24 VAC/VDC	26 mA	288-414	1



DC Load Limit Curve

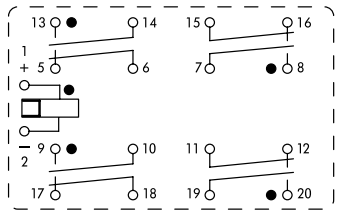
Note:
If required, a ventilation hole can be made in the cover, reducing the protection type from IP67 to IP30.

If an outer contact (20) should weld, then the forced operated inner contact (12) driven by the actuator remains open. The rotating armature remains free to move. The unaffected contact pairs can operate normally, (i. e. their function to make or break remains unaffected).

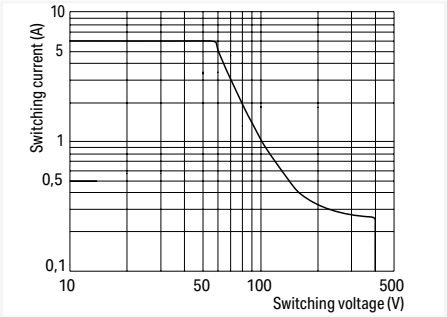
If an inner contact should weld (12) then the movement of the rotating armature is blocked via the operator. Open contacts of all four contact pairs remain open. This arrangement corresponds to conventional, force-guided operation.

Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	26 mA
Load circuit	
Number of break/switch-off contacts	4
Number of make/switch-on contacts	4
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 20 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Recommended minimum load	10 V / 10 mA
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	21 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Mechanical force-guided operation	Type B
Safety and protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.3 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 256 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	63.5 mm / 2.5 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mounting type	DIN-35 rail
Insulation material	Polyamide (PA66)
Weight	147.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1; EN 50205; EN 61810-1; ESTI (SEV): 09.1133; UL 508: E120782; TÜV: 968/EZ 116.02/09

Safety relay module; Nominal input voltage: 230 V AC/DC
288 Series



U_N	I_N	Item No.	PU
230 VAC/VDC	14 mA	288-418	1



DC Load Limit Curve

Note:
If required, a ventilation hole can be made in the cover, reducing the protection type from IP67 to IP30.

If an outer contact (20) should weld, then the forced operated inner contact (12) driven by the actuator remains open. The rotating armature remains free to move. The unaffected contact pairs can operate normally, (i. e. their function to make or break remains unaffected).

If an inner contact should weld (12) then the movement of the rotating armature is blocked via the operator. Open contacts of all four contact pairs remain open. This arrangement corresponds to conventional, force-guided operation.

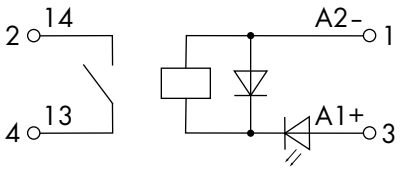
Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	14 mA
Load circuit	
Number of break/switch-off contacts	4
Number of make/switch-on contacts	4
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Recommended minimum load	10 V / 10 mA
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	21 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Mechanical force-guided operation	Type B
Safety and protection	
Rated voltage	250 V
Type of circuits	Secondary circuits
Note on insulation parameters	per EN 61010-1
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1.3 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 256 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material Data	
Width	63.5 mm / 2.5 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mounting type	DIN-35 rail
Weight	113.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 85 %
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1; EN 50205; EN 61810-1; ESTI (SEV): 09.1133; UL 508: E120782; TÜV: 968/EZ 116.02/09

Relay module; Nominal input voltage: 24 VDC; 1 make contact; Limiting continuous current: 6 A; Railway; Green status indicator; Module width: 10 mm

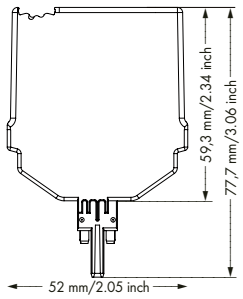
2042 Series

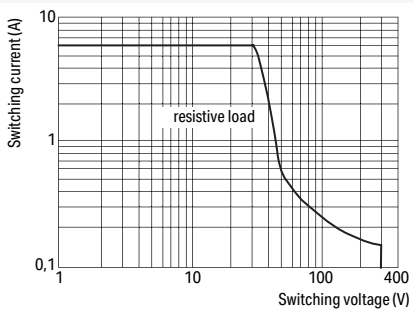
1

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	7 mA	2042-3004	6





DC Load Limit Curve

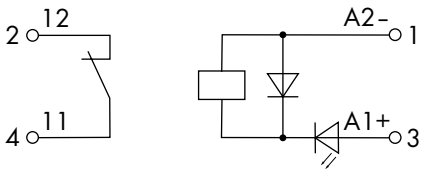
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	7 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	20.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

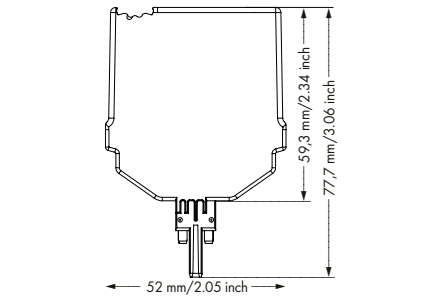
Relay module; Nominal input voltage: 24 VDC; 1 break contact; Limiting continuous current: 6 A; Railway; Green status indicator; Module width: 10 mm

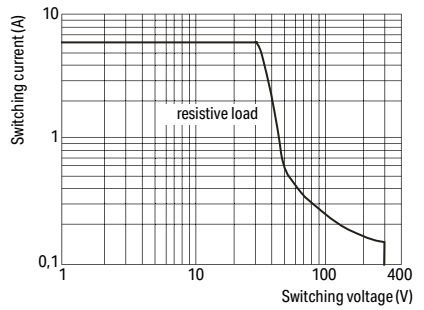
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	7 mA	2042-3054	6





DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	7 mA
Load circuit	
Number of break/switch-off contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NC; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	13.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

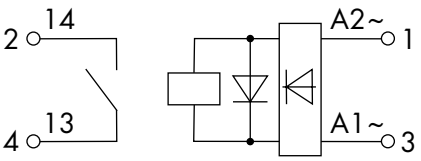
» Accessories Page 116

Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 make contact; Limiting continuous current: 3 A; Green status indicator; Module width: 10 mm

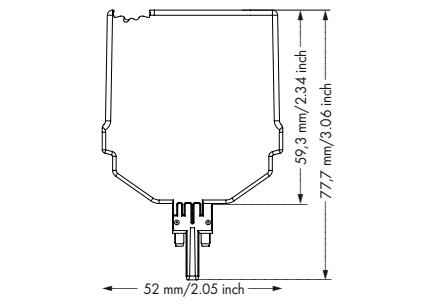
2042 Series

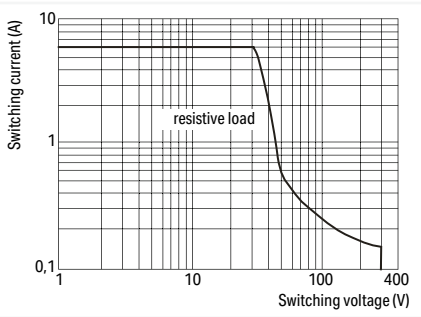
1

Similar to pictured device



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	2 … 26.3 mA	2042-3809	6





DC Load Limit Curve

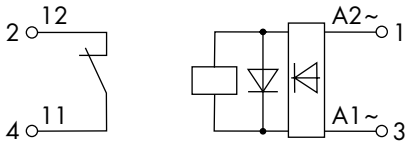
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	2 mA (230 V); 26.3 mA (24 V)
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	3 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 750 VA; DC (see load limit curve)
Switching capacity	AC-15: 3 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	31.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

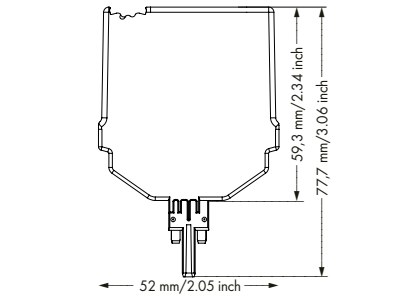
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 break contact; Limiting continuous current: 6 A; Green status indicator; Module width: 10 mm

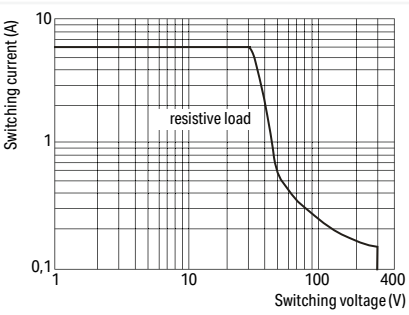
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	2 … 26.3 mA	2042-3859	6





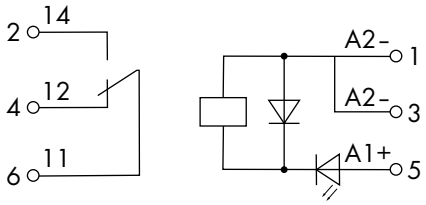
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	2 mA (230 V); 26.3 mA (24 V)
Load circuit	
Number of break/switch-off contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA; DC (see load limit curve)
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NC; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	23.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

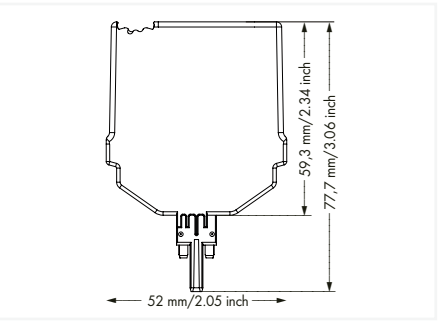
» Accessories Page 116

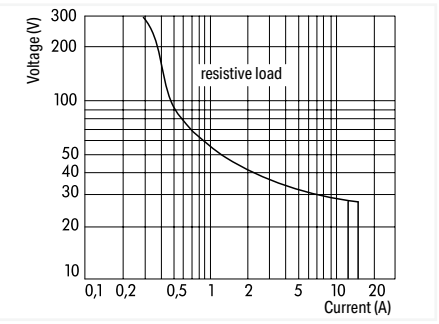
Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 10 A; Railway; Green status indicator; Module width: 15 mm
2042 Series

1



U_N	I_N	Item No.	PU
24 VDC	14 mA	2042-3034	4





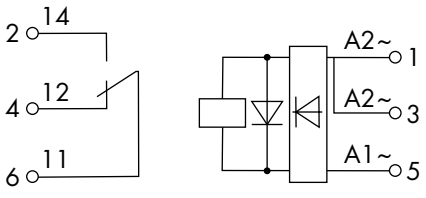
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	14 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	10 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2500 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	15.5 mm / 0.61 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	33.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

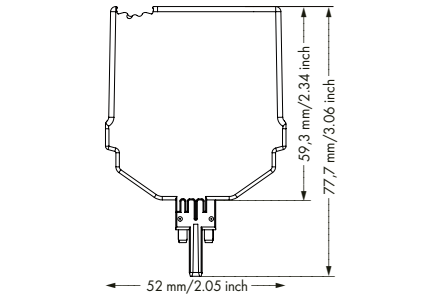
» Accessories Page 116

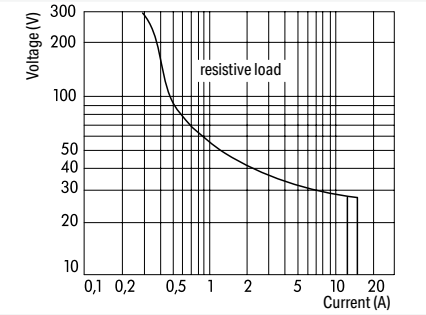
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 changeover contact; Limiting continuous current: 4 A; Green status indicator; Module width: 15 mm

2042 Series



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	6 … 50.2 mA	2042-3839	4





DC Load Limit Curve

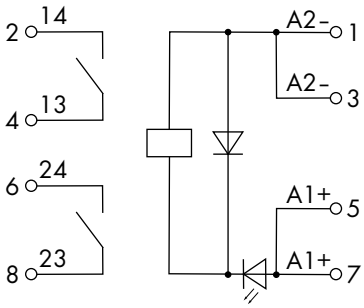
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	6 mA (230 V); 50.2 mA (24 V)
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	4 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Switching capacity	AC-15: 6 A / 250 VAC; DC-13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	15.5 mm / 0.61 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	36.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

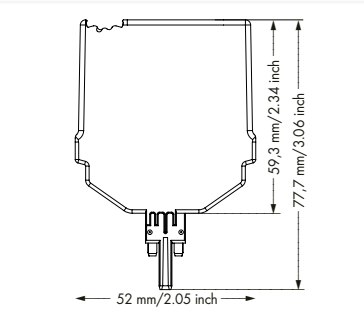
Relay module; Nominal input voltage: 24 VDC; 2 make contact; Limiting continuous current: 8 A; Railway; Green status indicator; Module width: 20 mm

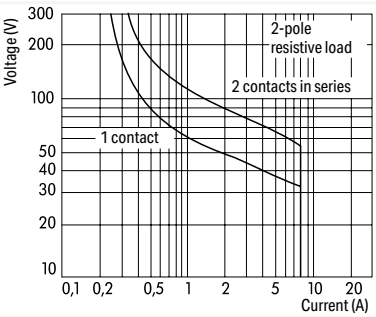
2042 Series

1



U_N	I_N	Item No.	PU
24 VDC	14 mA	2042-3014	4





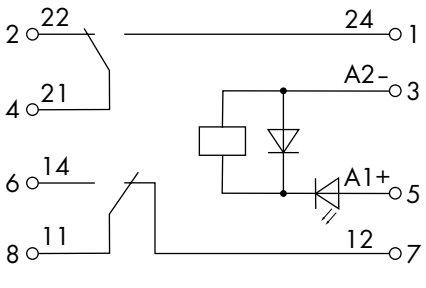
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	14 mA
Load circuit	
Number of make/switch-on contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	36.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

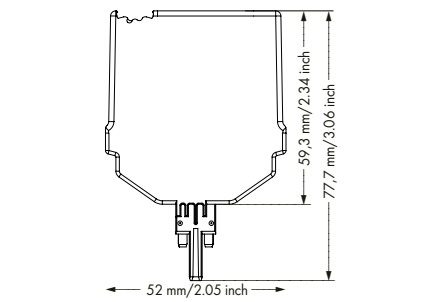
» Accessories Page 116

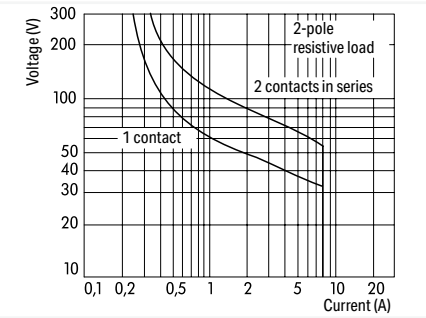
Relay module; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 8 A; Railway; Green status indicator; Module width: 20 mm

2042 Series



U_N	I_N	Item No.	PU
24 VDC	14 mA	2042-3044	4





DC Load Limit Curve

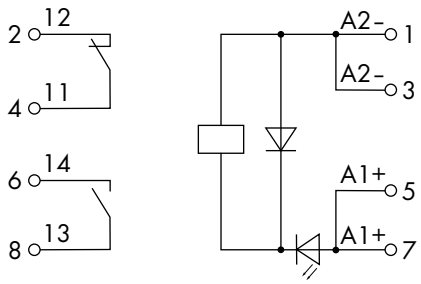
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	14 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	37 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

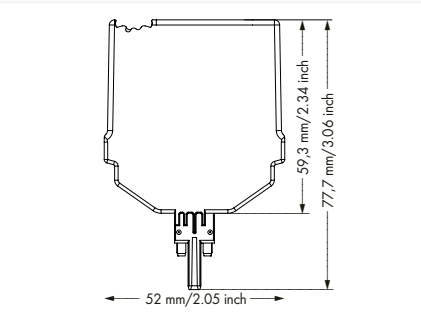
Relay module; Nominal input voltage: 24 VDC; 1 break and 1 make contact; Limiting continuous current: 8 A; Railway; Green status indicator; Module width: 20 mm

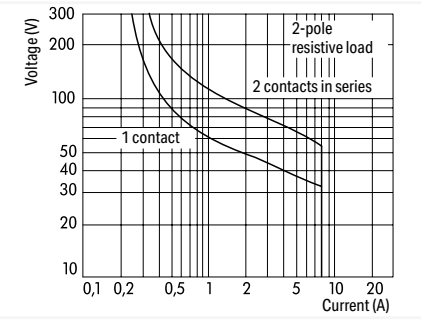
2042 Series

1



U_N	I_N	Item No.	PU
24 VDC	14 mA	2042-3064	4





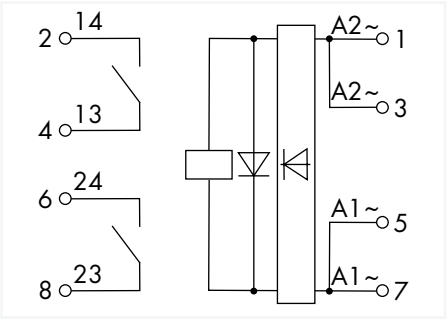
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	14 mA
Load circuit	
Number of break/switch-off contacts	1
Number of make/switch-on contacts	1
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	37.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

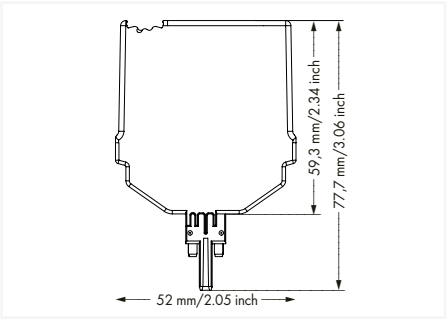
» Accessories Page 116

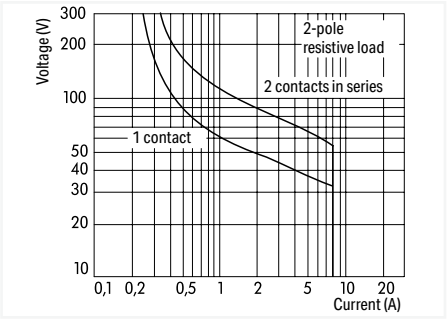
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 2 make contact; Limiting continuous current: 5 A; Green status indicator; Module width: 20 mm

2042 Series



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	3 … 49.1 mA	2042-3819	4





DC Load Limit Curve

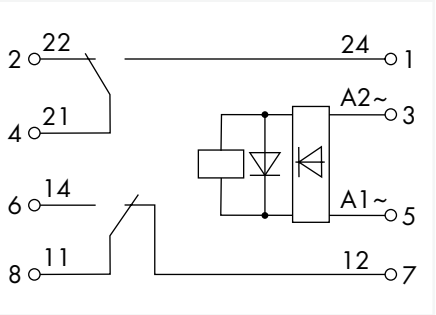
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	3 mA (230 V); 49.1 mA (24 V)
Load circuit	
Number of make/switch-on contacts	2
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	40.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

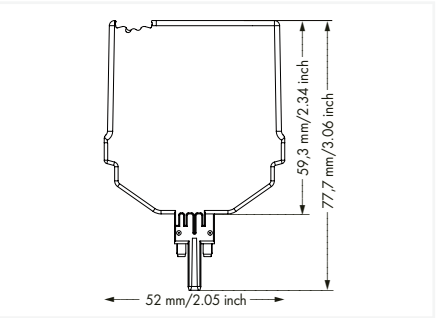
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 2 changeover contacts; Limiting continuous current: 5 A; Green status indicator; Module width: 20 mm

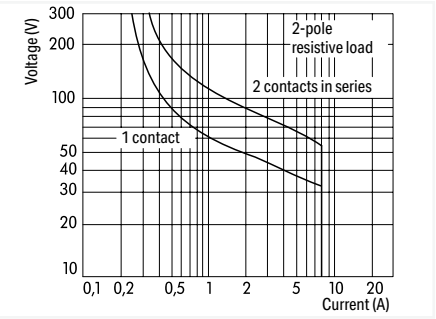
2042 Series

1



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	3 … 49.1 mA	2042-3849	4





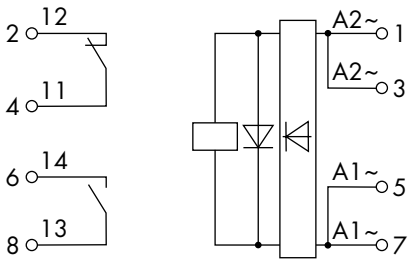
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	3 mA (230 V); 49.1 mA (24 V)
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	51.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

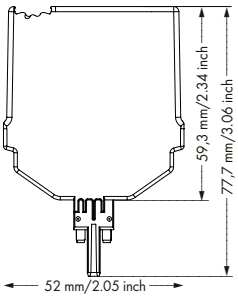
» Accessories Page 116

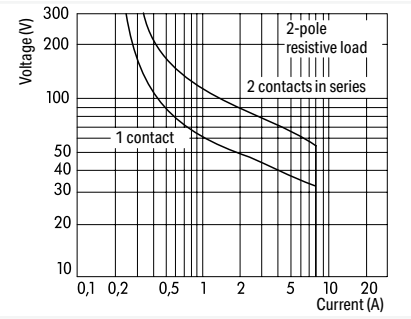
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 1 break and 1 make contact; Limiting continuous current: 5 A; Green status indicator; Module width: 20 mm

2042 Series



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	3 … 49.1 mA	2042-3869	4





DC Load Limit Curve

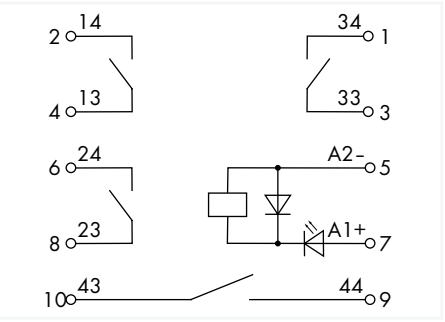
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	3 mA (230 V); 49.1 mA (24 V)
Load circuit	
Number of break/switch-off contacts	1
Number of make/switch-on contacts	1
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20.7 mm / 0.815 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	39.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

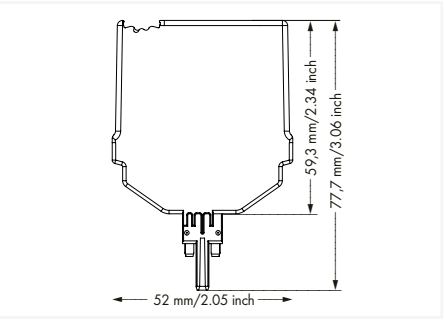
Relay module; Nominal input voltage: 24 VDC; 4 make contacts; Limiting continuous current: 5 A; Railway; Green status indicator; Module width: 25 mm

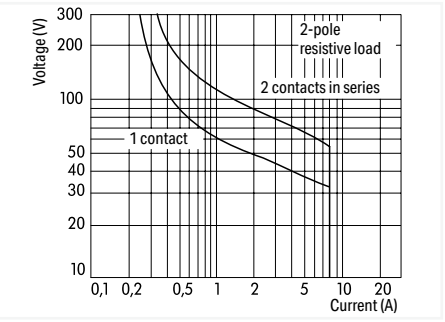
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	29 mA	2042-3024	5





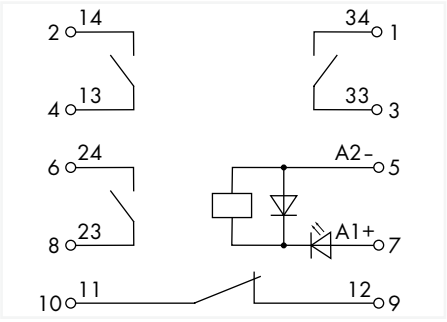
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	29 mA
Load circuit	
Number of make/switch-on contacts	4
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	70.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

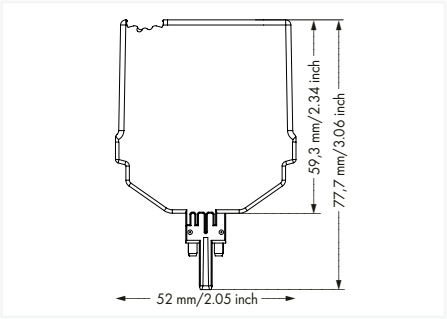
» Accessories Page 116

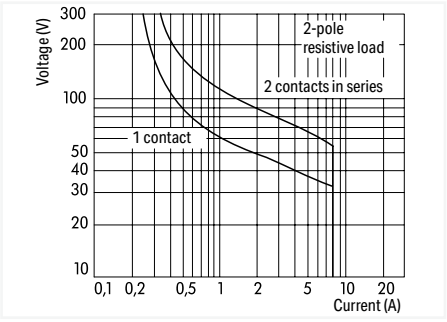
Relay module; Nominal input voltage: 24 VDC; 3 break contacts and 1 make contact; Limiting continuous current: 5 A; Railway; Green status indicator; Module width: 25 mm

2042 Series



U_N	I_N	Item No.	PU
24 VDC	28 mA	2042-3074	5





DC Load Limit Curve

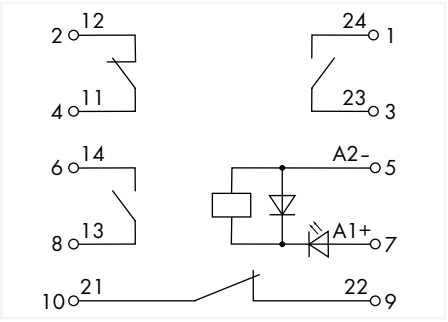
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	28 mA
Load circuit	
Number of break/switch-off contacts	1
Number of make/switch-on contacts	3
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	58.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

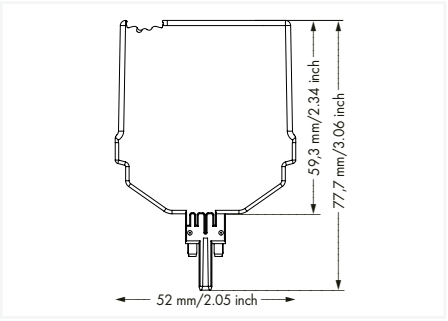
Relay module; Nominal input voltage: 24 VDC; 2 break and 2 make contacts; Limiting continuous current: 5 A; Railway; Green status indicator; Module width: 25 mm
2042 Series

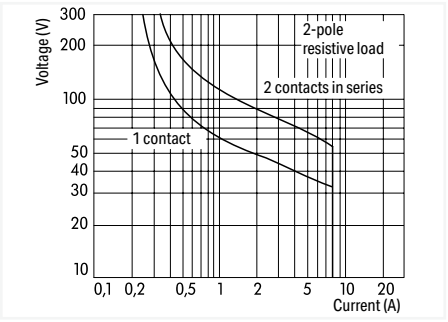
1

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	29 mA	2042-3084	5





DC Load Limit Curve

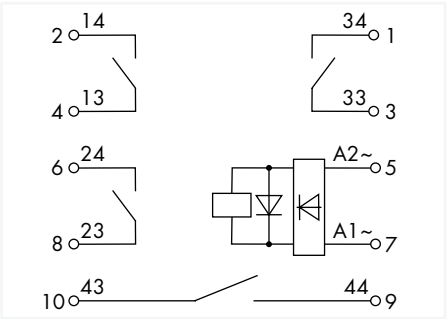
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-30 … +25 %
Nominal input current at U_N	29 mA
Load circuit	
Number of break/switch-off contacts	2
Number of make/switch-on contacts	2
Contact material (relay)	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	71.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

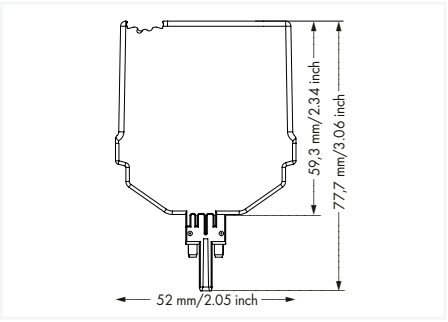
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 4 make contacts; Limiting continuous current: 3 A; Green status indicator; Module width: 25 mm

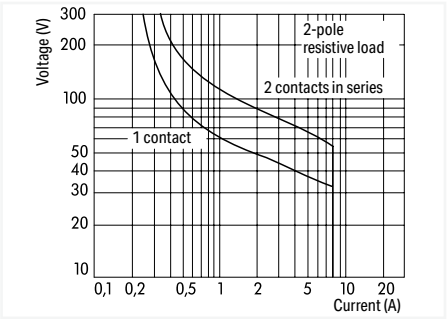
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	6 … 58.4 mA	2042-3829	5





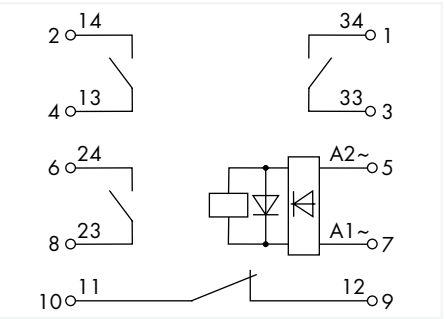
DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	6 mA (230 V); 58.4 mA (24 V)
Load circuit	
Number of make/switch-on contacts	4
Contact material (relay)	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 750 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	59.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

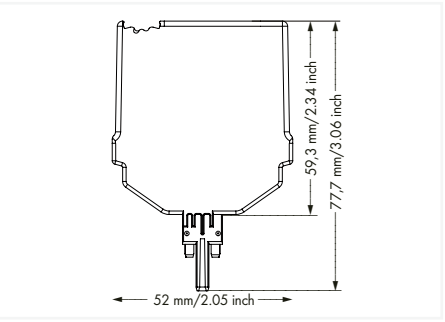
» Accessories Page 116

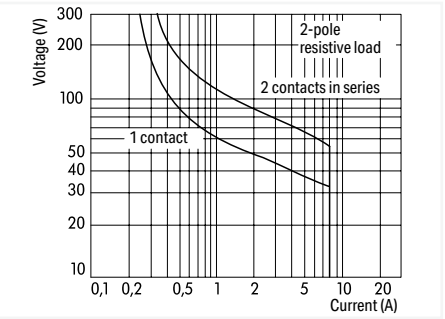
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 3 break contacts and 1 make contact; Limiting continuous current: 3 A; Green status indicator; Module width: 25 mm
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	6 … 58.4 mA	2042-3879	5





DC Load Limit Curve

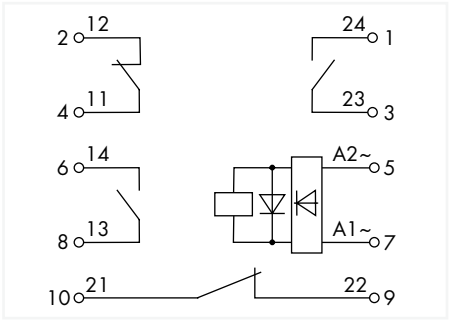
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	6 mA (230 V); 58.4 mA (24 V)
Load circuit	
Number of break/switch-off contacts	1
Number of make/switch-on contacts	3
Contact material (relay)	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 750 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	59.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

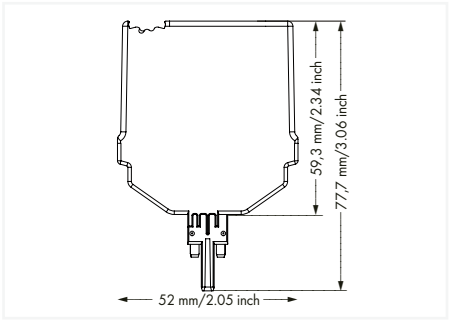
Relay module; Nominal input voltage: 24 … 230 V AC/DC; 2 break and 2 make contacts; Limiting continuous current: 3 A; Green status indicator; Module width: 25 mm

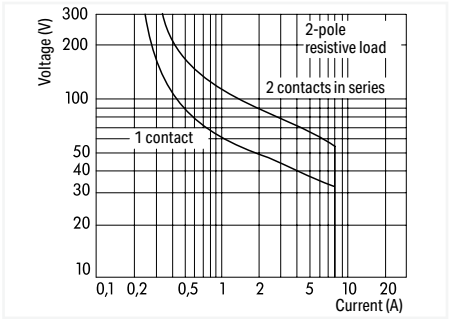
2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 … 230 VAC/VDC	6 … 58.4 mA	2042-3889	5



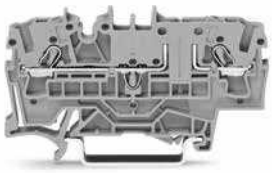


DC Load Limit Curve

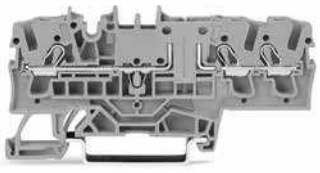
Control circuit	
Nominal input voltage U_N	24 … 230 VAC/VDC
Input voltage range	±10 %
Nominal input current at U_N	6 mA (230 V); 58.4 mA (24 V)
Load circuit	
Number of break/switch-off contacts	2
Number of make/switch-on contacts	2
Contact material (relay)	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 750 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	25.9 mm / 1.02 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S carrier terminal block
Weight	59.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 116

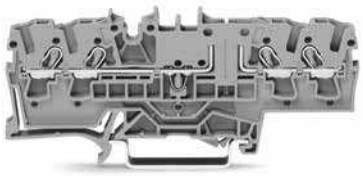
Accessories



2-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1661	50



3-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1761	50



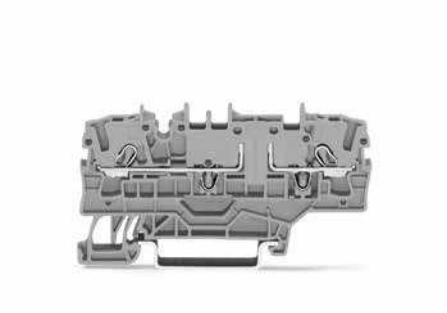
4-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1861	50

End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1692	
gray	2002-1691	

End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1792	
gray	2002-1791	

End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1892	
gray	2002-1891	

Accessories



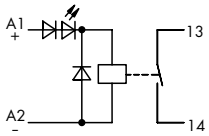
2-conductor carrier terminal block; with additional slot for adjacent jumper, for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	**Item No.**	Pack. Unit
gray	**2002-1961**	50

End and intermediate plate; 1 mm thick		
Color	**Item No.**	Pack. Unit
orange	**2002-1992**	100 (4x25)
gray	**2002-1991**	100 (4x25)

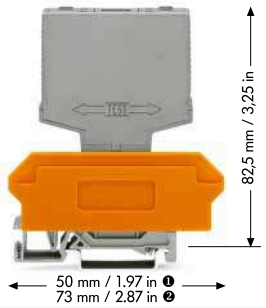
Relay module; Nominal input voltage: 24 VDC; 1 make contact; Limiting continuous current: 5 A; Red status indicator; Module width: 10 mm

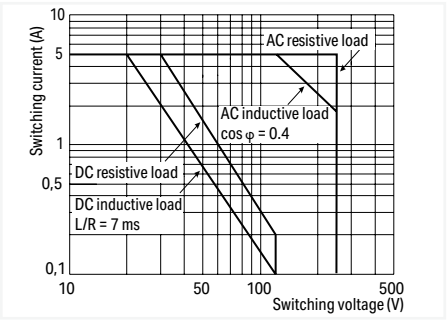
286 Series

1



U_N	I_N	Item No.	PU
24 VDC	8 mA	286-364	1





DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	8 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Pull-in time (typ.)	6 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10 mm / 0.394 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	16.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40

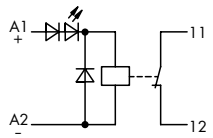
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-762	30

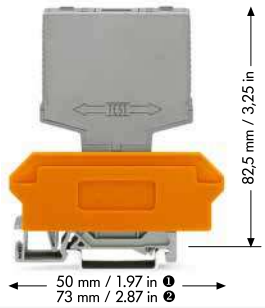
» Accessories Page 127

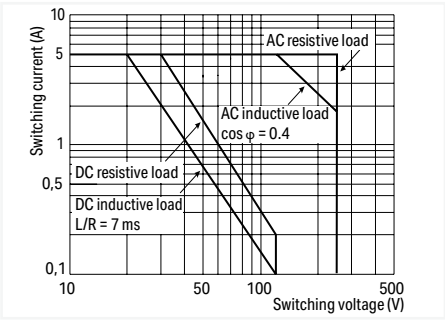
Relay module; Nominal input voltage: 24 VDC; 1 break contact; Limiting continuous current: 5 A; Red status indicator; Module width: 10 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	21 mA	286-368	1





DC Load Limit Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	21 mA
Load circuit	
Number of break/switch-off contacts	1
Contact material (relay)	AgNi
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	3 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	10 mm / 0.394 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	19.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

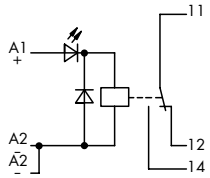
Item No.	Pack. Unit
280-762	30

» Accessories Page 127

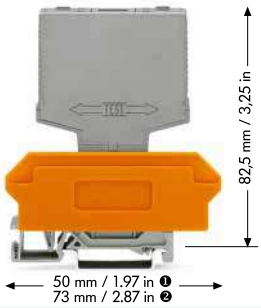
Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 7 A; Red status indicator; Module width: 15 mm

286 Series

1



U_N	I_N	Item No.	PU
24 VDC	20 mA	286-304	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	20 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1750 VA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	34.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30

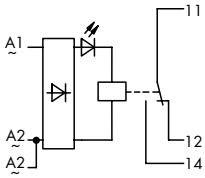
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

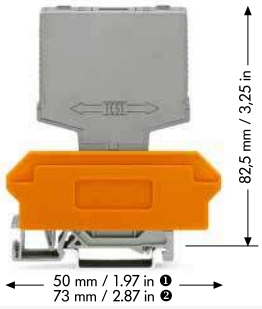
» Accessories Page 127

Relay module; 1 changeover contact; Limiting continuous current: 7 A; Red status indicator; Module width: 15 mm

286 Series



U_N	I_N	Item No.	PU
115 VAC	7 mA	286-507	1
230 VAC	4 mA	286-508	1



Control circuit	
Input voltage range	±10 %
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1750 VA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 75 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

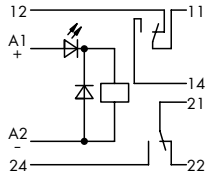
Item No.	Pack. Unit
280-763	25

» Accessories Page 127

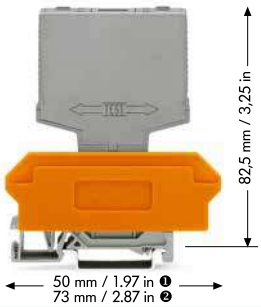
Relay module; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 7 A; Red status indicator; Module width: 20 mm

286 Series

1



U_N	I_N	Item No.	PU
24 VDC	22 mA	286-312	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	22 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1750 VA
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20 mm / 0.787 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	39.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20

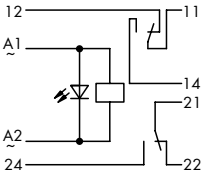
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

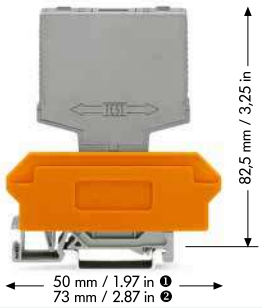
» Accessories Page 127

Relay module; Nominal input voltage: 230 VAC; 2 changeover contacts; Limiting continuous current: 7 A; Red status indicator; Module width: 15 mm

286 Series



U_N	I_N	Item No.	PU
230 VAC	4 mA	286-516	1



Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range	±10 %
Nominal input current at U_N	4 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1750 VA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20 mm / 0.787 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	35.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 75 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

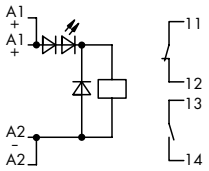
Item No.	Pack. Unit
280-764	20

» Accessories Page 127

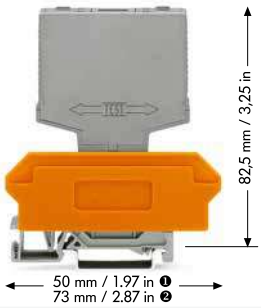
Relay module; Nominal input voltage: 24 VDC; 1 break and 1 make contact; Limiting continuous current: 6 A; Red status indicator; Module width: 20 mm

286 Series

1



U_N	I_N	Item No.	PU
24 VDC	8 mA	286-320	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	8 mA
Load circuit	
Number of break/switch-off contacts	1
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 15 A / 1 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	1 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20 mm / 0.787 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	32.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20

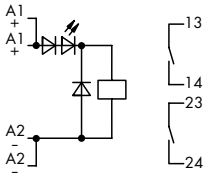
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

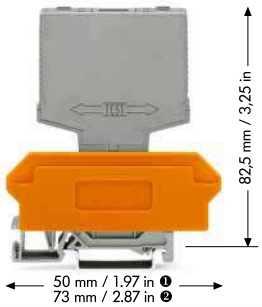
» Accessories Page 127

Relay module; Nominal input voltage: 24 VDC; 2 make contact; Limiting continuous current: 6 A; Red status indicator; Module width: 20 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	8 mA	286-328	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	8 mA
Load circuit	
Number of make/switch-on contacts	2
Contact material (relay)	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 15 A / 1 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	1 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (load/load circuit)	Functional insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	20 mm / 0.787 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	28.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 93 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

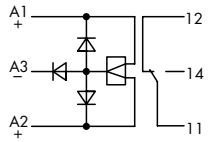
Item No.	Pack. Unit
280-764	20

» Accessories Page 127

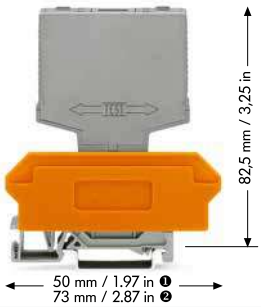
Bistable relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Red status indicator; Module width: 15 mm

286 Series

1



U_N	I_N	Item No.	PU
24 VDC	51 mA	286-380	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	51 mA
Functions	Set (closed 11-14 contacts): A2; Reset (closed 11-12 contacts): A1
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1500 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	10 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Physical data/Mechanical data/Material Data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	35 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 75 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

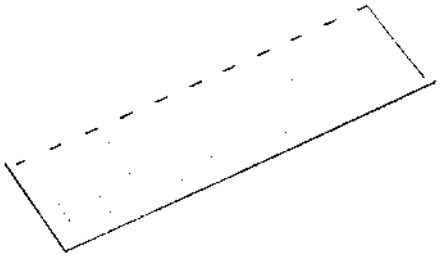
Item No.	Pack. Unit
280-609	30

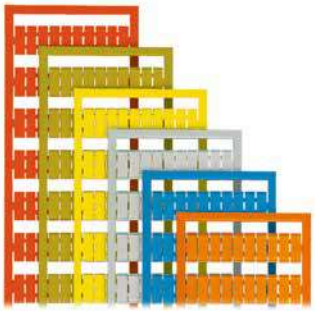
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

» Accessories Page 127

Accessories





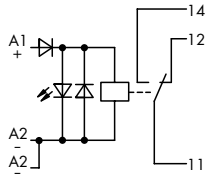
WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
K	209-782	50
1 ... 10 (10 x)	209-702	50
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50

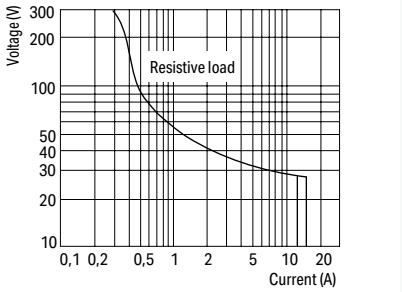
WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card

Color	Item No.	Pack. Unit
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 12 A; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-304	10



DC Load Limit Curve

Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

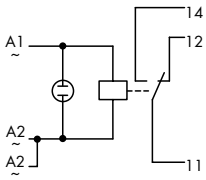
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +10 %
Nominal input current at U_N	19 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Mechanical life	3 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	50.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

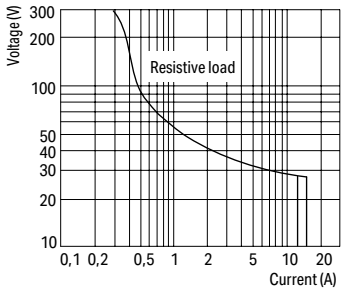
» Accessories Page 144

Relay module; Nominal input voltage: 230 VAC; 1 changeover contact; Limiting continuous current: 12 A; Red status indicator; Module width: 18 mm

789 Series



U_N	I_N	Item No.	PU
230 VAC	5 mA	789-508	10



DC Load Limit Curve

Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

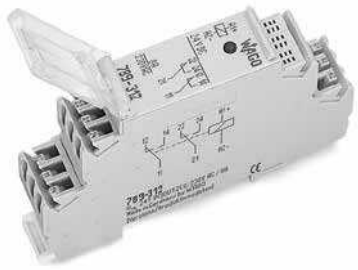
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

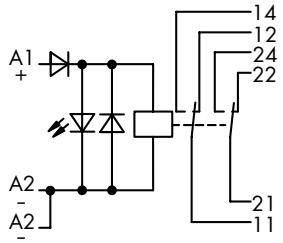
Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range	-15 … +10 %
Nominal input current at U_N	5 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi 90/10
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	15 ms
Bounce time (typ.)	3 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	49.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

» Accessories Page 144

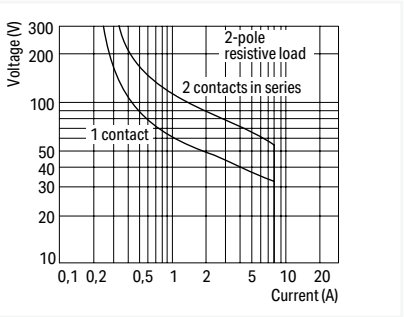
Relay module; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 8 A; Red status indicator; Module width: 18 mm

789 Series





U_N	I_N	Item No.	PU
24 VDC	21 mA	789-312	10



DC Load Limit Curve

Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

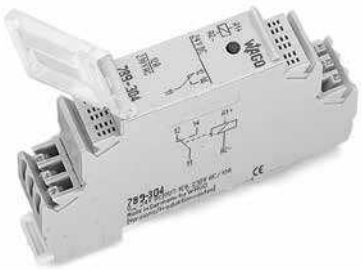
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +10 %
Nominal input current at U_N	21 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 15 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	55 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 61010-2-201

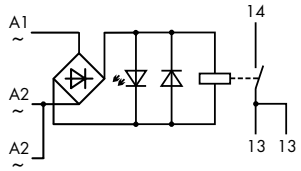
» Accessories Page 144

Relay module; Nominal input voltage: 24 VAC; 1 make contact; Limiting continuous current: 16 A; Red status indicator; Module width: 18 mm

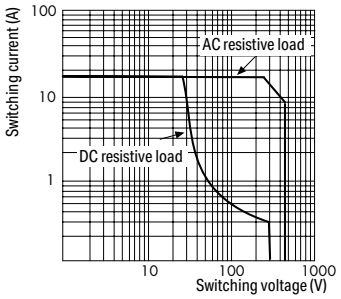
789 Series



Similar to pictured device



U_N	I_N	Item No.	PU
24 VAC/VDC	32 mA	789-520	10



Load Limit Curve

Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

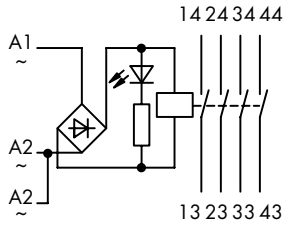
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	32 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	53.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1; EN 61810-1

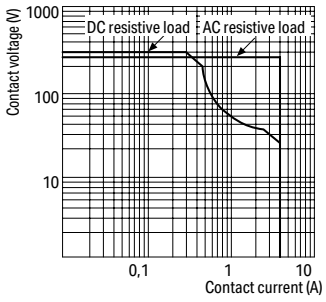
» Accessories Page 144

Relay module; Nominal input voltage: 24 V AC/DC; 4 make contacts; Limiting continuous current: 4 A; Red status indicator; Module width: 18 mm

789 Series



U_N	I_N	Item No.	PU
24 VAC/VDC	12 mA	789-552	10



Load Limit Curve

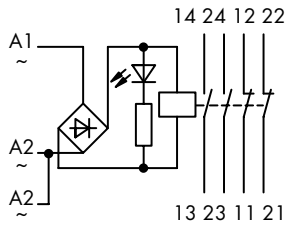
Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

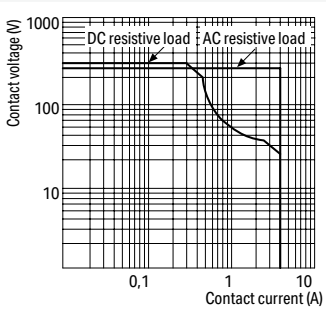
Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Input voltage range	-15 … +10 %
Nominal input current at U_N	12 mA
Load circuit	
Number of make/switch-on contacts	4
Contact material (relay)	AgNi + Au
Limiting continuous current	4 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Recommended minimum load	0.1 V / 0.1 mA
Pull-in time (typ.)	20 ms
Drop-out time (typ.)	20 ms
Bounce time (typ.)	1 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	230 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	0.75 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	51.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1; EN 61810-1

» Accessories Page 144

Relay module; Nominal input voltage: 24 V AC/DC; 2 break and 2 make contacts; Limiting continuous current: 4 A; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VAC/VDC	12 mA	789-536	10



Load Limit Curve

Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

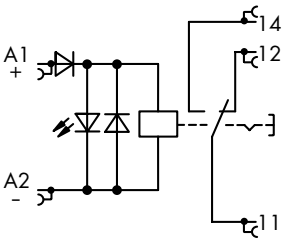
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Input voltage range	-15 … +10 %
Nominal input current at U_N	12 mA
Load circuit	
Number of break/switch-off contacts	2
Number of make/switch-on contacts	2
Contact material (relay)	AgNi + Au
Limiting continuous current	4 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1000 VA; DC (see load limit curve)
Recommended minimum load	0.1 V / 0.1 mA
Pull-in time (typ.)	20 ms
Drop-out time (typ.)	20 ms
Bounce time (typ.)	1 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	230 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	1.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	0.75 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	50.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1; EN 61810-1

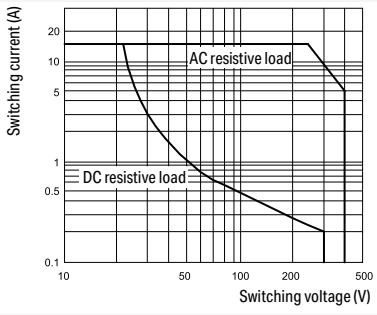
» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 12 A; with manual operation; Red status indicator; Module width: 18 mm
789 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	17 mA	789-1341	10



Load Limit Curve

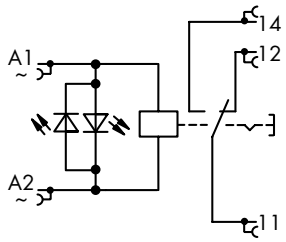
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	17 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 30 A / 0.02 s; (AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	50.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

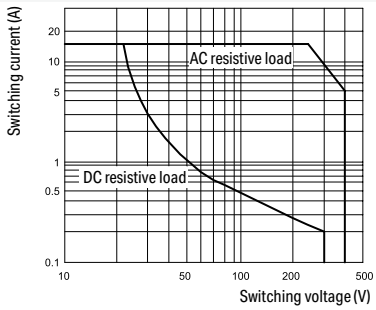
» Accessories Page 144

Relay module; Nominal input voltage: 230 VAC; 1 changeover contact; Limiting continuous current: 12 A; with manual operation; Red status indicator; Module width: 18 mm
789 Series

Similar to pictured device



U_N	I_N	Item No.	PU
230 VAC	4 mA	789-1544	10



Load Limit Curve

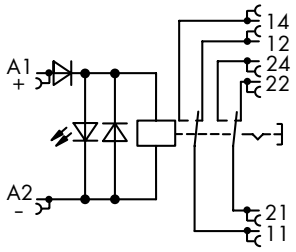
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range	±10 %
Nominal input current at U_N	4 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 30 A / 0.02 s; (AC) 24 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	50.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

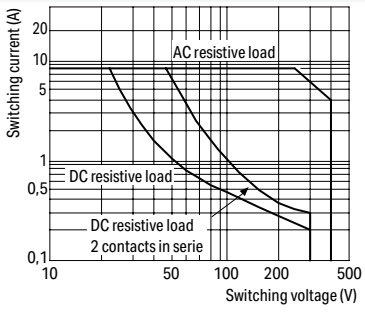
» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 2 changeover contacts; Limiting continuous current: 8 A; with manual operation; Red status indicator; Module width: 18 mm
789 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	17 mA	789-1346	10



Load Limit Curve

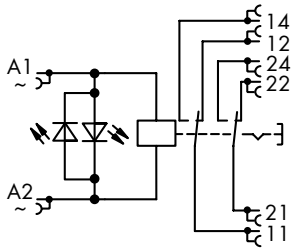
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	±10 %
Nominal input current at U_N	17 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 16 A / 0.02 s; (AC) 12 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (load/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	57.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 61010-2-201

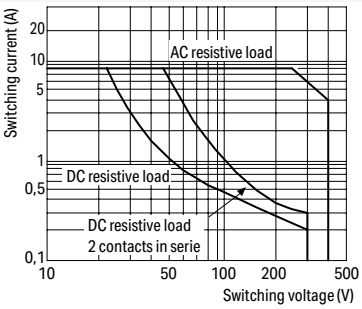
» Accessories Page 144

Relay module; Nominal input voltage: 230 VAC; 2 changeover contacts; Limiting continuous current: 8 A; with manual operation; Red status indicator; Module width: 18 mm
789 Series

Similar to pictured device



U_N	I_N	Item No.	PU
230 VAC	4 mA	789-1549	10



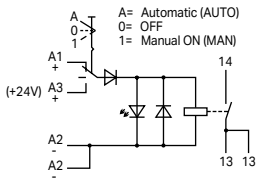
Load Limit Curve

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

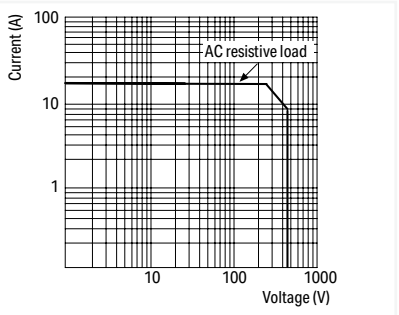
Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range	±10 %
Nominal input current at U_N	4 mA
Load circuit	
Number of changeover/switchover contacts	2
Contact material (relay)	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	(AC) 16 A / 0.02 s; (AC) 12 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 2000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	59.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/0FF/Auto switch; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-323	10



Load Limit Curve

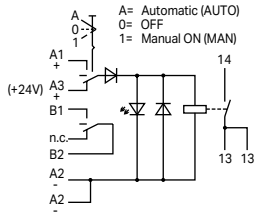
Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

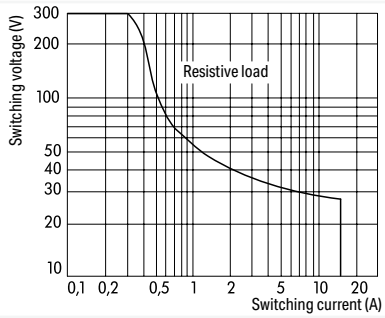
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	19 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	54.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	≤ 75% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/0FF/Auto switch; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-324	10



DC Load Limit Curve

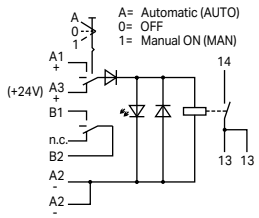
Short description:
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

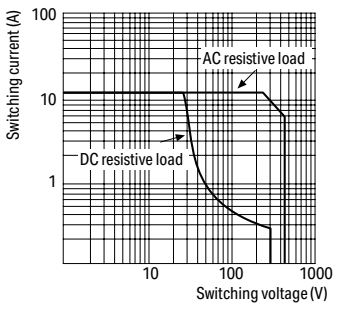
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-10 … +20 %
Nominal input current at U_N	19 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$, W pre-make contact
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 165 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	5 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	5 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signal Contact	
Switching voltage (max.) (signal contact)	AC 30 V / DC 60 V
Limiting continuous current (signal contact)	4 A
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (load circuit/signal contact)	Reinforced insulation (safe isolation)
Insulation type (control circuit/signal contact)	Basic insulation (100 V working voltage); overvoltage category II
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	60.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	≤ 75% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/0FF/Auto switch; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-325	10



Load Limit Curve

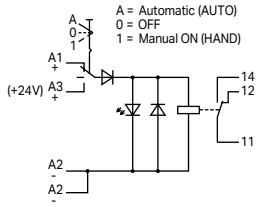
Short description
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

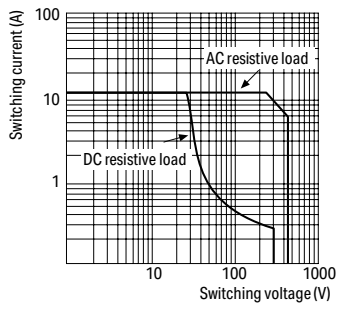
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	19 mA
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signal Contact	
Switching voltage (max.) (signal contact)	30 VAC / 60 VDC
Limiting continuous current (signal contact)	4 A
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (load circuit/signal contact)	Reinforced insulation (safe isolation)
Insulation type (control circuit/signal contact)	Basic insulation (100 V working voltage); overvoltage category II
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	57.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	≤ 75% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 12 A; for lamp loads; Manual/0FF/Auto switch; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-326	10



Load Limit Curve

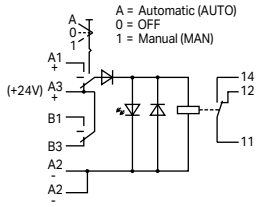
Short description
WAGO's switching relays (789 Series) serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets. Just 17.5 mm (0.689 inch) wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

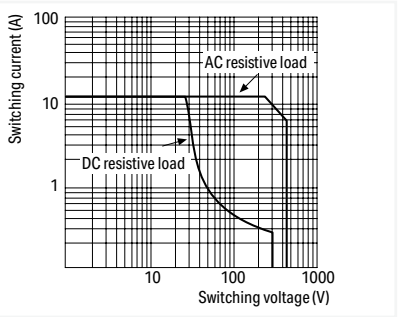
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	19 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	55 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	≤ 75% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

» Accessories Page 144

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 12 A; for lamp loads; Manual/0FF/Auto switch; Red status indicator; Module width: 18 mm
789 Series



U_N	I_N	Item No.	PU
24 VDC	19 mA	789-329	10



Load Limit Curve

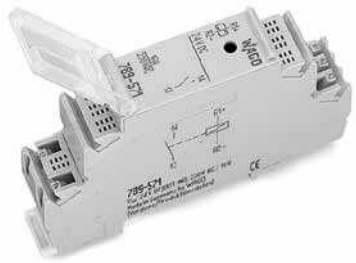
Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.

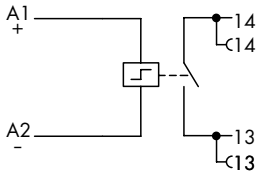
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +20 %
Nominal input current at U_N	19 mA
Load circuit	
Number of changeover/switchover contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	12 A
Inrush current (resistive) max.	(AC) 120 A / 0.05 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 3000 VA; DC (see load limit curve)
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (open contact)	Functional insulation
Insulation type (load circuit/signal contact)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Weight	51 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	≤ 75% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

» Accessories Page 144

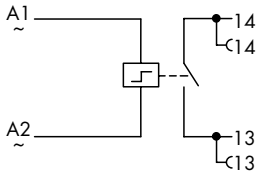
Latching relay module; Nominal input voltage: 230 VAC; 1 make contact; Limiting continuous current: 16 A; Red status indicator; Module width: 18 mm

789 Series





789-571



789-570

U_N	I_N	Item No.	PU
24 VDC	82 mA	789-571	10
230 VAC	10 mA	789-570	10

Control circuit	
Input voltage range	-15 … +10 %
Coil control	Pulse mode
Minimum pulse length (control input)	40 ms
Minimum break time	180 ms
Load circuit	
Number of make/switch-on contacts	1
Contact material (relay)	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	(AC) 50 A / 0.02 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 4000 VA
Recommended minimum load	10 V / 10 mA
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	100 x 10^3 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 240 min^{-1}
Protection	Circuit breaker: 16 A (max.); Tripping characteristic: B
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material Data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Standards and specifications	
Standards/specifications	EN 60664-1

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Accessories

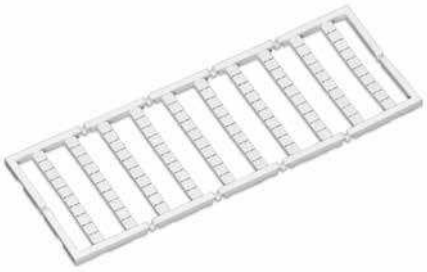
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	PU
	210-720	50

Push-in type jumper bar; 12-way; Nominal current: 16 A; uninsulated

	Item No.	PU
	789-112	100 (4x25)

Accessories



Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	Item No.	PU
plain	248-501	50
1 … 10 (10 x)	248-502	50
11 … 20 (10 x)	248-503	50
21 … 30 (10 x)	248-504	50
31 … 40 (10 x)	248-505	50
41 … 50 (10 x)	248-506	50
1 … 50 (2 x)	248-566	50
K1 … K10	248-450	50
K11 … K20	248-451	50
K100	248-452	50
U1 … U10	248-453	50
U11 … U20	248-454	50
U100	248-455	50

Felt-tip pen; for permanent marking		
	Item No.	PU
	210-110	200

WAGO Solid-State Relays

WAGO Solid-State Relays

2

WAGO Solid-State Relays
Selection Guide

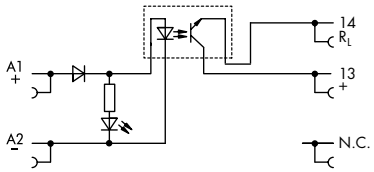
2

Nominal Input Voltage U_N	Limiting Continuous Current	Nominal Input Current at U_N	2-Wire Connection	3-Wire Connection	High-Side Switching	Low-Side Switching	Zero-Voltage Switching	2-Way	Standards/Approvals							For Railway Applications	Specialty Function	Item Number	Page
									EN 50121-3-2	EN 61000-6-2	EN 61000-6-3	EN 61373	EN 61812-1	DNV	UL 508				
5 VDC	0.1 A	7.5 mA	■						■	■	■	■			■	■		859-793	195
5 VDC	0.1 A	16.5 mA		■	■					■	■	■			■			859-753	214
5 VDC	0.1 A	17 mA	■						■	■	■	■			■	■		859-795	192
5 VDC	0.5 A	7.7 mA	■				■			■	■				■			859-902	218
5 VDC	0.5 A	9.6 mA		■	■					■	■	■			■			859-702	207
5 VDC	0.5 A	10 mA		■	■					■	■	■			■			859-752	209
5 VDC	0.5 A	14 mA		■	■													286-752/002-000	226
5 VDC	5 A	7.2 mA	■							■	■	■						859-738	202
12 VDC	0.1 A	4 mA	■						■	■	■	■				■		859-798	194
12 VDC	0.5 A	9.2 mA	■							■	■				■			859-797	213
12 VDC	5 A	3.2 mA	■							■	■	■						859-739	203
24 VDC	0.1 A	4 mA	■															286-794	231
24 VDC	0.1 A	4 mA	■						■	■	■	■			■	■		859-791	190
24 VDC	0.1 A	4.2 mA	■						■	■	■	■			■	■		859-794	191
24 VDC	0.1 A	5.6 mA	■					■		■	■	■			■			857-1494	163
24 VDC	0.1 A	7 mA	■						■	■	■	■				■		2042-7204	222
24 VDC	0.1 A	9 mA	■							■	■	■			■			857-704	150
24 VDC	0.1 A	9 mA		■	■					■	■	■						859-759	215
24 VDC	0.1 A	9.2 mA	■						■	■	■	■			■	■		859-796	193
24 VDC	0.1 A	14 mA	■															286-791	230
24 VDC	0.25 A	15 mA	■					■										286-792	232
24 VDC	0.5 A	5.3 mA		■		■				■	■				■			859-732	216
24 VDC	0.5 A	5.9 mA		■	■			■		■	■	■			■			857-1432	164
24 VDC	0.5 A	6 mA	■				■			■	■				■			859-734	217
24 VDC	0.5 A	7 mA		■	■				■	■	■	■				■		2042-7304	224
24 VDC	0.5 A	7.7 mA		■		■				■	■	■			■			859-708	208
24 VDC	0.5 A	8 mA		■	■					■	■	■			■			859-758	211
24 VDC	0.5 A	11 mA		■	■					■	■	■			■			859-756	210
24 VDC	0.5 A	11 mA		■		■				■	■	■			■			859-706	212
24 VDC	0.5 A	15 mA		■	■													286-752	229
24 VDC	1 A	7 mA	■				■			■	■	■			■			788-720	182
24 VDC	1 A	9.15 mA	■				■		■			■	■				Multifunctional/ multi-time	857-634	167
24 VDC	2 A	9.15 mA	■						■			■	■				Multifunctional/ multi-time	857-624	166
24 VDC	2 A	9.2 mA	■				■			■	■	■			■			857-714	154
24 VDC	3 A	4 mA		■		■				■	■	■			■			859-720	200
24 VDC	3 A	7 mA	■							■	■	■			■			859-740	197
24 VDC	3 A	7 mA	■							■	■	■						859-762	199
24 VDC	3 A	7.75 mA	■					■		■	■	■		■	■			857-1430	162
24 VDC	3 A	9.2 mA	■							■	■	■		■	■			857-724	158
24 VDC	3 A	14 mA	■							■	■	■			■			859-730	196
24 VDC	3 A	14 mA	■							■	■	■						859-761	198
24 VDC	3.5 A	7 mA	■							■	■	■			■			788-700	179
24 VDC	3.5 A	13 mA	■				■			■	■	■						788-730	181
24 VDC	4 A	13.5 mA		■	■													286-723	228
24 VDC	5 A	3.5 mA	■							■	■	■						859-737	201
24 VDC	5 A	7 mA		■	■				■	■	■	■				■		2042-7604	225
24 VDC	5 A	9.3 mA	■							■	■	■			■			788-701	180
24 VDC	5 A	11 mA			■					■	■	■						788-710	178
24 VDC	5 A	13.5 mA		■		■												286-721	227
24 VDC	8 A	8.7 mA							■	■	■	■				■		857-734	161

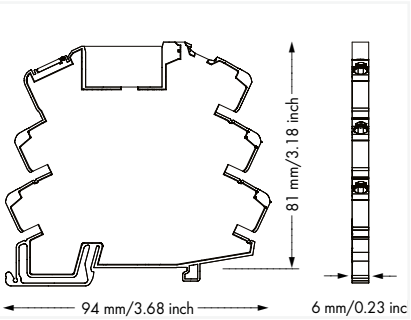
WAGO Solid-State Relays
Selection Guide

Nominal Input Voltage U_N	Limiting Continuous Current	Nominal Input Current at U_N	2-Wire Connection	3-Wire Connection	High-Side Switching	Low-Side Switching	Zero-Voltage Switching	2-Way	Standards/Approvals							For Railway Applications	Specialty Function	Item Number	Page
									EN 50121-3-2	EN 61000-6-2	EN 61000-6-3	EN 61373	EN 61812-1	DNV	UL 508				
48 VDC	0.1 A	7 mA	■						■	■	■	■				■		**2042-7504**	223
12 … 48 VDC	4 A	5 mA	■							■	■	■						**859-744**	204
24 VAC/VDC	4 A	10 mA	■				■			■	■	■			■			**788-721**	183
115 VAC/VDC	0.1 A	4.2 mA	■							■	■	■			■			**857-707**	151
115 VAC/VDC	2 A	3.9 mA	■				■			■	■	■			■			**857-717**	155
115 VAC/VDC	3 A	3.9 mA	■							■	■	■			■			**857-727**	159
230 VAC/VDC	0.1 A	3.25 mA	■							■	■	■			■			**857-708**	152
230 VAC/VDC	2 A	3.2 mA	■				■			■	■	■			■			**857-718**	156
230 VAC/VDC	3 A	3.2 mA	■							■	■	■			■			**857-728**	160
230 VAC	0.5 A	0.6 mA		■		■				■	■	■			■			**859-712**	205
230 VAC	0.5 A	0.6 mA		■	■					■	■	■			■			**859-772**	206

Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; Yellow status indicator; Module width: 6 mm
857 Series



U_N	I_N	Item No.	PU
24 VDC	9 mA	857-704	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	9 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	0 … 48 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	30.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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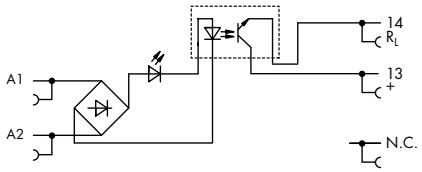
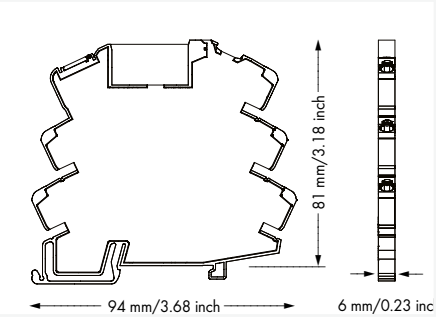
Solid-state relay module; Nominal input voltage: 115 V AC/DC; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

857 Series



U_N	I_N	Item No.	PU
115 VAC/VDC	4.2 mA	857-707	25



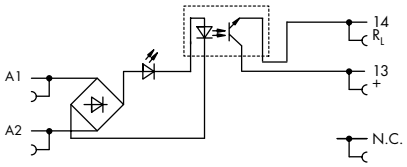
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	115 VAC/VDC
Input voltage range (low level)	0 … 25 VAC/VDC
Input voltage range (high level)	100 … 138 VAC/VDC
Nominal input current at U_N	5 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	0 … 48 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 4.5 ms
Turn-off time	≤ 10 ms
Switching frequency	≤ 20 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	30 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

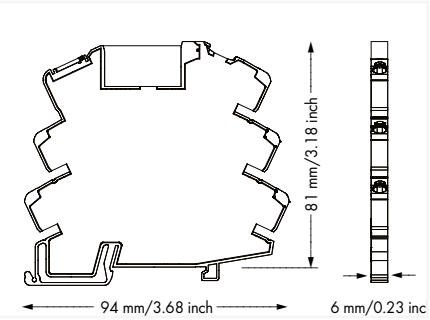
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 230 V AC/DC; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

857 Series



U_N	I_N	Item No.	PU
230 VAC/VDC	3.25 mA	857-708	25



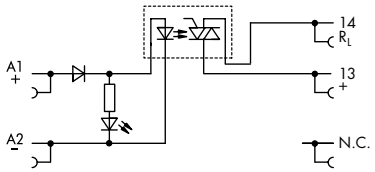
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range (low level)	0 … 30 VAC/VDC
Input voltage range (high level)	200 … 253 VAC/VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	0 … 48 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 4.5 ms
Turn-off time	≤ 10 ms
Switching frequency	≤ 20 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	30.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($t_{Tambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

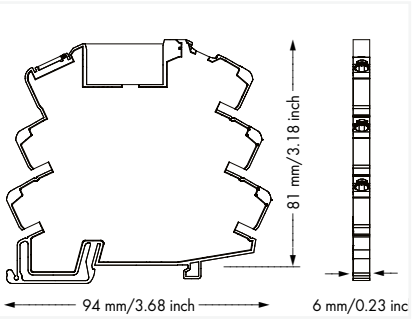
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-cross switching; Yellow status indicator; Module width: 6 mm

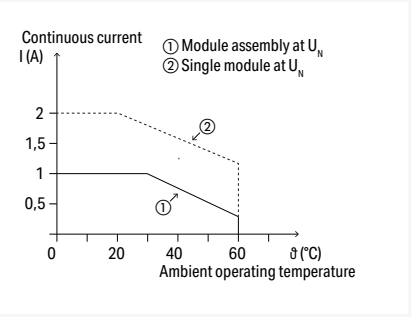
857 Series



U_N	I_N	Item No.	PU
24 VDC	9.2 mA	857-714	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



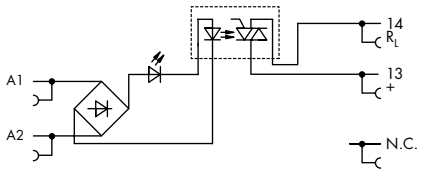
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	20 … 28.8 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	2 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ AC 1.6 V
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	29.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

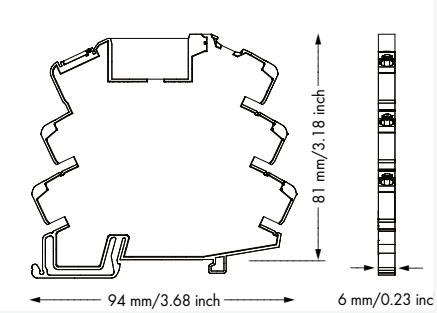
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 115 V AC/DC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-cross switching; Yellow status indicator; Module width: 6 mm
857 Series

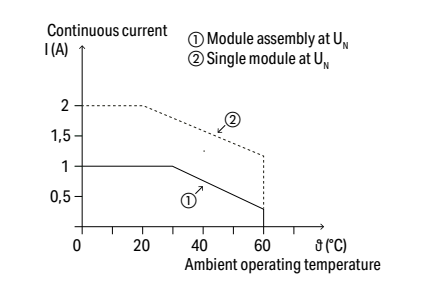
Similar to pictured device



U_N	I_N	Item No.	PU
115 VAC/VDC	3.9 mA	857-717	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



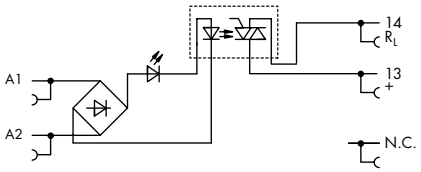
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	115 VAC/VDC
Input voltage range (low level)	0 … 25 VAC/VDC
Input voltage range (high level)	100 … 138 VAC/VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	2 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	28.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

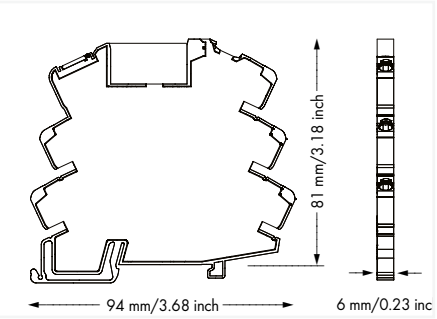
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 230 V AC/DC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-cross switching; Yellow status indicator; Module width: 6 mm

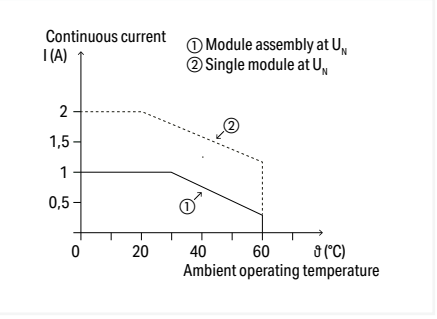
857 Series



U_N	I_N	Item No.	PU
230 VAC/VDC	3.2 mA	857-718	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

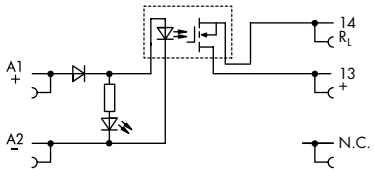


Current-Carrying Capacity Curve

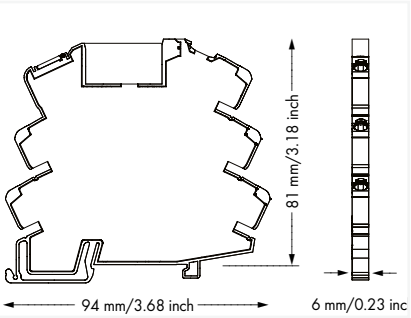
Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range (low level)	0 … 60 VAC/VDC
Input voltage range (high level)	200 … 253 VAC/VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	2 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	29.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

» Accessories Page 168

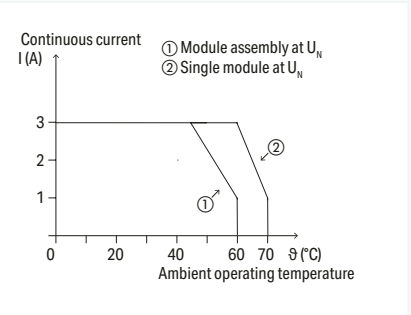
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 2-wire connection; Yellow status indicator; Module width: 6 mm
857 Series



U_N	I_N	Item No.	PU
24 VDC	9.2 mA	857-724	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



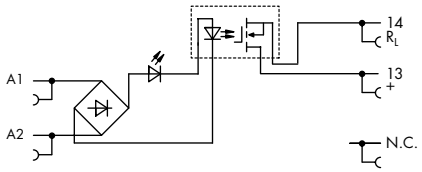
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	18.8 … 31.2 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 0.01 s
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	29.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508; DNV

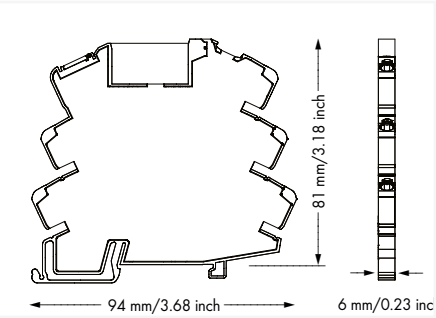
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 115 V AC/DC; Output voltage range: 0 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

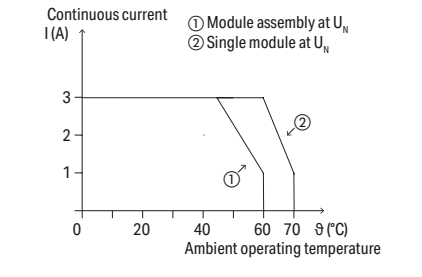
857 Series



U_N	I_N	Item No.	PU
115 VAC/VDC	3.9 mA	857-727	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



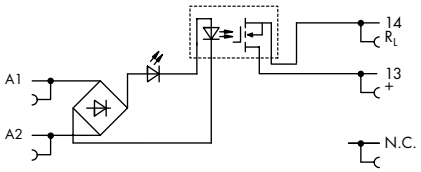
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	115 VAC/VDC
Input voltage range (low level)	0 … 25 VAC/VDC
Input voltage range (high level)	90 … 138 VAC/VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 0.01 s
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 4.5 ms
Turn-off time	≤ 10 ms
Switching frequency	≤ 20 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	30.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

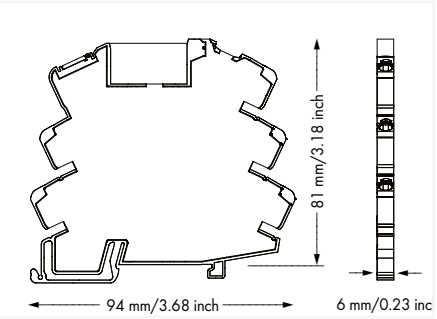
» Accessories Page 168

Solid-state relay module; Nominal input voltage: 230 V AC/DC; Output voltage range: 0 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

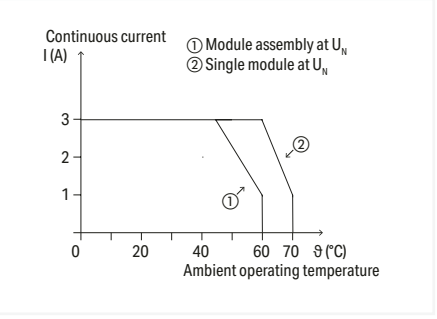
857 Series



U_N	I_N	Item No.	PU
230 VAC/VDC	3.2 mA	857-728	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

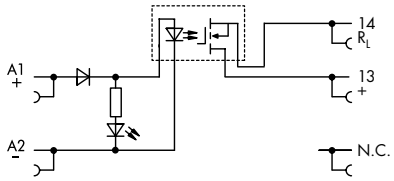


Current-Carrying Capacity Curve

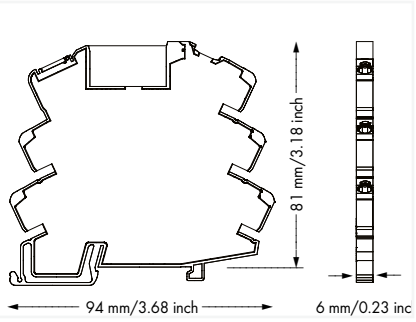
Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range (low level)	0 … 60 VAC/VDC
Input voltage range (high level)	200 … 253 VAC/VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 0.01 s
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 4.5 ms
Turn-off time	≤ 10 ms
Switching frequency	≤ 20 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	31 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

» Accessories Page 168

Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 30 VDC; Limiting continuous current: 8 A; Module width: 6 mm
857 Series

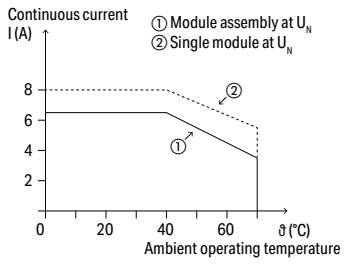


U_N	I_N	Item No.	PU
24 VDC (SELV)	12 mA	857-734	25



Safety information:
Adjacent devices are devices of the same design (series) that are arranged next to each other with the same orientation on the mounting rail. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



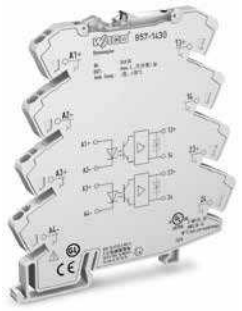
Current-Carrying Capacity Curve

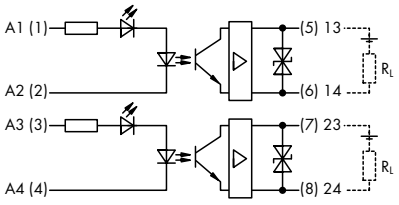
Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	12 mA
Power loss (max.) Pl (max.)	0.3 W
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	8 A; 6 A (UL)
Nominal output voltage	24 VDC (SELV)
Output voltage range	1 … 30 VDC
Voltage drop at output (max.)	≤ 0.8 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	10 mA
Turn-on time	≤ 60 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 500 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	29.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 50121-4

» Accessories Page 168

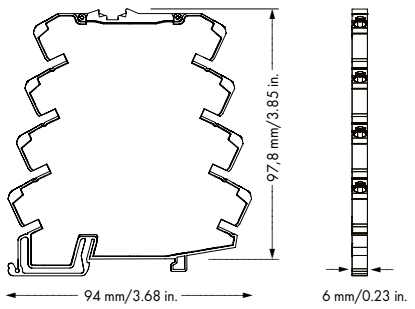
Optocoupler module; 2-port; Nominal input voltage: 24 VDC; Output voltage range: 3 … 31.2 VDC; Limiting continuous current: 3 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

857 Series

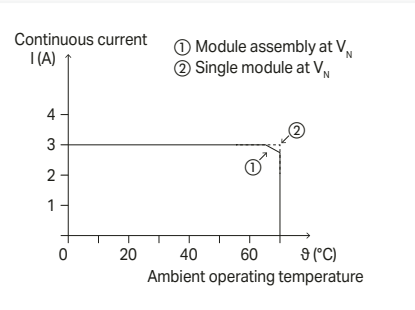




U_N	I_N	Item No.	PU
24 VDC	7.75 mA	857-1430	25



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



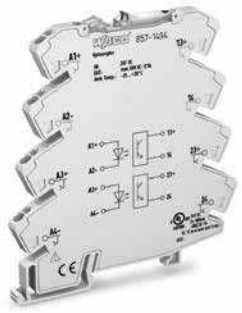
Current-Carrying Capacity Curve

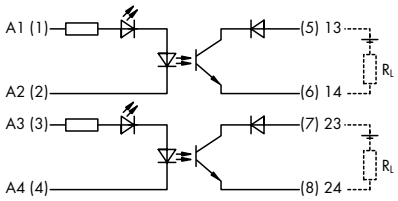
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 31.2 VDC
Nominal input current at U_N	8 mA
Load circuit	
Circuit type	2-way; 2-wire connection
Limiting continuous current	3 A
Nominal output voltage	24 VDC
Output voltage range	3 … 31.2 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Leakage current at rated voltage	≤ 250 µA
Turn-on time	≤ 25 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 300 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min.)	3.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (load/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical Data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	31.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 70 °C/2 A); DNV

» Accessories Page 168

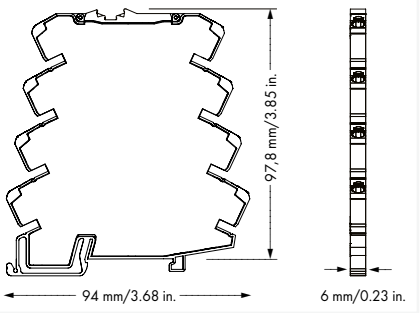
Optocoupler module; 2-port; Nominal input voltage: 24 VDC; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Yellow status indicator; Module width: 6 mm

857 Series





U_N	I_N	Item No.	PU
24 VDC	5.6 mA	857-1494	25



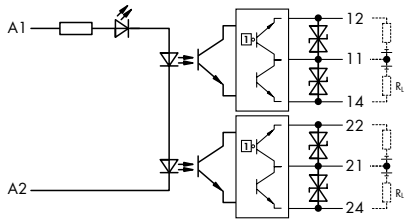
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 31.2 VDC
Nominal input current at U_N	6 mA
Load circuit	
Circuit type	2-way; 2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	9 … 60 VDC
Voltage drop at output (max.)	≤ 2 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min.)	3.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (load/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	30.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … 50 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 50 °C/0.1 A)

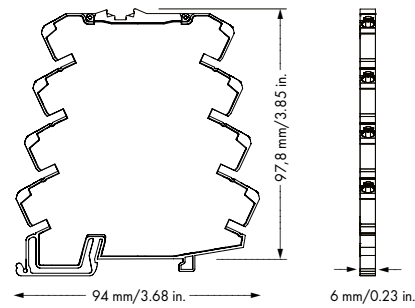
» Accessories Page 168

Optocoupler module; 2-port; Nominal input voltage: 24 VDC; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.5 A; 2 changeover contacts; Yellow status indicator; Module width: 6 mm

857 Series



U_N	I_N	Item No.	PU
24 VDC	5.9 mA	857-1432	25



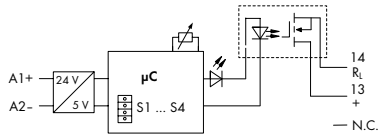
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	6 mA
Load circuit	
Circuit type	2-way; 3-wire connection; High-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	9 … 60 VDC
Voltage drop at output (max.)	≤ 1.5 VDC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	0.5 mA
Turn-on time	≤ 25 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min.)	3.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	3.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (load/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	33 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 70 °C/0.3 A)

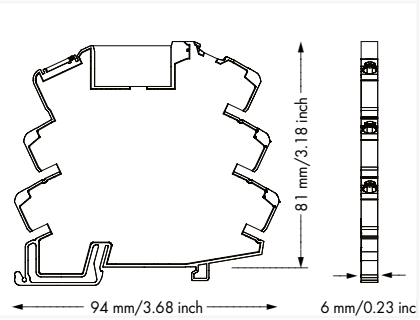
» Accessories Page 168

Solid-state timer relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 2 A; 2-wire connection; Multifunction/Multitime; Yellow status indicator; Module width: 6 mm

857 Series



U_N	I_N	Item No.	PU
24 VDC	9.15 mA	857-624	25



Features:
- 4 functions
- Function and time range adjustable via DIP switch

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +30 %
Nominal input current at U_N	10 mA
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Repeat accuracy	1 %
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1 s fixed); Flashing

Load circuit	
Circuit type	2-wire connection
Limiting continuous current	2 A
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 2 ms

Signaling	
Status indicator	Yellow LED

Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Weight	29.5g

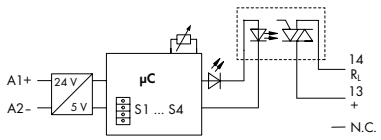
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2

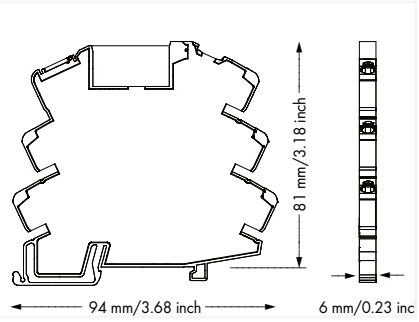
» Accessories Page 168

Solid-state timer relay module; Nominal input voltage: 24 VDC; Output voltage range: 24 … 230 VAC; Limiting continuous current: 1 A; 2-wire connection; Multifunction/Multitime; Yellow status indicator; Module width: 6 mm

857 Series

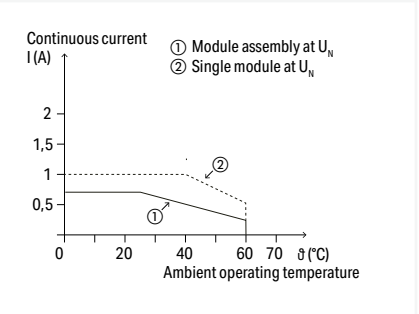


U_N	I_N	Item No.	PU
24 VDC	9.15 mA	857-634	25



Features:
- 4 functions
- Function and time range adjustable via DIP switch

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	-15 … +30 %
Nominal input current at U_N	10 mA
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Repeat accuracy	1 %
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1 s fixed); Flashing
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	1 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	10 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Signaling	
Status indicator	Yellow LED
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Weight	29.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2

» Accessories Page 168

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 0 … 30 VDC; Limiting continuous current: 3 A

857 Series

U_N	I_N	Item No.	PU
24 VDC	7 mA	857-161	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	18.8 … 31.2 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 0.01 s
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	4.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A

857 Series

U_N	I_N	Item No.	PU
24 VDC	7 mA	**857-167**	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	20 … 28.8 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	2 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	3.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 0 … 48 VDC
857 Series

U_N	I_N	Item No.	PU
24 VDC	7 mA	**857-164**	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	0 … 48 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	3.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 60 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A

857 Series

U_N	I_N	Item No.	PU
60 VDC	3 mA	857-162	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	60 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC
Nominal input current at U_N	3 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Inrush current (resistive) max.	(AC) 15 A / 0.01 s
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.12 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 60 VDC; Output voltage range: 0 … 48 VDC
857 Series

U_N	I_N	Item No.	PU
60 VDC	2.8 mA	**857-165**	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	60 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC
Nominal input current at U_N	3 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	0 … 48 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	4.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 60 VDC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A

857 Series

U_N	I_N	Item No.	PU
60 VDC	3.1 mA	857-168	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	60 VDC
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	2 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	3.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC
857 Series

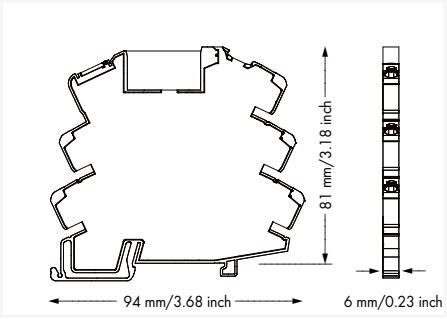
U_N	I_N	Item No.	PU
24 VDC	7 mA	**857-181**	20

Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	8 A
Nominal output voltage	24 VDC (SELV)
Output voltage range	1 … 30 VDC
Voltage drop at output (max.)	≤ 0.8 VDC
Leakage current at rated voltage	≤ 1 µA
Switching current (min.)	10 mA
Turn-on time	≤ 60 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 500 Hz
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Physical data/Mechanical data/Material data	
Width	5 mm / 0.197 inches
Height from the surface	15 mm / 0.591 inches
Depth	28 mm / 1.102 inches
Mounting type	Pluggable module
Weight	3.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Relay socket; Nominal input voltage: 24 V AC/DC; for 5 mm basic relays; Yellow status indicator
857 Series

U_N	Item No.	PU
24 VAC/VDC	857-104	25



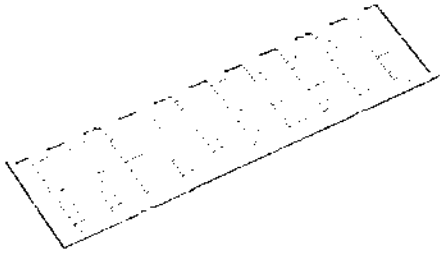
Note:
The relay/SSR used influences the electrical properties of the module.

Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Load circuit	
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Rated surge voltage	4 kV
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.34 … 1.5 mm² / 22 … 16 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	81 mm / 3.189 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	26.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; UR

Accessories
857 Series

Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	Pack. Unit
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
blue	**... /000-006**	

Comb-style jumper bar; insulated; for conductor entry		
Description	**Item No.**	Pack. Unit
2-way	**281-482**	100



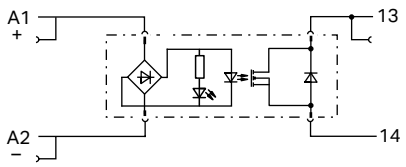
WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	**Item No.**	Pack. Unit
plain	**793-501**	5 cards
1 ... 10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	Pack. Unit
	210-720	50

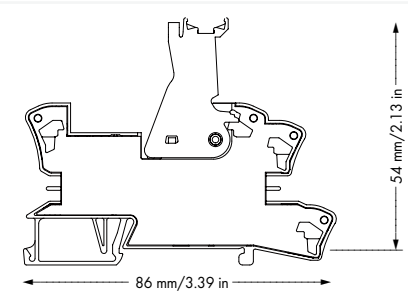
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 35 VDC; Limiting continuous current: 5 A; 2-wire connection; Green status indicator; Module width: 15 mm

788 Series

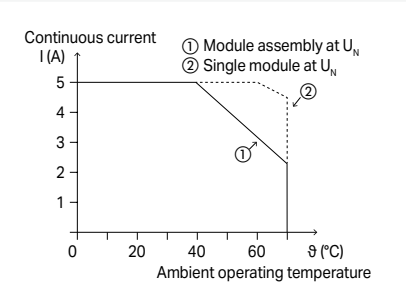
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	20 mA	788-710	20



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	10 … 30 VDC
Nominal input current at U_N	20 mA
Power loss (max.) Pl (max.)	0.5 W
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A; 4.5 A (UL)
Nominal output voltage	24 VDC
Output voltage range	0 … 35 VDC
Voltage drop at output (max.)	≤ 0.3 VDC
Switching current (min.)	1 mA
Turn-on time	≤ 50 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 3 kHz
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	54 mm / 2.126 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	41.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +60 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 35 K)
Relative humidity	≤ 95% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

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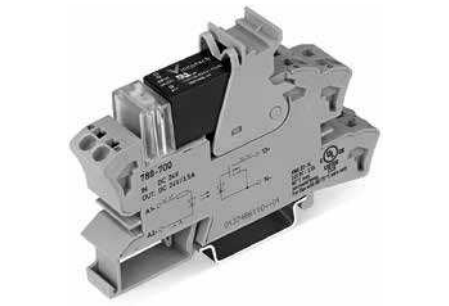
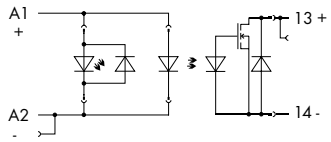
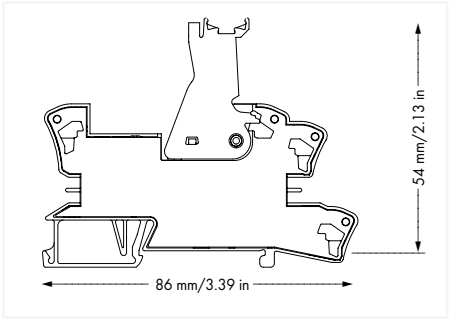
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3.5 A; 2-wire connection; Red status indicator; Module width: 15 mm

788 Series





U_N	I_N	Item No.	PU
24 VDC	7 mA	788-700	20



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 8 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3.5 A
Nominal output voltage	24 VDC
Output voltage range	0 … 24 VDC
Voltage drop at output (max.)	≤ 0.1 VDC
Turn-on time	≤ 50 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	54 mm / 2.126 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	41.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature UL (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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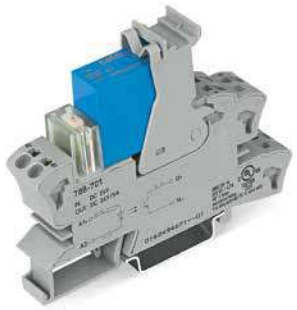
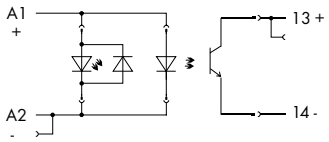
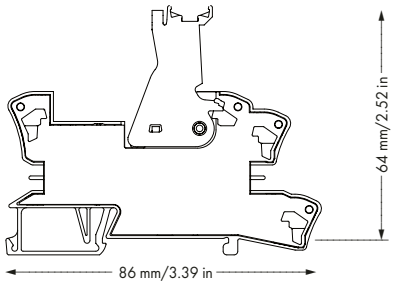
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Red status indicator; Module width: 15 mm
788 Series

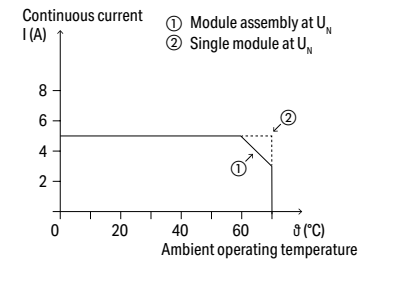




U_N	I_N	Item No.	PU
24 VDC	9,3 mA	788-701	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

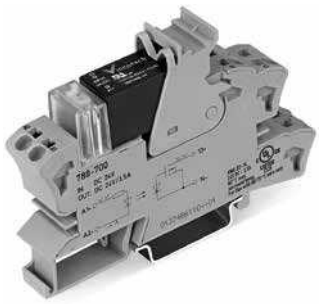


Current-Carrying Capacity Curve

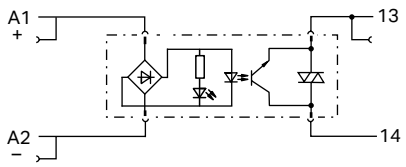
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 2.5 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Nominal output voltage	24 VDC
Output voltage range	0 … 30 VDC
Voltage drop at output (max.)	≤ 0.3 VDC
Turn-on time	≤ 50 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	64 mm / 2.52 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	47 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/4.7 A)

» Accessories Page 184

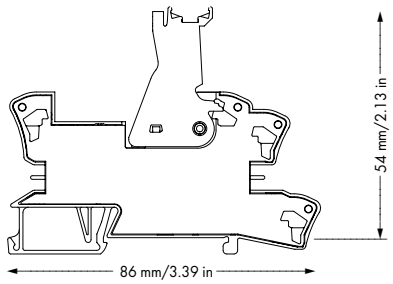
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 12 … 275 VAC; Limiting continuous current: 3.5 A; 2-wire connection; zero-cross switching; Green status indicator; Module width: 15 mm
788 Series



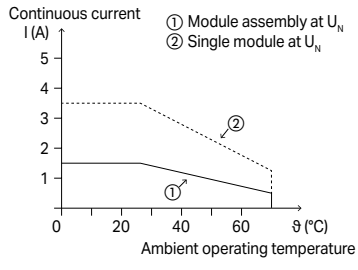
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	20 mA	788-730	20



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



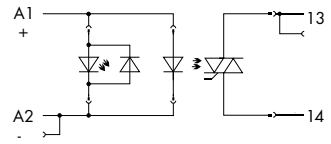
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	10 … 30 VDC
Nominal input current at U_N	20 mA
Power loss (max.) Pl (max.)	0.5 W
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	3.5 A; 1.3 A (UL)
Nominal output voltage	230 VAC
Output voltage range	12 … 275 VAC
Voltage drop at output (max.)	≤ 1.1 VAC
Switching current (min.)	1 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Green LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Double insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	54 mm / 2.126 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	41.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +60 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 35 K)
Relative humidity	≤ 95% (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

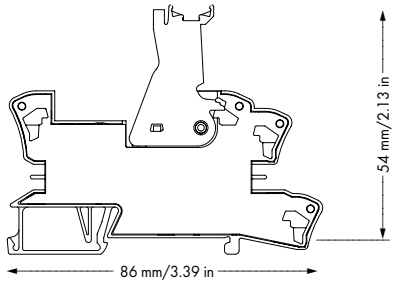
» Accessories Page 184

Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 24 … 240 VAC; Limiting continuous current: 1 A; 2-wire connection; zero-cross switching; Red status indicator; Module width: 15 mm

788 Series



U_N	I_N	Item No.	PU
24 VDC	7 mA	788-720	20



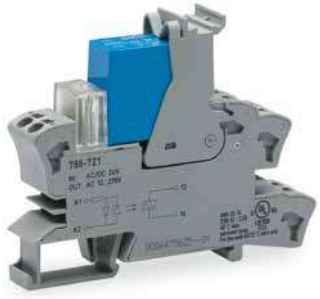
Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

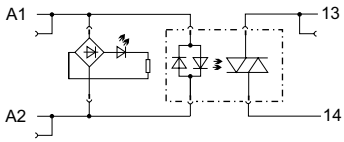
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	1 A
Nominal output voltage	230 VAC
Output voltage range	24 … 240 VAC
Voltage drop at output (max.)	≤ 1.1 VAC
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/ Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	54 mm / 2.126 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	41.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +60 °C
Ambient temperature UL (operation at U_N)	-40 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/2.5 A)

» Accessories Page 184

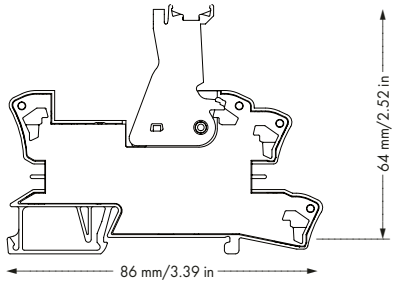
Solid-state relay module; Nominal input voltage: 24 V AC/DC; Output voltage range: 24 … 230 VAC; Limiting continuous current: 4 A; 2-wire connection; zero-cross switching; Red status indicator; Module width: 15 mm

788 Series

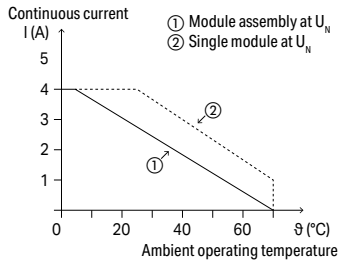




U_N	I_N	Item No.	PU
24 VAC/VDC	10 mA	788-721	10



Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

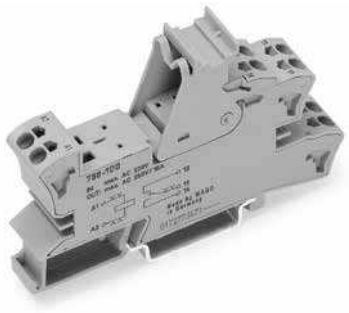


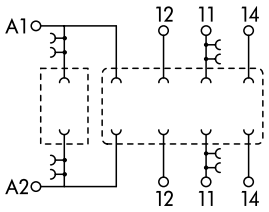
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VAC/VDC
Input voltage range (low level)	0 … 2.5 VAC/VDC
Input voltage range (high level)	15 … 30 VAC/VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	4 A
Nominal output voltage	230 VAC
Output voltage range	12 … 275 VAC (50/60 Hz)
Voltage drop at output (max.)	≤ 1.1 VAC
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	64 mm / 2.52 inches
Depth	86 mm / 3.386 inches
Mounting type	DIN-35 rail
Weight	49.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/2.5 A)

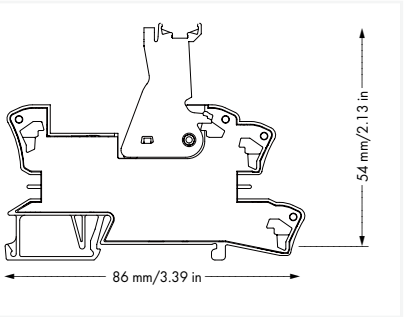
» Accessories Page 184

Relay socket; 1 changeover contact; for 15 mm basic relays
788 Series





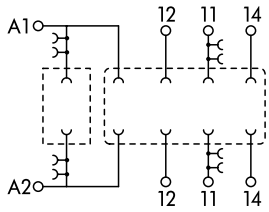
	Item No.	PU
	788-100	20



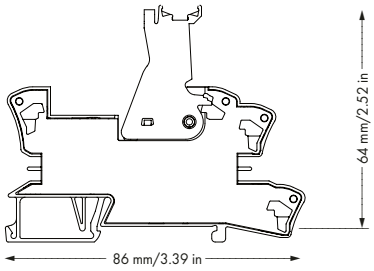
Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range	0 … 250 VAC/VDC
Nominal input current at U_N	0
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	300 VAC/VDC
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Dielectric strength (channel/channel) (AC, 1 min)	Depending on relay
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	54 mm / 2.126 inches
Mounting type	DIN-35 rail
Weight	31.2 g
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Relay socket; 1 changeover contact; for basic relays 15 mm x 25 mm
788 Series



	Item No.	PU
	788-101	15

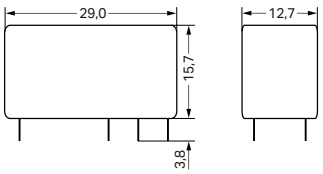


Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Control circuit	
Nominal input voltage U_N	230 VAC/VDC
Input voltage range	0 … 250 VAC/VDC
Nominal frequency range	50 … 60 Hz
Load circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	300 VAC
Nominal frequency range	≤60 Hz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	3
Dielectric strength (control/load circuit) (AC, 1 min)	3.6 kV_{rms}
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Basic insulation
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data/Mechanical data/Material data	
Width	15 mm / 0.59 inches
Height	86 mm / 3.386 inches
Depth from upper-edge of DIN-rail	64 mm / 2.52 inches
Mounting type	DIN-35 rail
Weight	31 g
Relative temperature index for plastic (RTI acc. to UL)	105 °C
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 0 … 35 VDC; Limiting continuous current: 5 A; Module width: 12 mm; Module height: 15 mm
788 Series

U_N	I_N	Item No.	PU
24 VDC	11 mA	788-754	20

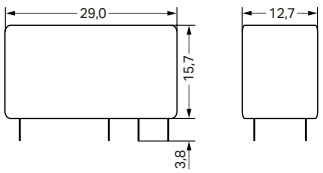


Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 9 VDC
Input voltage range (high level)	10 … 30 VDC
Nominal input current at U_N	11 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Nominal output voltage	24 VDC
Output voltage range	0 … 35 VDC
Voltage drop at output (max.)	≤ 0.3 VDC
Switching current (min.)	1 mA
Turn-on time	≤ 50 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 3 kHz
Signaling	
Status indicator	Green LED
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Physical data/Mechanical data/Material data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Weight	4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

Basic solid-state relay; Nominal input voltage: 24 VDC; Output voltage range: 12 … 275 VAC; Limiting continuous current: 3 A; Module width: 12 mm; Module height: 15 mm
788 Series

U_N	I_N	Item No.	PU
24 VDC	12 mA	788-755	20



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 9 VDC
Input voltage range (high level)	10 … 30 VDC
Nominal input current at U_N	12 mA
Load circuit	
Circuit type	2-wire connection; Zero-voltage switching
Limiting continuous current	3.5 A
Inrush current (resistive) max.	(AC) 120 A
Nominal output voltage	230 VAC
Output voltage range	12 … 275 VAC
Voltage drop at output (max.)	≤ 1.1 VAC
Switching current (min.)	50 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Green LED
Safety and protection	
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Physical data/Mechanical data/Material data	
Width	12.7 mm / 0.5 inches
Height from the surface	15.7 mm / 0.618 inches
Depth	29 mm / 1.142 inches
Mounting type	Pluggable module
Weight	4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-30 … +80 °C
Ambient temperature (storage)	-40 … +100 °C
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

Accessories

Accessories for relay modules; Operation status indicator: red

U_N	Power consumption at U_N	Item No.	PU
24 VDC	2.4 mA	**788-120**	50(2x25)
48 VDC	1.9 mA	**788-121**	50(2x25)
110 VDC	1.9 mA	**788-122**	50(2x25)
24 VAC	2.1 mA	**788-123**	50(2x25)
115 VAC	1.7 mA	**788-124**	50(2x25)
230 VAC	1.6 mA	**788-125**	50(2x25)

Twin ferrule; Sleeve for 2 x 1 mm² / 2 x 18 AWG; red, insulated; 12 mm long

Color	Item No.	PU
red	216-542	500

Comb-style jumper bar; insulated; 18 A

Description	Item No.	PU
2-way	**788-113**	200 (8x25)
3-way	**788-114**	100 (4x25)
4-way	**788-115**	100 (4x25)
6-way	**788-116**	100 (4x25)
7-way	**788-117**	100 (4x25)
2-way (1 to 3)	**788-118**	100 (4x25)

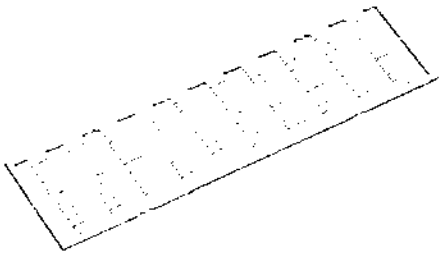
Push-in type jumper bar; light gray; insulated; 18 A

Description	Item No.	PU
2-way	**859-402**	200 (8x25)

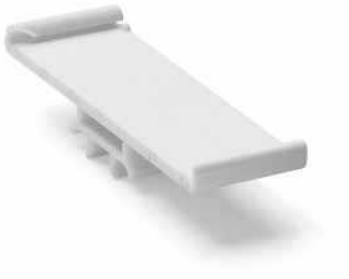
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	PU
	210-720	50

Accessories

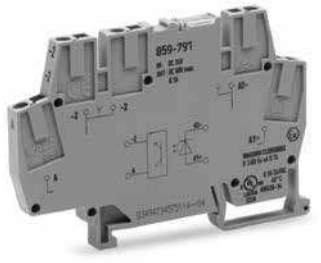


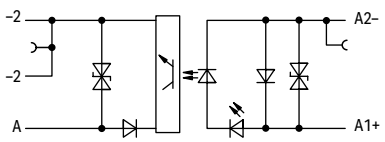
WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	**Item No.**	PU
plain	**793-501**	5 cards
1 … 10 (10 x)	**793-502**	5 cards
11 … 20 (10 x)	**793-503**	5 cards
21 … 30 (10 x)	**793-504**	5 cards
31 … 40 (10 x)	**793-505**	5 cards
41 … 50 (10 x)	**793-506**	5 cards
1 … 50 (2 x)	**793-566**	5 cards



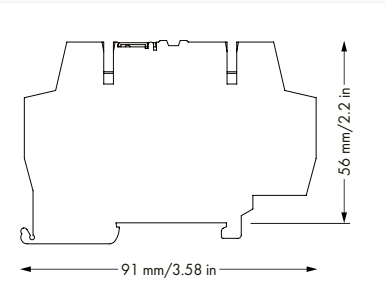
Group marker carrier; for WMB and Mini-WSB marker slots; 10 mm wide		
	Item No.	PU
	209-145	100

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 20 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Module width: 6 mm
859 Series

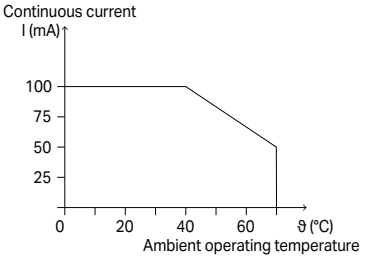




U_N	I_N	Item No.	PU
24 VDC	4 mA	859-791	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

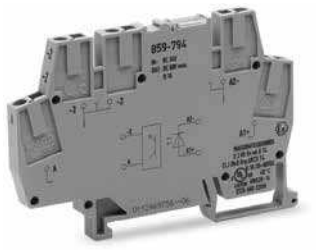


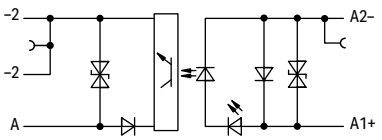
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	16.8 … 30 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	5 mA
Input current range	2 … 7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.2 A
Nominal output voltage	24 VDC
Output voltage range	3 … 60 VDC
Voltage drop at output (max.)	≤ 1.5 VDC
Leakage current at rated voltage	≤ 10 µA
Turn-on time	≤ 30 µs
Turn-off time	≤ 50 µs
Rise time (t_{10-90})	19 µs
Drop-out time (t_{90-10})	35 µs
Switching frequency	≤ 4 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.14 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.14 … 1.5 mm² / 26 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; UL 508; ATEX

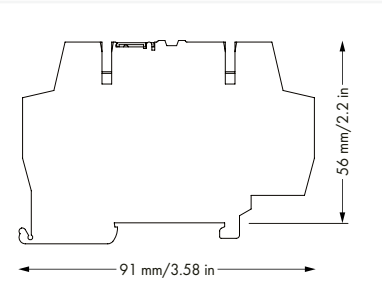
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; Railway; Module width: 6 mm
859 Series

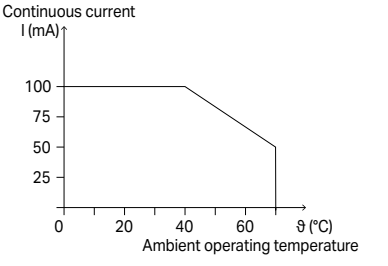




U_N	I_N	Item No.	PU
24 VDC	4.2 mA	859-794	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	5 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	9 … 60 VDC
Voltage drop at output (max.)	≤ 2 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	17.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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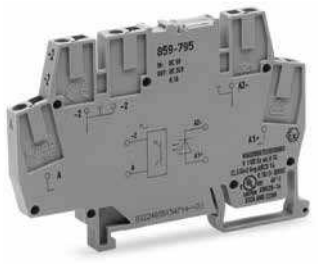
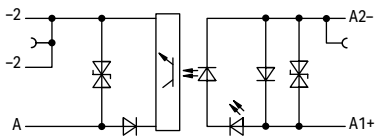
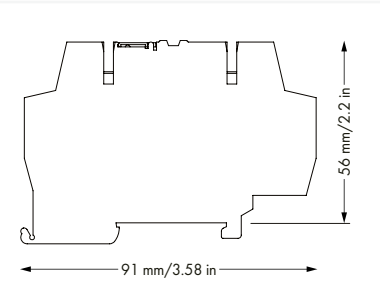
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Frequency: 10 kHz; Module width: 6 mm
859 Series

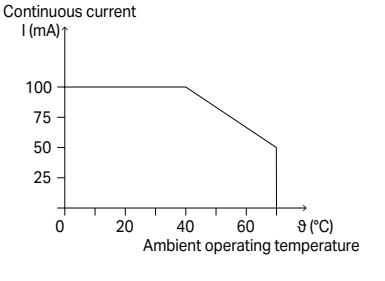




U_N	I_N	Item No.	PU
5 VDC	17 mA	859-795	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 0.8 VDC
Input voltage range (high level)	2 … 6.25 VDC
Nominal input current at U_N	17 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-3; EN 61000-6-4; EN 50121-3-2; EN 61373; UL 508

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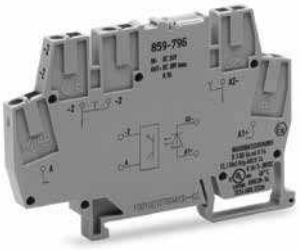
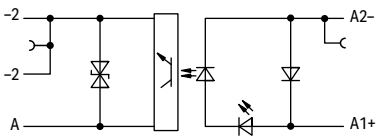
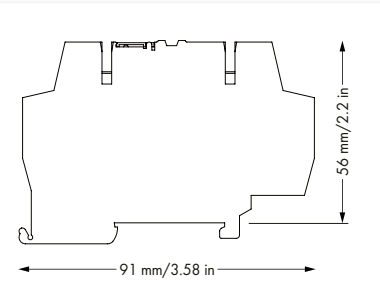
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Frequency: 10 kHz; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
24 VDC	9.2 mA	859-796	10



Note:
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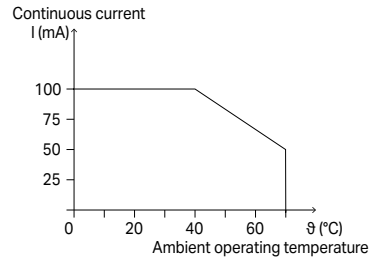
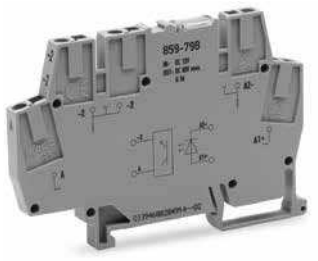


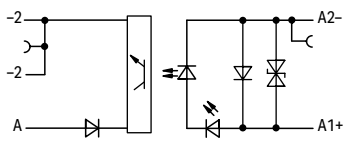
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 1 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

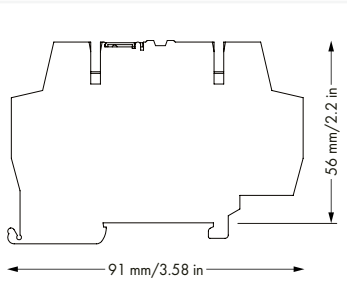
» Accessories Page 221

Optocoupler module; Nominal input voltage: 12 VDC; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; Railway; Red status indicator; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
12 VDC	4 mA	859-798	10



Note:
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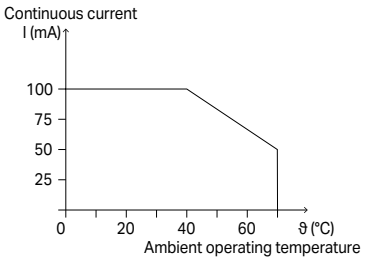

Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 4.8 VDC
Input voltage range (high level)	8.4 … 15 VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	9 … 60 VDC
Voltage drop at output (max.)	≤ 2 VDC
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	17.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373

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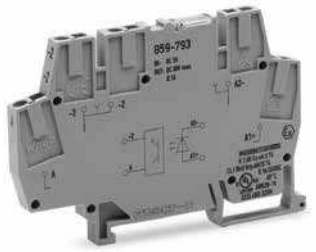
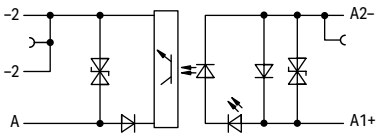
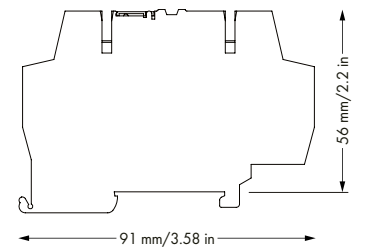
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 3 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Module width: 6 mm
859 Series

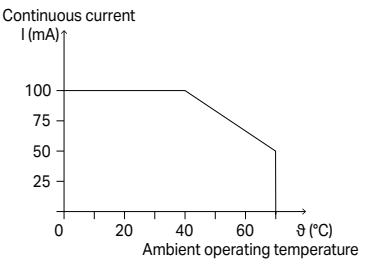




U_N	I_N	Item No.	PU
5 VDC	7.5 mA	859-793	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 0.8 VDC
Input voltage range (high level)	2 … 6.25 VDC
Nominal input current at U_N	8 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	3 … 60 VDC
Voltage drop at output (max.)	≤ 2.5 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	17.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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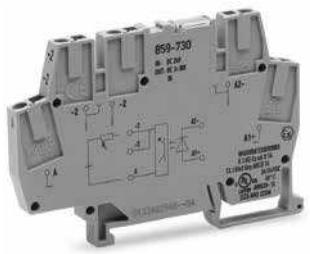
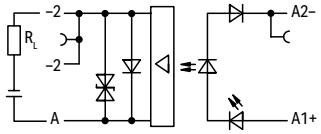
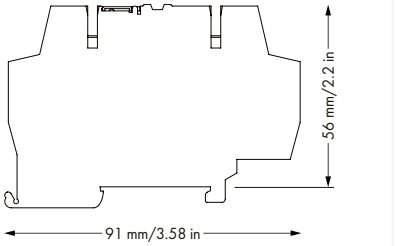
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	14 mA	859-730	10



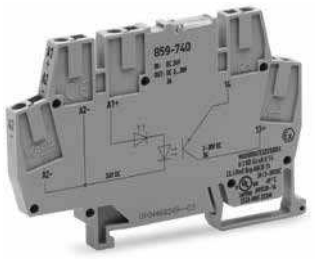
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

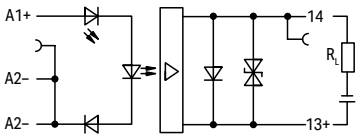
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 7.5 VDC
Input voltage range (high level)	12.5 … 30 VDC
Nominal input current at U_N	15 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	4.8 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.4 VDC
Leakage current at rated voltage	≤ 45 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 1 ms
Rise time (t_{10-90})	12 µs
Drop-out time (t_{90-10})	15 µs
Switching frequency	≤ 2.3 kHz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Fine-stranded conductor; with uninsulated ferrule	0.2 … 1.5 mm² / 24 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 221

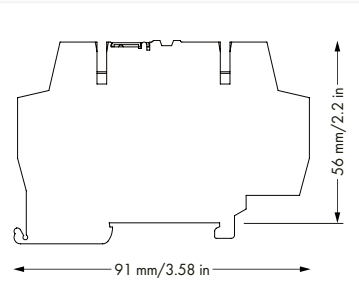
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Module width: 6 mm

859 Series

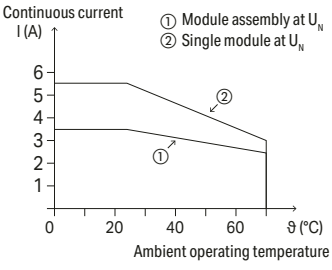




U_N	I_N	Item No.	PU
24 VDC	7 mA	859-740	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

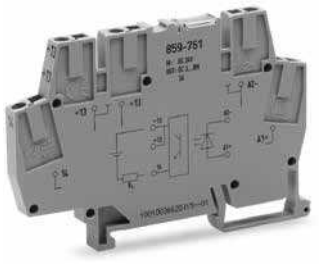


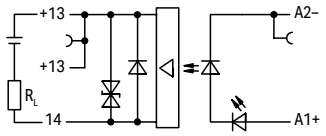
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 6.5 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	8 mA
Input current range	1 … 12 mA
Load circuit	
Number of make/switch-on contacts	1
Circuit type	2-wire connection
Limiting continuous current	5.5 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.4 VDC
Leakage current at rated voltage	≤ 10 µA
Turn-on time	≤ 30 µs
Turn-off time	≤ 100 µs
Rise time (t_{10-90})	16 µs
Drop-out time (t_{90-10})	16 µs
Switching frequency	≤ 2.5 kHz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor; with uninsulated ferrule	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3

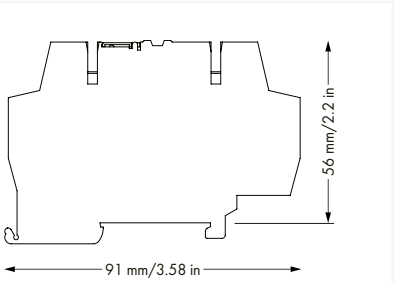
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Red status indicator; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	14 mA	859-761	10

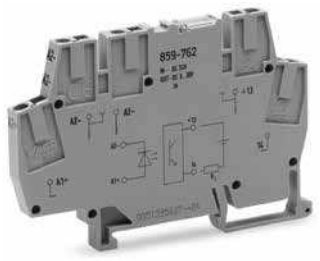


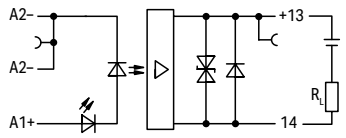
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 27 VDC
Nominal input current at U_N	14 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

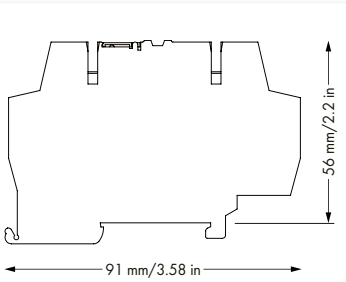
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Red status indicator; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	7 mA	859-762	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 9 VDC
Input voltage range (high level)	19 … 27 VDC
Nominal input current at U_N	7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz
Signaling	
Status indicator	Yellow LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

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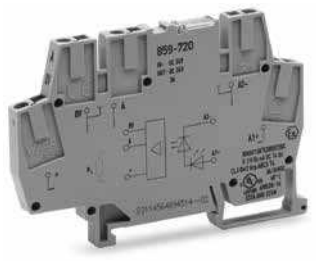
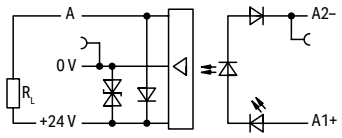
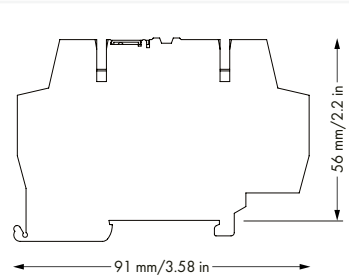
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 6 A; 3-wire connection/low-side switching; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	4 mA	859-720	10

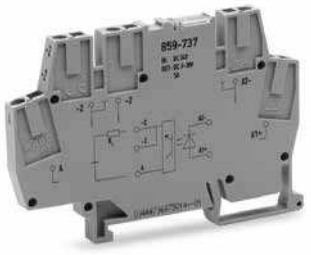


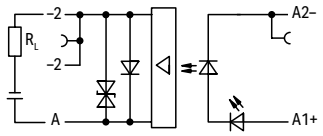
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	3 A
Peak output current	20 A
Nominal output voltage	24 VDC
Output voltage range	10 … 30 VDC
Voltage drop at output (max.)	≤ 0.5 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 30 µs
Turn-off time	≤ 75 µs
Rise time (t_{10-90})	16 µs
Drop-out time (t_{90-10})	20 µs
Switching frequency	≤ 2 kHz (< 0.5 A; ≤ 2 kHz / < 1 A; ≤ 1 kHz / < 2 A)
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mounting type/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mechanical data	
Mounting position	Horizontal (standing/lying); vertical
Weight	18.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

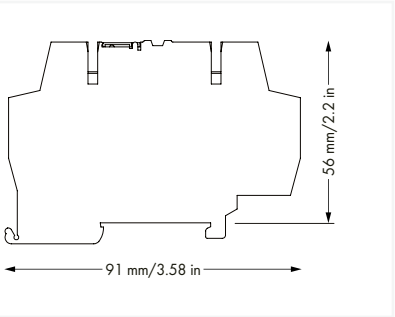
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Red status indicator; Module width: 6 mm
859 Series

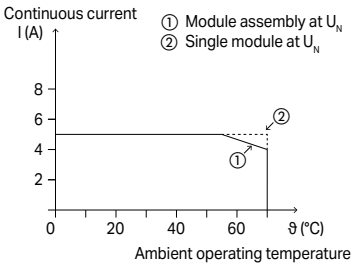




U_N	I_N	Item No.	PU
24 VDC	3.5 mA	859-737	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	4 mA
Input current range	2 … 7 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	10 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Leakage current at rated voltage	≤ 5 µA
Turn-on time	≤ 40 µs
Turn-off time	≤ 70 µs
Rise time (t_{10-90})	18 µs
Drop-out time (t_{90-10})	13 µs
Switching frequency	≤ 3 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	19.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

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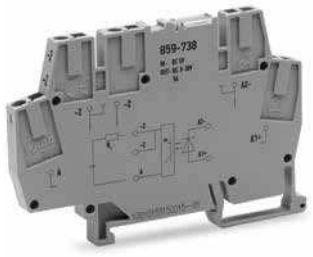
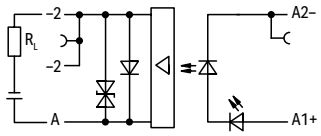
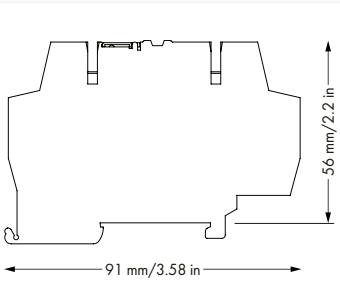
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Red status indicator; Module width: 6 mm
859 Series

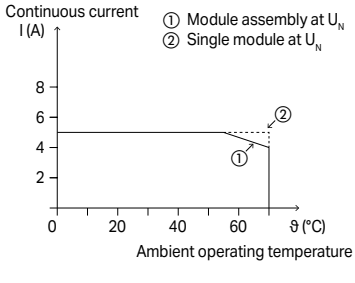




U_N	I_N	Item No.	PU
5 VDC	7.2 mA	859-738	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

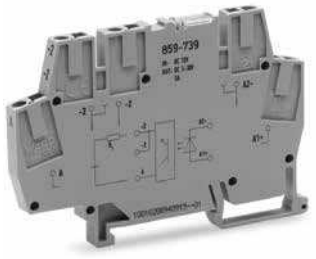


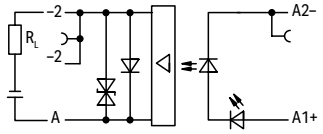
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 2 VDC
Input voltage range (high level)	4.5 … 6 VDC
Nominal input current at U_N	8 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

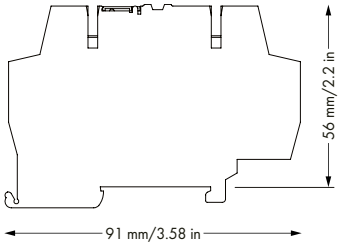
» Accessories Page 221

Optocoupler module; Nominal input voltage: 12 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Red status indicator; Module width: 6 mm
859 Series

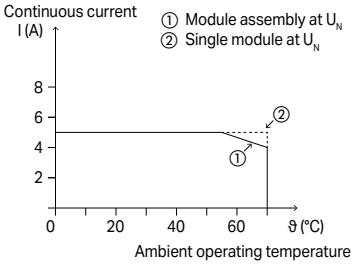




U_N	I_N	Item No.	PU
12 VDC	3.2 mA	859-739	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

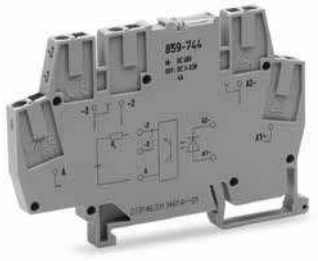


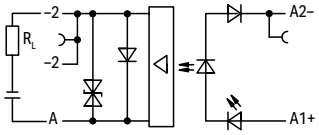
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	9.6 … 14.4 VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Peak output current	25 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	19.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

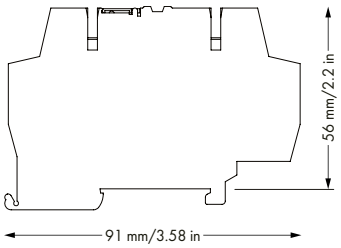
» Accessories Page 221

Optocoupler module; Nominal input voltage: 12 … 48 VDC; Output voltage range: 10 … 53 VDC; Limiting continuous current: 4 A; 2-wire connection; Module width: 6 mm
859 Series

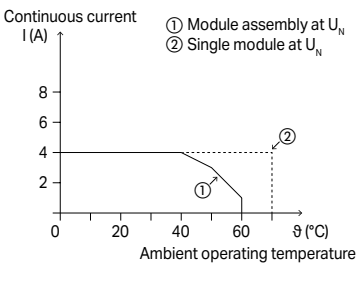




U_N	I_N	Item No.	PU
12 … 48 VDC	5 mA	859-744	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	12 … 48 VDC
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	10 … 53 VDC
Nominal input current at U_N	5 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	4 A
Peak output current	30 A
Output voltage range	3 … 53 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 420 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	19.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

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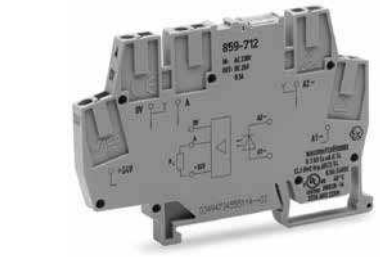
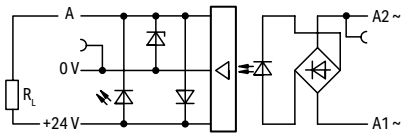
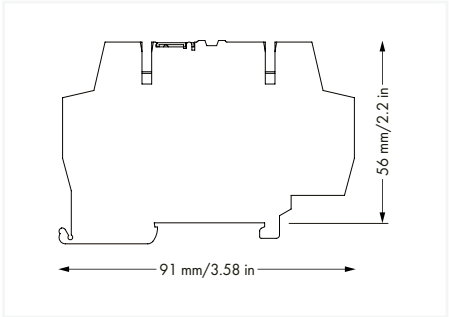
Optocoupler module; Nominal input voltage: 230 VAC; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection/low-side switching; Red status indicator; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
230 VAC	0.6 mA	859-712	10



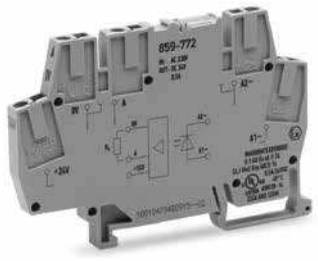
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

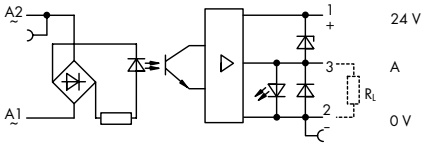
Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range (low level)	0 … 90 VAC
Input voltage range (high level)	175 … 270 VAC
Nominal input current at U_N	1 mA
Load circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 30 ms
Turn-off time	≤ 30 ms
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Type of circuits	Mains circuits
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	15.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 221

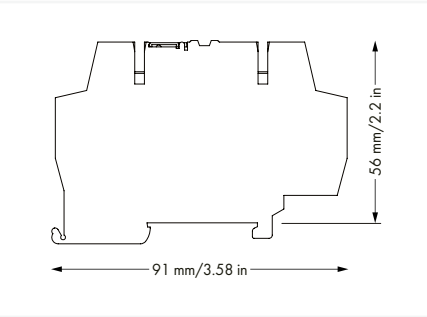
Optocoupler module; Nominal input voltage: 230 VAC; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection/high-side switching; Red status indicator; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
230 VAC	0.6 mA	859-772	10

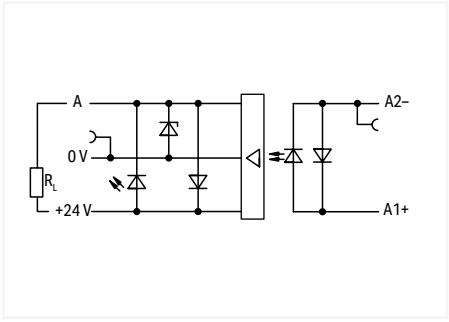


Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

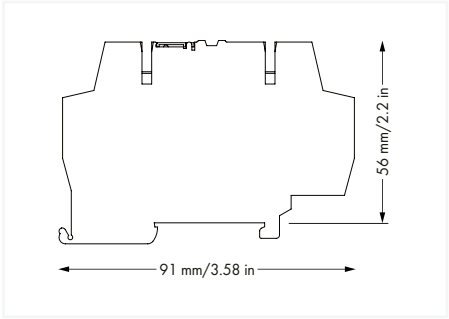
Control circuit	
Nominal input voltage U_N	230 VAC
Input voltage range (low level)	0 … 90 VAC
Input voltage range (high level)	175 … 270 VAC
Nominal input current at U_N	1 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 30 ms
Turn-off time	≤ 30 ms
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Type of circuits	Mains circuits
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	20.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 221

Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm
859 Series



U_N	I_N	Item No.	PU
5 VDC	9.6 mA	859-702	1

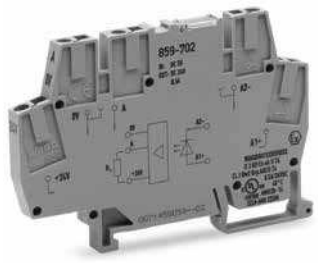


Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

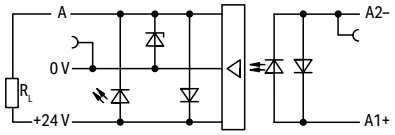
Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 221

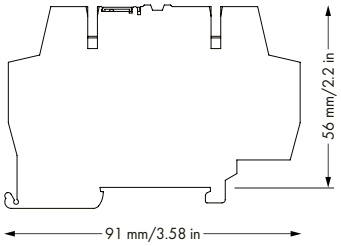
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm
859 Series



Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC	7.7 mA	859-708	1

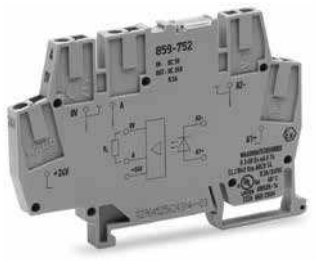


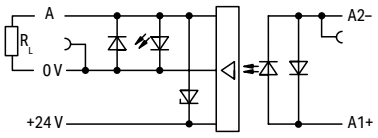
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	22 … 30 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	19 … 30 VDC
Nominal input current at U_N	9 mA
Input current range	5.5 … 15.7 mA
Load circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	1 A
Nominal output voltage	24 VDC
Output voltage range	14 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 5 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 14 µs
Rise time (t10-90)	3 µs
Drop-out time (t90-10)	3 µs
Switching frequency	≤ 15 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.14 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.14 … 1.5 mm² / 26 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

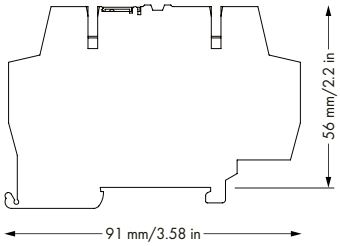
» Accessories Page 221

Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 0 … 24 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
5 VDC	10 mA	859-752	1

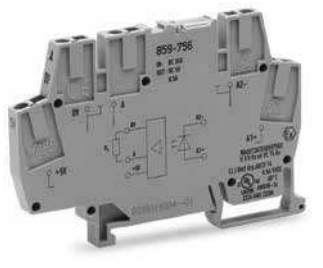


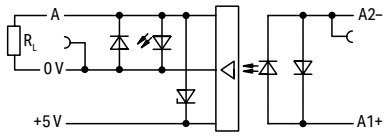
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Output closed-circuit current (without load) max.	12.5 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	17.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

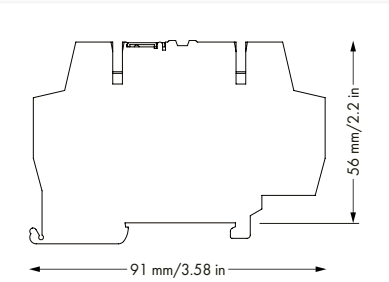
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 4 … 6 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	11 mA	859-756	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	11 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Nominal output voltage	5 VDC
Output voltage range	4 … 6.25 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	4.5 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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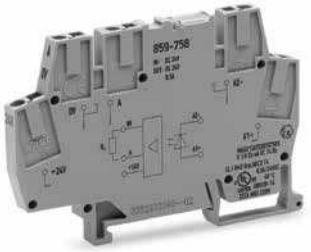
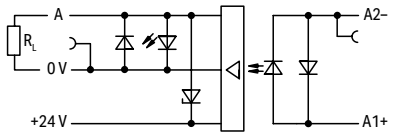
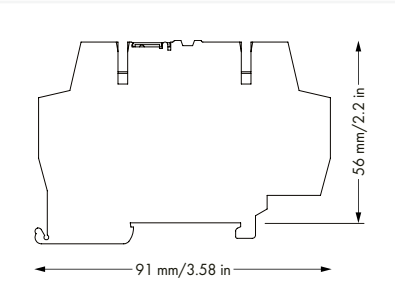
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
24 VDC	8 mA	859-758	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	15 … 30 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	9 mA
Input current range	4 … 12 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	1.2 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 3 µs
Turn-off time	≤ 12 µs
Rise time (t_{10-90})	1 µs
Drop-out time (t_{90-10})	1 µs
Switching frequency	≤ 20 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508

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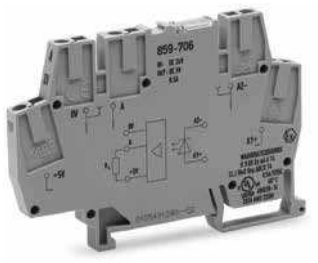
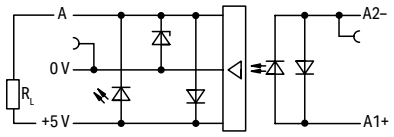
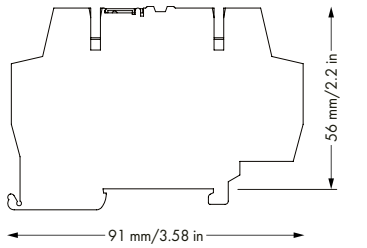
Optocoupler module; Nominal input voltage: 24 VDC; Limiting continuous current: 0.5 A; Frequency: 10 kHz; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
24 VDC	11 mA	859-706	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	11 mA
Load circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Nominal output voltage	5 VDC
Output voltage range	4 … 6.25 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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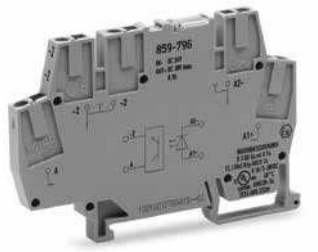
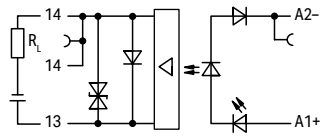
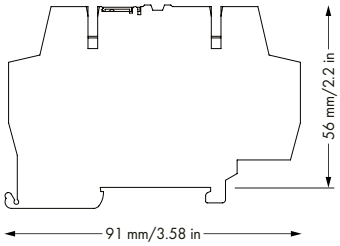
Optocoupler module; Nominal input voltage: 12 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.5 A; 2-wire connection; Module width: 6 mm
859 Series



SImilar to pictured device



U_N	I_N	Item No.	PU
12 VDC	9.2 mA	859-797	10



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	9 … 16 VDC
Nominal input current at U_N	10 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.5 A
Peak output current	2.7 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 0.2 VDC
Turn-on time	≤ 15 µs
Turn-off time	≤ 100 µs
Switching frequency	≤ 2.5 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	18.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

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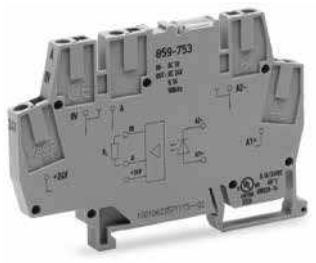
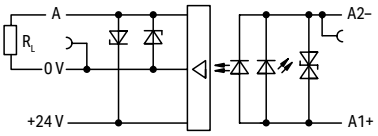
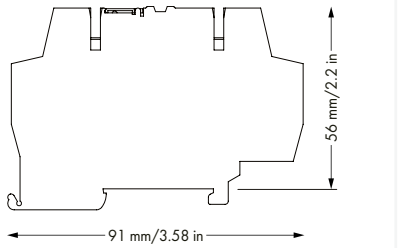
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 0 … 24 VDC; Module width: 6 mm
859 Series





U_N	I_N	Item No.	PU
5 VDC	16.5 mA	859-753	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	17 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.1 A
Peak output current	0.8 A
Nominal output voltage	24 VDC
Output voltage range	20 … 28.8 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 0.5 µs
Turn-off time	≤ 5 µs
Switching frequency	≤ 100 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	15.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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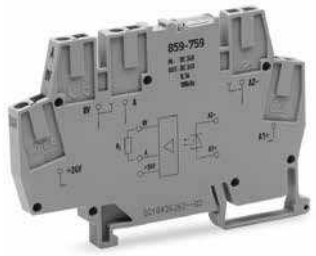
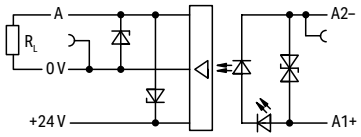
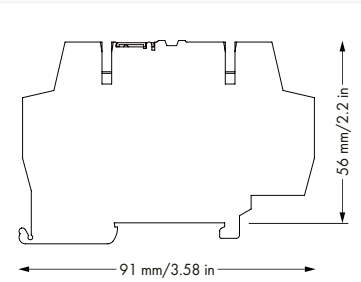
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 20 … 28.8 VDC; Limiting continuous current: 0.1 A; 3-wire connection/high-side switching; Frequency: 100 kHz; Red status indicator; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
24 VDC	9 mA	859-759	1

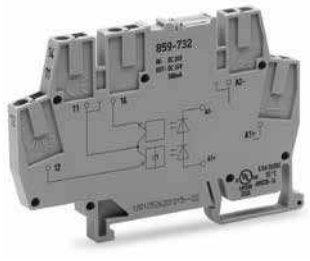


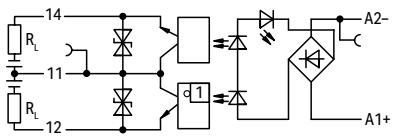
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	20 … 30 VDC
Nominal input current at U_N	9 mA
Load circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.1 A
Peak output current	0.8 A
Nominal output voltage	24 VDC
Output voltage range	20 … 28.8 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 0.5 µs
Turn-off time	≤ 2 µs
Switching frequency	≤ 100 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	19.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

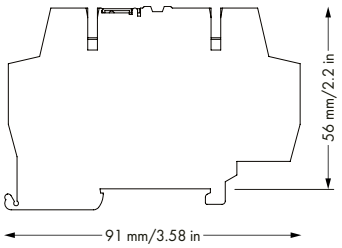
» Accessories Page 221

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.5 A; 1 changeover contact; Red status indicator; Module width: 6 mm
859 Series

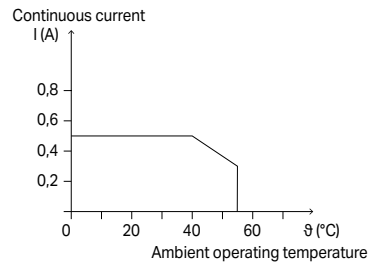




U_N	I_N	Item No.	PU
24 VDC	5.3 mA	859-732	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



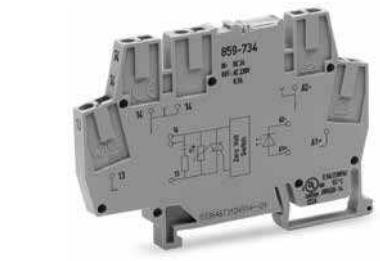
Current-Carrying Capacity Curve

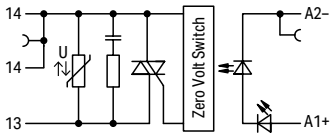
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	14 … 60 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 42 VDC
Nominal input current at U_N	6 mA
Input current range	3.5 … 9 mA
Load circuit	
Circuit type	Changeover contact output
Limiting continuous current	1 A
Peak output current	4 A
Nominal output voltage	24 VDC
Output voltage range	3 … 30 VDC
Voltage drop at output (max.)	≤ 1.5 VDC
Leakage current at rated voltage	≤ 1.3 mA
Switching current (min.)	0.5 mA
Turn-on time	≤ 25 µs
Turn-off time	≤ 150 µs
Switching frequency	≤ 2 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.14 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.14 … 1.5 mm² / 26 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	19.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 221

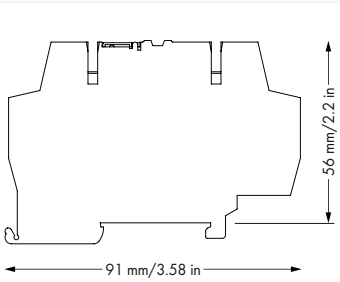
Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 24 … 260 VAC; Limiting continuous current: 0.5 A; 2-wire connection; zero-cross switching; Red status indicator; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
24 VDC	6 mA	859-734	1



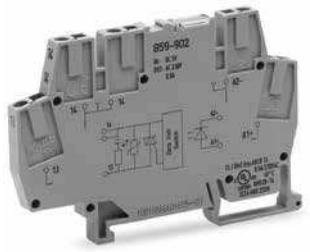
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

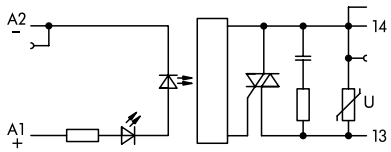
Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range	16 … 30 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	19 … 28.8 VDC
Nominal input current at U_N	7 mA
Input current range	2 … 9 mA
Load circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	1 A
Peak output current	30 A
Nominal output voltage	230 VAC
Output voltage range	12 … 260 VAC (50 … 60 Hz)
Voltage drop at output (max.)	≤ 1.2 VAC
Leakage current at rated voltage	≤ 1 mA
Switching current (min.)	10 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.5 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Basic insulation
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.14 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.14 … 1.5 mm² / 26 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	20.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature UL (operation at U_N)	-40 … +40 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 221

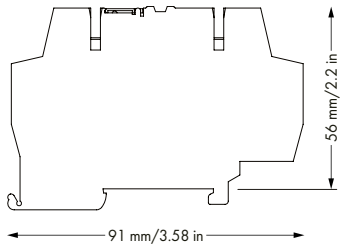
Optocoupler module; Nominal input voltage: 5 VDC; Output voltage range: 24 … 260 VAC; Limiting continuous current: 0.5 A; 2-wire connection; zero-cross switching; Red status indicator; Module width: 6 mm

859 Series





U_N	I_N	Item No.	PU
5 VDC	7.7 mA	859-902	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	8 mA
Load circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	0.5 A
Peak output current	30 A
Nominal output voltage	230 VAC
Output voltage range	24 … 260 VAC (50 … 60 Hz)
Voltage drop at output (max.)	≤ 1.2 VAC
Leakage current at rated voltage	≤ 1 mA
Switching current (min.)	50 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Switching frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Type of circuits	Mains circuits
Overvoltage category	III
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3.51 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Insulation type (between adjacent devices of the same type)	Reinforced insulation (safe isolation)
Insulation type (to adjacent devices of different types)	Reinforced insulation (safe isolation)
Protection type	IP20; in connected state or when using an end plate (859-525)
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data/Mechanical data/Material data	
Width	6 mm / 0.236 inches
Height	91 mm / 3.583 inches
Depth from upper-edge of DIN-rail	56 mm / 2.205 inches
Mounting type	DIN-35 rail
Mounting position	Horizontal (standing/lying); vertical
Weight	15.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +55 °C
Ambient temperature UL (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 20 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 221

Accessories

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	PU
	210-720	50

Felt-tip pen; for permanent marking

	Item No.	PU
	210-110	200

Test pin; 1 mm Ø; with solder connection for test cable

	Item No.	PU
	859-500	100

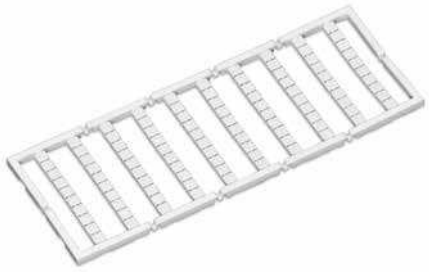
Accessories

End and intermediate plate; 1 mm thick

	Item No.	PU
	859-525	100

Push-in type jumper bar; light gray; insulated; 18 A

Description	Item No.	PU
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	... /000-029	
red	... /000-005	
blue	... /000-006	



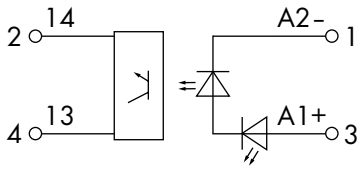
Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card

Marking	Item No.	PU
plain	248-501	50
1 ... 10 (10 x)	248-502	50
11 ... 20 (10 x)	248-503	50
21 ... 30 (10 x)	248-504	50
31 ... 40 (10 x)	248-505	50
41 ... 50 (10 x)	248-506	50
1 ... 50 (2 x)	248-566	50
K1 ... K10	248-450	50
K11 ... K20	248-451	50
K100	248-452	50
U1 ... U10	248-453	50
U11 ... U20	248-454	50
U100	248-455	50

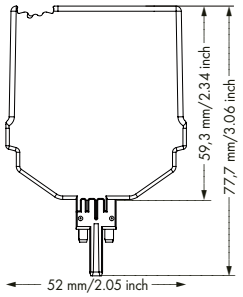
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 3 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Railway; Frequency: 10 kHz; Green status indicator; Module width: 10 mm

2042 Series

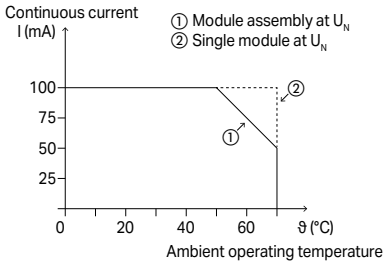
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC (SELV)	7 mA	2042-7204	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



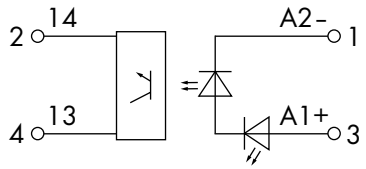
Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	7 mA
Input current range	6 … 8 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC (SELV)
Output voltage range	3 … 60 VDC
Voltage drop at output (max.)	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 8 µs
Turn-off time	≤ 14 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Green LED
Safety and protection	
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Weight	13.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

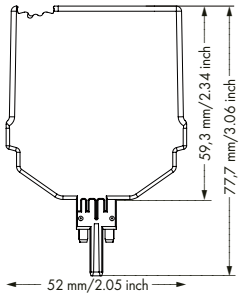
Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 0 … 48 VDC; Limiting continuous current: 4 A; 2-wire connection; Railway; Green status indicator; Module width: 10 mm

2042 Series

Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC (SELV)	3 mA	2042-7504	1

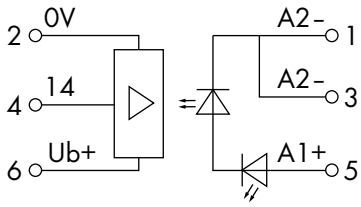


Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

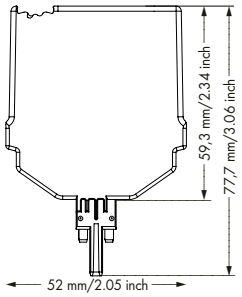
Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 6 VDC
Input voltage range (high level)	10 … 53 VDC
Nominal input current at U_N	3 mA
Input current range	3 … 5 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	4 A
Nominal output voltage	48 VDC (SELV)
Output voltage range	0 … 53 VDC
Voltage drop at output (max.)	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 12 µs
Turn-off time	≤ 32 µs
Switching frequency	≤ 300 Hz
Signaling	
Status indicator	Green LED
Safety and protection	
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	10.3 mm / 0.406 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Weight	14.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Solid-state relay module; Nominal input voltage: 24 VDC; Limiting continuous current: 0.5 A; Railway; Frequency: 100 kHz; Module width: 15 mm
2042 Series

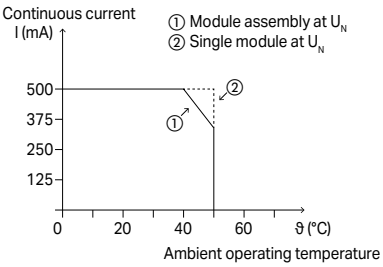
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC (SELV)	7 mA	2042-7304	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

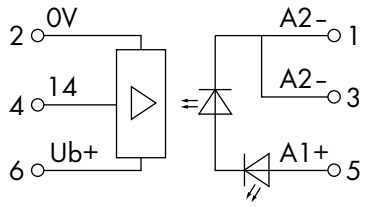


Current-Carrying Capacity Curve

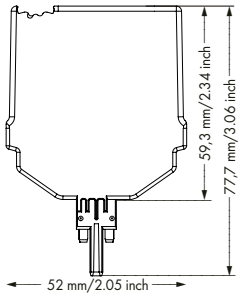
Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 6 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	7 mA
Input current range	6 … 8 mA
Load circuit	
Circuit type	3-wire connection; High-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC (SELV)
Output voltage range	16.8 … 30 VDC
Voltage drop at output (max.)	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 2 µs
Turn-off time	≤ 4 µs
Switching frequency	≤ 100 kHz
Signaling	
Status indicator	Green LED
Safety and protection	
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15.5 mm / 0.61 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Weight	70.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +50 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Solid-state relay module; Nominal input voltage: 24 VDC; Output voltage range: 16.8 … 30 VDC; Limiting continuous current: 5 A; 3-wire connection/high-side switching; Railway; Frequency: 5 kHz; Green status indicator; Module width: 15 mm
2042 Series

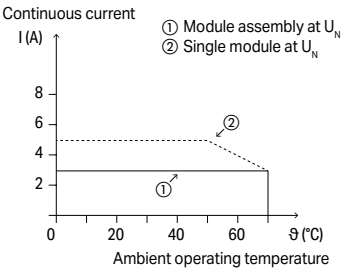
Similar to pictured device



U_N	I_N	Item No.	PU
24 VDC (SELV)	7 mA	2042-7604	1



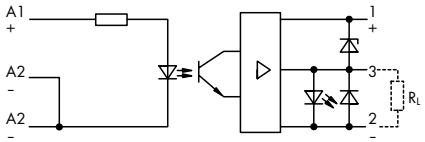
Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.



Current-Carrying Capacity Curve

Control circuit	
Nominal input voltage U_N	24 VDC (SELV)
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	7 mA
Input current range	6 … 8 mA
Load circuit	
Circuit type	3-wire connection; High-side switching
Limiting continuous current	5 A
Nominal output voltage	24 VDC (SELV)
Output voltage range	16.8 … 30 VDC
Voltage drop at output (max.)	≤ 1 VDC
Switching current (min.)	3 mA
Turn-on time	≤ 10 µs
Turn-off time	≤ 20 µs
Switching frequency	≤ 5 kHz
Signaling	
Status indicator	Green LED
Safety and protection	
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15.5 mm / 0.61 inches
Height	77.7 mm / 3.059 inches
Height from the surface	59.3 mm / 2.335 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Weight	17.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Optocoupler module; Red status indicator
286 Series



U_N	I_N	Item No.	PU
5 VDC	14 mA	286-752/002-000	1

Control circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (high level)	2 … 6.25 VDC
Nominal input current at U_N	14 mA
Input current range	3.3 … 18.5 mA
Load circuit	
Circuit type	3-wire connection; High-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 5 µs
Turn-off time	≤ 10 µs
Switching frequency	≤ 25 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	18.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-25 … +70 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-609	30

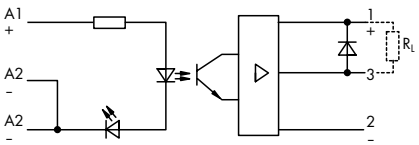
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-763	25

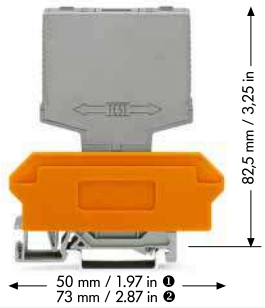
» Accessories Page 233

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 15 … 30 VDC; Limiting continuous current: 5 A; 3-wire connection/low-side switching; Red status indicator; Module width: 15 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	13.5 mA	286-721	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	14 mA
Input current range	7.5 … 18 mA
Load circuit	
Circuit type	3-wire connection; Low-side switching
Limiting continuous current	5 A
Nominal output voltage	24 VDC
Output voltage range	15 … 40 VDC
Voltage drop at output (max.)	≤ 0.5 VDC
Leakage current at rated voltage	≤ 2 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 80 µs
Switching frequency	≤ 1 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	29.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-609	30

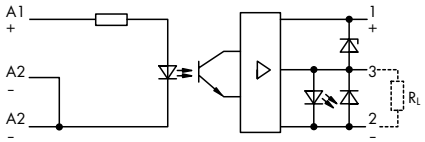
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-763	25

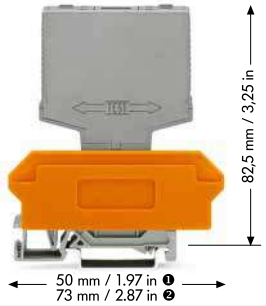
» Accessories Page 233

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 15 … 30 VDC; Limiting continuous current: 4 A; 3-wire connection/high-side switching; Red status indicator; Module width: 15 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	14 mA	286-723	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	14 mA
Input current range	7.6 … 15 mA
Load circuit	
Circuit type	3-wire connection; High-side switching
Limiting continuous current	4 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 25 µs
Switching frequency	≤ 2.5 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	26.8g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-609	30

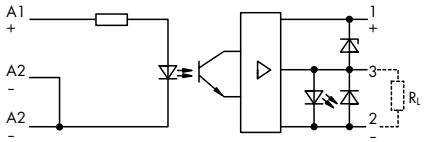
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-763	25

» Accessories Page 233

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection/high-side switching; Frequency: 25 kHz; Red status indicator; Module width: 15 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	15 mA	286-752	1

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	12 … 30 VDC
Nominal input current at U_N	15 mA
Input current range	5 … 20 mA
Load circuit	
Circuit type	3-wire connection; High-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 25 kHz
Signaling	
Status indicator	Red LED
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	3 kV_{rms}
Insulation type (control/load circuit)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	17.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-609	30

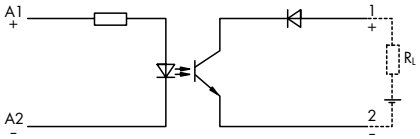
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-763	25

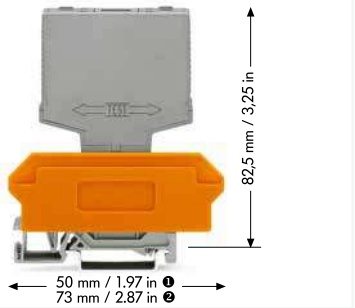
» Accessories Page 233

Optocoupler module; Nominal input voltage: 24 VDC; Output voltage range: 20 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Frequency: 3 kHz; Red status indicator; Module width: 10 mm

286 Series



U_N	I_N	Item No.	PU
24 VDC	14 mA	286-791	1



Note:
Optocouplers and solid state relays are designed for use in signal processing networks, which are not supplied by the low-voltage power supply networks.

Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	14 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	20 … 60 VDC
Voltage drop at output (max.)	≤ 2 VDC
Leakage current at rated voltage	≤ 2 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 3 kHz
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Insulation type (control/load circuit)	Basic insulation
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	10 mm / 0.394 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	15.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

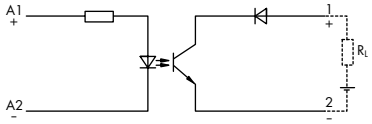
Item No.	PU
280-608	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

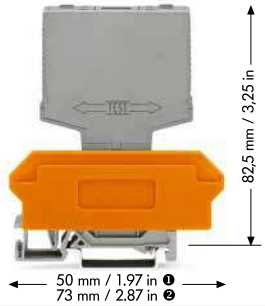
Item No.	PU
280-762	30

» Accessories Page 233

Optocoupler module; Nominal input voltage: 24 VDC; Red status indicator
286 Series



U_N	I_N	Item No.	PU
24 VDC	4 mA	286-794	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	4 mA
Load circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	20 … 60 VDC
Voltage drop at output (max.)	≤ 2 VDC
Leakage current at rated voltage	≤ 2 µA
Turn-on time	≤ 80 µs
Turn-off time	≤ 100 µs
Switching frequency	≤ 1.5 kHz
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	10 mm / 0.394 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	16.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +60 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

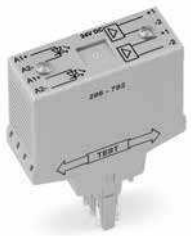
Item No.	PU
280-608	40

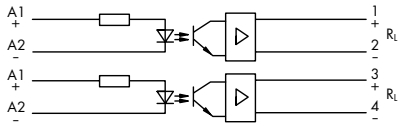
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-762	30

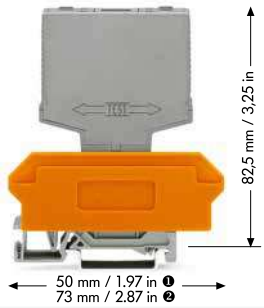
» Accessories Page 233

Optocoupler module; Red status indicator
286 Series





U_N	I_N	Item No.	PU
24 VDC	15 mA	286-792	1



Control circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (high level)	7.5 … 30 VDC
Nominal input current at U_N	15 mA
Load circuit	
Circuit type	2-way; 2-wire connection
Limiting continuous current	0.25 A
Nominal output voltage	24 VDC
Output voltage range	20 … 30 VDC
Voltage drop at output (max.)	≤ 2.5 VDC
Leakage current at rated voltage	≤ 3 µA
Turn-on time	≤ 60 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Safety and protection	
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical data/Mechanical data/Material data	
Width	20 mm / 0.787 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mounting type	Pluggable module for receptacle terminal blocks
Weight	23.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-25 … +40 °C
Processing temperature	-25 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1

Accessories

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

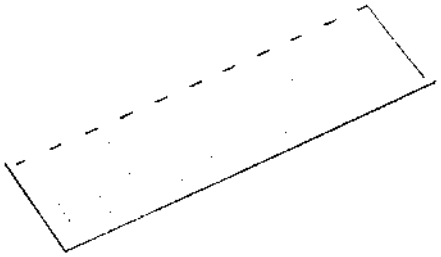
Item No.	PU
280-628	20

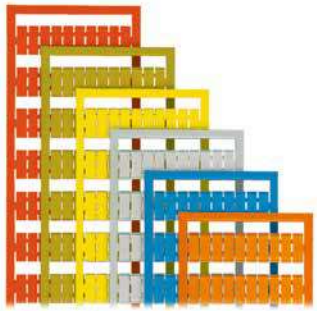
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	PU
280-764	20

» Accessories Page 233

Accessories





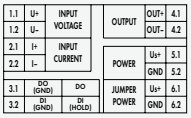
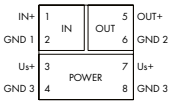
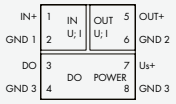
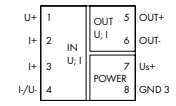
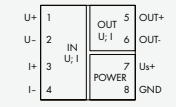
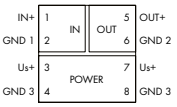
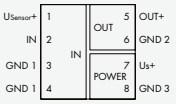
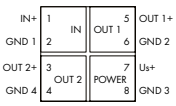
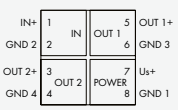
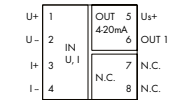
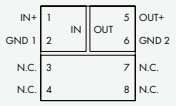
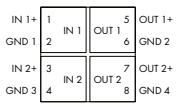
WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Marking	Item No.	PU
K	209-782	50
1 ... 10 (10 x)	209-702	50
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50

WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Color	Item No.	PU
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100

WAGO Signal Conditioners and Isolation Amplifiers

WAGO Signal Conditioners and Isolation Amplifiers

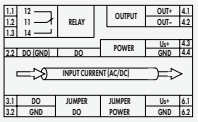
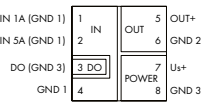
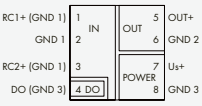
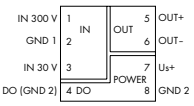
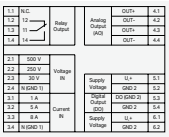
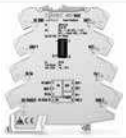
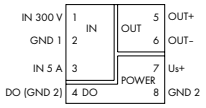
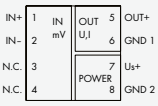
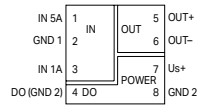
WAGO Isolation Amplifiers
Selection Guide

	Image	Description	Circuit Diagram	Input Signal			Power Supply U_S
				Current	Voltage	Bipolar Signals (I/U)	
	Isolation Amplifiers						
Isolation Amplifiers		Isolation Amplifier; Configurable; with Digital Output		0 … 1 mA 0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA 0 … 100 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V 0 …220 V	±1 mA; ±10 mA; ±20 mA; ±100 mA ±1 V; ±10 V; ±30 V; ±100 V; ±200 V	24 VDC
Isolation Amplifiers		Isolation Amplifier; Configurable; with Zero/Span Adjustment		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
Isolation Amplifiers		Isolation Amplifier; Configurable; with Digital Output		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±20 mA ±10 V	24 VDC
Isolation Amplifiers		Isolation Amplifier; Configurable		±0.3 … ±100 mA	±60 mV … ±200 V	±0.3 … ±100 mA ±60 mV … ±200 V	24 VDC
Isolation Amplifiers		Bipolar Isolation Amplifier		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ±20 mA ±5 V ±10 V	24 VDC
Isolation Amplifiers		Isolation Amplifier; Pre-Configured		0 (4) … 20 mA 0 … 20 mA 4 … 20 mA	0 (2) … 10 V 0 … 10 V 0 … 10 V		24 VDC
Repeater Power Supply		Repeater Power Supply		0 … 20 mA 4 … 20 mA			24 VDC
Signal Splitters		Signal Splitter; with Current Output		0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
Signal Splitters		Signal Splitter; with Voltage/Current Output		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
Passive Isolators		Loop-Powered Isolation Amplifier		0 … 5 mA 0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 1 V 0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±5 mA ±10 mA ±20 mA ±1 V; ±5 V ±10 V ±20 V	via output circuit
Passive Isolators		Passive Isolator; 1-Channel		0 (4) … 20 mA			via input circuit
Passive Isolators		Passive Isolator; 2-Channel		2 x 0 (4) … 20 mA			via input circuit

3

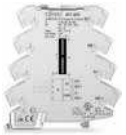
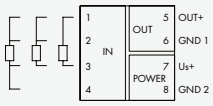
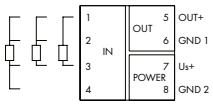
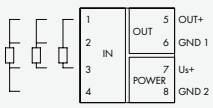
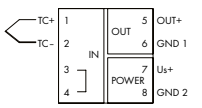
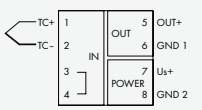
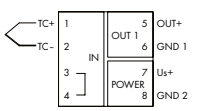
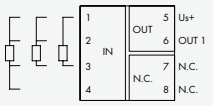
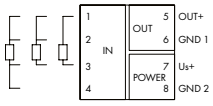
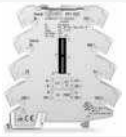
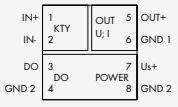
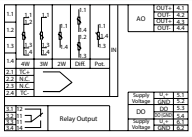
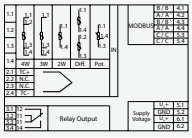
Output Signal			Configuration	Specialty Functions	Item No.	Page
Current	Voltage	Bipolar Signals (I/U)				
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ±20 mA ±5 V ±10 V	DIP switch; Interface configuration software/app/display	Digital output (DO); Clipping; Simulation	**2857-401**	246
0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Digital output (DO); Clipping	**857-400**	248
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-401**	250
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ±20 mA ±5 V ±10 V	DIP switch	Clipping;	**857-403**	252
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ±20 mA ±5 V ±10 V	DIP switch	Zero/span adjustment	**857-409**	254
0 (4) … 20 mA					**857-411**	256
	0 (2) … 10 V				**857-412**	257
0 … 20 mA					**857-413**	258
4 … 20 mA					**857-414**	258
	0 … 10 V				**857-415**	259
	0 … 10 V				**857-416**	259
0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-420**	260
2 x 0 (4) … 20 mA			DIP switch		**857-423**	262
2 x 0 … 20 mA 4 … 20 mA	2 x 0 … 10 V 2 … 10 V		DIP switch		**857-424**	264
4 … 20 mA			DIP switch	Zero/span adjustment	**857-450**	266
0 (4) … 20 mA					**857-451**	268
2 x 0 (4) … 20 mA					**857-452**	269

WAGO Current and Voltage Signal Conditioners
Selection Guide

	Image	Description	Circuit Diagram	Input Signal			Power Supply U_S
				Current	Voltage	Bipolar Signals (I/U)	
	Current and Voltage Signal Conditioners						
Current and Voltage Signal Conditioners		Through-Hole Current Signal Conditioner		100 AAC/ADC			24 VDC
		Current Signal Conditioner		1 AAC/ADC 5 AAC/ADC			24 VDC
		Current Signal Conditioner; for Rogowski Coils		Rogowski coils 500 AAC 2000 AAC			24 VDC
		Voltage Signal Conditioner		300 VAC/VDC			24 VDC
		1-Phase Power Signal Conditioner		1 AAC/ADC (IN 3.1); 5 AAC/ADC (IN 3.2); 8 AAC/ADC (IN 3.3)	500 VAC/VDC (IN 2.1); 300 VAC/VDC (IN 2.1); 250 VAC/VDC (IN 2.2); 50 VAC/VDC (IN 23)		24 VDC
		Power Signal Conditioner		300 VAC/VDC (5 A)			24 VDC
		Milivolt Signal Conditioner			0 ... 200 mV 0 ... 1000 mV	±100 mV	24 VDC
		Current Signal Conditioner		0 ... 5 AAC/ADC (IN 1; block arrangement); 0 ... 6 AAC/ADC (IN 1; individual arrangement); 0 ... 1 AAC/ADC (IN 2)			24 VDC

Output Signal			Configuration	Specialty Functions	Item No.	Page
Current	Voltage	Bipolar Signals (I/U)				
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ±20 mA ±5 V ±10 V	DIP switch; Interface configuration software/app/display	Digital output (DO); Clipping; Zero/span adjustment; Simulation	**2857-550**	270
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-550**	272
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-552**	276
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-560**	278
		±24 mA ±12 V	Interface configuration software/display	Digital output (DO)	**2857-569**	282
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-569**	284
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Clipping	**857-819**	280
0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)		DIP switch; Interface configuration software		**857-551**	274

WAGO Temperature Signal Conditioners
Selection Guide

Image	Description	Circuit Diagram	Input Signal	Sensor Connection	Power Supply U_S
Temperature Signal Conditioners					
	Temperature Signal Conditioner; for Pt and Resistance Sensors		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	24 VDC
	Temperature Signal Conditioner; for Pt and Resistance Sensors		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	24 VDC
	Temperature Signal Conditioner; for Pt46 and Cu53 Sensors		Pt46; Cu53	2-, 3-, 4-wire connection	24 VDC
	Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type J, K		24 VDC
	Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type J, K, E, R, N, S, T, B, S		24 VDC
	Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type K, S, B, R		24 VDC
	Loop-Powered RTD Temperature Signal Conditioner		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	via output circuit
	Temperature Signal Conditioner; for Ni Sensors		Ni sensors: Ni100, Ni120, Ni200, Ni500, Ni1000	2-, 3-, 4-wire connection	24 VDC
	Temperature Signal Conditioner; for KTY Sensors		KTY sensors	2-wire connection	24 VDC
	RTD/TC Temperature Signal Conditioner; Analog		RTD sensors; Potentiometers; Resistors; Thermocouples	2-, 3-, 4-wire connection; Differential measurement; Potentiometer	9.6 … 31.2 VDC
	RTD/TC Temperature Signal Conditioner; Serial		RTD sensors; Potentiometers; Resistors; Thermocouples	2-, 3-, 4-wire connection; Differential measurement; Potentiometer	9.6 … 31.2 VDC

Temperature Signal Conditioners

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Sensor Temperature Range	Output Signal			Configuration	Specialty Functions	Item No.	Page
	Current	Voltage	RS-485				
-200 … +850 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-800**	294
-200 … +850 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Configuration software/app	Clipping	**857-801**	296
-200 … +300 °C (Pt46) 0 … +180 °C (Cu53)	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-808**	298
Type J: −150 … +1200 °C; Type K: −150 … +1350 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-810**	300
Type J: −150 … +1200 °C; Type K: −150 … +1350 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Configuration software/app	Clipping	**857-811**	302
Type K: −150 … +1200 °C; Type S: 0 … +1600 °C; Type B: 600 … +1800 °C; Type R: 0 … +1600 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-812**	304
-200 … +850 °C	4 … 20 mA 20 … 4 mA			DIP switch		**857-815**	306
	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-818**	312
	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Digital output (DO); Clipping	**857-820**	314
−200 … +850 °C; 0 … 10 kΩ; Type J: −210 … +1200 °C; Type K: −200 … +1372 °C	−24 … +24 mA (load impedance ≤ 600 Ω)	−12 … +12 V (load impedance ≥ 2 kΩ)		Configuration software/ display	Digital output DO; Relay with 1 changeover contact (250 VAC / 6 A); Simulation	**2857-535**	308
−200 … +850 °C; 0 … 10 kΩ; Type J: −210 … +1200 °C; Type K: −200 … +1372 °C			Modbus-RTU	Configuration software/ display; Rotary encoder switch	Relay with 1 changeover contact (250 VAC /6 A); Simulation	**2857-535/000-001**	310

WAGO Signal Conditioners with Specialty Functions
WAGO Threshold Value Switches
Selection Guide

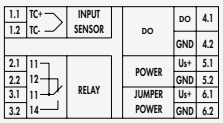
Image	Description	Circuit Diagrams	Input Signal: Frequencies
Frequency Signal Conditioner			
	Frequency Signal Conditioner		Frequency signals; NAMUR/NPN or PNP sensors 0.1 … 120 kHz

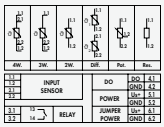
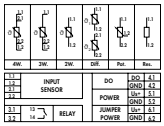
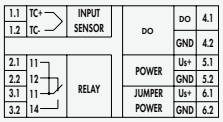
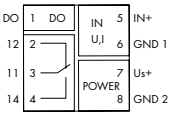
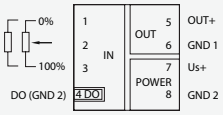
Image	Description	Circuit Diagrams	Input Signal: Current	Input Signal: Voltage	Input Signal: Bipolar Signals (I/U)	Input Signal: Sensors
Grenzwertschalter						
	RTD Threshold Value Switch					0 … 100 kΩ; Pt100; Pt200; Pt500; Pt1000; Pt5000; Pt10.000; Pt10 … 20.000
	RTD Threshold Value Switch					0 … 100 kΩ; Pt100; Pt200; Pt500; Pt1000; Pt5000; Pt10.000; Pt10 … 20.000
	Thermocouple Threshold Value Switch					Type J, K, E, N, R, S, T, B, C
	Analog Threshold Value Switch		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V; 0 … 15 V; 0 … 30 V	±10 mA ±20 mA ±5 V ±10 V	

Image	Description	Circuit Diagrams	Input Signal: Potentiometers	Input Signal: Resistors
Signal Conditioners with Specialty Functions				
	Potentiometer Signal Conditioner		0 … 100 kΩ	10 …100 kΩ

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Current	Voltage				
24 VDC	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	DIP switch; Interface configuration software/app	Clipping	**857-500**	318

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Relay (1 changeover contact)	Relay (1 make contact)				
24 VDC		250 VAC 6 A	DIP switch; Interface configuration software/app/display	Digital output DO; Relay with 1 make contact (250 VAC / 6 A); Simulation	**2857-533**	286
24 VDC		250 VAC 6 A	Interface configuration software/display	Digital output DO; Relay with 1 make contact (250 VAC / 6 A); Simulation	**2857-533/ 000-001**	288
24 VDC	250 VAC 6 A		DIP switch; Interface configuration software/app/display	Digital output DO; Relay with 1 changeover contact (250 VAC / 6 A); Simulation	**2857-534**	290
24 VDC	250 VAC 6 A		DIP switch; Push/slide switch; Interface configuration software/app	Digital output DO; Relay with 1 changeover contact (250 VAC/6 A)	**857-531**	292

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Current	Voltage				
24 VDC	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	DIP switch; Push/slide switch; Interface configuration software/app	Clipping	**857-809**	316

Approvals
Overview

Approvals									Item Description	Item Number	Page
		Marine Approvals									
IECEx	ATEX	PRS (Polski Rejestr Statkow)	NKK (Nippon Kaiji Kyokai)	DNV (Det Norske Veritas)	BV (Bureau Veritas)	ANSI/ISA 12.12.01	UL 508	UL 61010-2-201			
Isolation Amplifiers											
						■	■		Isolation Amplifier; Configurable; with Digital Output	**2857-401**	246
■	■	■	■	■	■	■	■		Isolation Amplifier; Configurable; with Zero/Span Adjustment	**857-400**	248
		■		■	■	■	■		Isolation Amplifier; Configurable; with Digital Output	**857-401**	250
■	■					■	■		Isolation Amplifier; Configurable	**857-403**	252
■	■	■		■	■	■	■		Bipolar Isolation Amplifier	**857-409**	254
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-411**	256
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-412**	257
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-413**	258
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-414**	258
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-415**	259
■	■	■	■	■	■	■	■		Isolation Amplifier; Pre-Configured	**857-416**	259
						■	■		Repeater Power Supply	**857-420**	260
■	■	■	■	■	■	■	■		Signal Splitter	**857-423**	262
									Signal Splitter (I/U)	**857-424**	264
■	■					■	■		Loop-Powered Isolation Amplifier	**857-450**	266
■	■	■	■	■	■	■	■		Passive Isolator; 1-Channel	**857-451**	268
■	■	■	■	■	■	■	■		Passive Isolator; 2-Channel	**857-452**	269
Current and Voltage Signal Conditioners											
								■	Through-Hole Current Signal Conditioner	**2857-550**	270
■	■	■		■	■	■	■		Current Signal Conditioner	**857-550**	272
■	■								Current Signal Conditioner; for Rogowski Coils	**857-552**	276
								■	Voltage Signal Conditioner	**857-560**	278
								■	1-Phase Power Signal Conditioner	**2857-569**	282
								■	Power Signal Conditioner	**857-569**	284
■	■	■	■	■	■	■	■		Milivolt Signal Conditioner	**857-819**	280
									Current Signal Conditioner	**857-551**	274
Temperature Signal Conditioners											
■	■	■	■	■	■	■	■		Temperature Signal Conditioner; for Pt and Resistance Sensors	**857-800**	294
■	■	■	■	■	■	■	■		Temperature Signal Conditioner; for Pt and Resistance Sensors	**857-801**	296
■	■	■	■	■	■	■	■		Temperature Signal Conditioner; for Thermocouples	**857-810**	300
■	■	■	■	■	■	■	■		Temperature Signal Conditioner; for Thermocouples	**857-811**	302
						■	■		Temperature Signal Conditioner; for Thermocouples	**857-812**	304
■	■	■		■	■	■	■		Temperature Signal Conditioner; for Pt46 and Cu53 Sensors	**857-808**	298
								■	Loop-Powered RTD Temperature Signal Conditioner	**857-815**	306
■	■	■		■	■	■	■		Temperature Signal Conditioner; for Ni Sensors	**857-818**	312
■	■	■		■	■	■	■		Temperature Signal Conditioner; for KTY Sensors	**857-820**	314
								■	RTD/TC Temperature Signal Conditioner; Analog	**2857-535**	308
								■	RTD/TC Temperature Signal Conditioner; Serial	**2857-535/000-001**	310
Threshold Value Switches											
								■	RTD Threshold Value Switch	**2857-533**	286
								■	RTD Threshold Value Switch	**2857-533/000-001**	288
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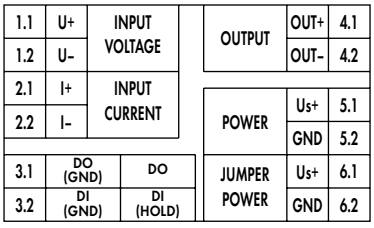
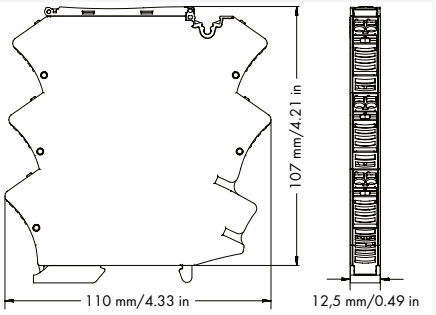
Specialty Functions											
■	■	■		■	■	■	■		Frequency Signal Conditioner	**857-500**	318
		■		■	■	■	■		Potentiometer Signal Conditioner	**857-809**	316
Accessories											
■	■	■				■	■		Supply and Through Module	**857-979**	328
		■	■	■	■		■		Interface Adapter for System Wiring	**857-980**	327

Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; 12.5 mm module width

2857 Series



	Item No.	PU
	2857-401	1



Short description:
WAGO's signal conditioner converts, amplifies, filters, and electrically isolates analog signals.

Features:
- Analog unipolar/bipolar signals at both input and output
- Digital signal output reacts to configured measurement range limits (configurable on/off switching delay and threshold value switch function with up to two threshold values).
- Digital HOLD input freezes the output signal.
- Clipping capability for analog signal limitation to output end values
- Adjustable software/hardware filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 4 kV test voltage per EN 61140

Note:
- This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_S+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 1 A is not exceeded.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

» Configuration Software	Page 322
» Configuration App	Page 323
» Configuration Display	Page 324
» Accessories	Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; WAGO Configuration Display
Input	
Input signal type	Voltage (DC); Current (DC)
Input signal (voltage)	±1 V; 0 … 1 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±30 V; 0 … 30 V; ±100 V; 0 … 100 V; ±200 V; 0 … 220 V
Input signal (current)	±1 mA; 0 … 1 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA; ±100 mA; 0 … 100 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1 MΩ
Input current (max.)	± 120 mA
Input voltage (max.)	±250 V
Input – digital	
Hold signal	11.8 V … U_S
Output – analog	
Output signal type	Voltage; Current
Output signal (voltage)	± 5 V; 0 … 5 V; 1 … 5 V; ± 10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Setting range (frequency generator)	0.3 … 100 Hz
Signal processing	
Limit frequency	10 kHz / 5 kHz / 100 Hz / 30 Hz (configurable via DIP switch or software)
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	1 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 70 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 4 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	12.5 mm / 0.492 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	85.9 g
Environmental requirements	
Ambient temperature (operation at UN)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C

Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 60664-1; EN 61373

2857-401

DIP Switch Adjustability

● = ON | **Default**

DIP Switch S1

Input												
1	Signal	2	Polarity	3	4	5	Range / mA	Range / V	6	Inverted Characteristic	7	8	Limit Frequency
	Current		Unipolar				0 … 20	0 … 10		Not inverted			10 kHz
●	Voltage	●	Bipolar *	●			0 … 1	0 … 1	●	Inverted	●		5 kHz
					●		0 … 5	0 … 5				●	100 Hz
				●	●		0 … 10	1 … 5			●	●	30 Hz
						●	2 … 10	2 … 10					
				●		●	4 … 20	0 … 30					
					●	●	0 … 50	0 … 100					
				●	●	●	0 … 100	0 … 220					

DIP Switch S1

Output			
9	Signal	10	Polarity
	Current		Unipolar
●	Voltage	●	Bipolar *

DIP Switch S2

Output			
1	2	Range / mA	Range / V
		0 … 20	0 … 10
●		4 … 20	2 … 10
	●	0 … 10	0 … 5
●	●	2 … 10	1 … 5

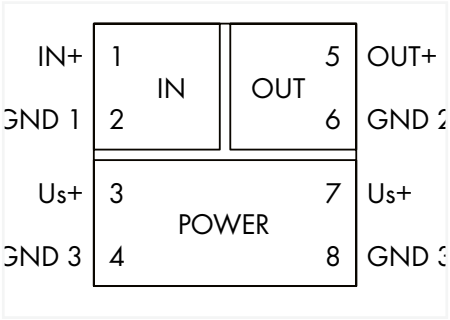
DIP Switch S2

Output				Digital Output (DO)		
3	4	Measuring Range Underflow	Measuring Range Overflow	5	6	
		Lower limit of output range -5% **	Upper limit of output range +2.5% **			Off
●		Lower limit of output range	Upper limit of output range +2.5%	●		DO U_s switching
	●	Lower limit of output range	Upper limit of output range		●	DO GND switching
●	●	Lower limit of output range -5%	Upper limit of output range +5%	●	●	Off

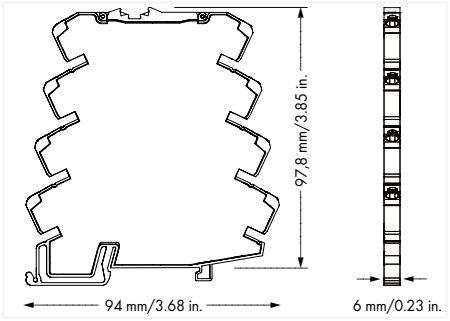
* Bipolar only applies to ranges starting with 0.

** acc. to NAMUR NE 43

Isolation amplifier; Current and voltage input signal; Current and voltage output signal; Zero/span adjustment; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width
857 Series



	Item No.	PU
	857-400	1



Short description:
WAGO's configurable signal conditioner converts, amplifies, filters and electrically isolates standard analog signals.

Features:
- Zero/span adjustment across the entire measurement range
- Calibrated measurement range switching
- Switchable limit frequency
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
- The 3 (U_{s+}), 7 (U_{s+}), 4 (GND 3) and 8 (GND 3) connections are internally commoned.
- Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V
Zero/span adjustment	± 3% of upper-range value
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 20 mA; 4 … 20 mA; 0 … 10 mA; 2 … 10 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 100 µs (5 kHz)
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.2 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

857-400

DIP Switch Adjustability

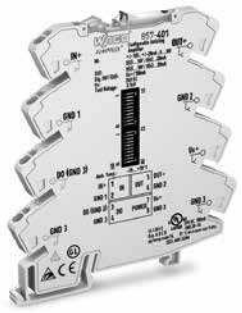
● = ON **Default**

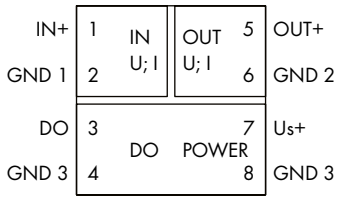
DIP Switch S1 (2-fold) DIP Switch S2 (6-fold)

Input Signal			Output Signal						Max. Operating Frequency	
1	2		1	2	3	4	5		6	
●		0 … 20 mA						0 … 20 mA		5 kHz
						●		4 … 20 mA	●	100 Hz
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
●		4 … 20 mA					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		
	●	0 … 10 V						0 … 20 mA		
						●		4 … 20 mA		
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
	●	2 … 10 V					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		
		0 … 5 V						0 … 20 mA		
						●		4 … 20 mA		
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
		1 … 5 V					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		

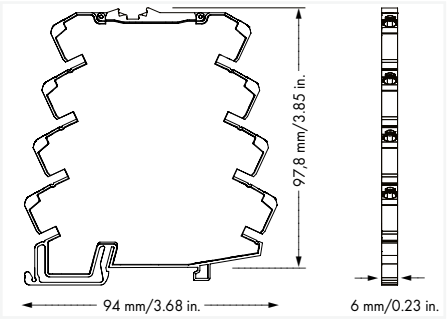
Isolation amplifier; Current and voltage input signal; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-401	1



Short description:
WAGO's configurable signal conditioner converts, amplifies, filters and electrically isolates standard analog signals.

Features:
- PC configuration interface
- Digital switching output
- Calibrated measurement range switching
- Standard unipolar/bipolar analog signals at input
- Clipping capability for analog signal limitation to output end values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Voltage (DC); Current (DC)
Input signal (voltage)	±10 V; 0 … 30 V
Input signal (current)	±20 mA
Input resistance (current input)	≤ 200 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	22 mA
Input voltage (max.)	31 V
Measurement span (min.)	1 V
Measurement span (current) min.	2 mA
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 2 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 (adjustable)
Signal processing	
Step response (typ.)	8 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	37 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1
Standards/specifications	EN 50121-3-2; DNV; EN 61373

» Configuration Software Page 322
» Configuration App Page 323
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857-401

DIP Switch Adjustability

● = ON **Default**

Input Signal Start Value																	Input Signal End Value															
DIP S1									DIP S1								DIP S2							DIP S1			DIP S2				
1		2	3	4	5	6	7	V	mA	2	3	4	5	6	7	V	mA	8	9	10	1	2	3	V	mA	8	9	10	1	2	3	V	mA
	Voltage							0	0						●	5.5	11							10	20						●	5.5	11
●	Current	●						-10	-20	●					●	6	12	●						-10	-20	●					●	6	12
			●					-9.5	-19		●				●	6.5	13		●					-9.5	-19		●				●	6.5	13
		●	●					-9	-18	●	●				●	7	14	●	●					-9	-18	●	●				●	7	14
				●				-8.5	-17			●			●	7.5	15			●				-8.5	-17			●			●	7.5	15
		●		●				-8	-16	●		●			●	8	16	●		●				-8	-16	●		●			●	8	16
			●	●				-7.5	-15		●	●			●	8.5	17		●	●				-7.5	-15		●	●			●	8.5	17
		●	●	●				-7	-14	●	●	●			●	9	18	●	●	●				-7	-14	●	●	●			●	9	18
					●			-6.5	-13				●		●	9.5	19				●			-6.5	-13				●		●	9.5	19
		●			●			-6	-12	●			●		●	10	20	●			●			-6	-12	●			●		●	10	20
			●		●			-5.5	-11		●		●		●	10.5			●		●			-5.5	-11		●		●		●	10.5	
		●	●		●			-5	-10	●	●		●		●	11		●	●		●			-5	-10	●	●		●		●	11	
				●	●			-4.5	-9			●	●		●	11.5				●	●			-4.5	-9			●	●		●	11.5	
		●		●	●			-4	-8	●		●	●		●	12		●		●	●			-4	-8	●		●	●		●	12	
			●	●	●			-3.5	-7		●	●	●		●	13			●	●	●			-3.5	-7		●	●	●		●	13	
		●	●	●	●			-3	-6	●	●	●	●		●	14		●	●	●	●			-3	-6	●	●	●	●		●	14	
						●		-2.5	-5					●	●	15						●		-2.5	-5					●	●	15	
		●				●		-2	-4	●				●	●	16		●				●		-2	-4	●				●	●	16	
			●			●		-1.5	-3		●			●	●	17			●			●		-1.5	-3		●			●	●	17	
		●	●			●		-1	-2	●	●			●	●	18		●	●			●		-1	-2	●	●			●	●	18	
				●		●		-0.5	-1			●		●	●	19				●		●		-0.5	-1			●		●	●	19	
		●		●		●		0	0	●		●		●	●	20		●		●		●		0	0	●		●		●	●	20	
			●	●		●		0.5	1		●	●		●	●	21			●	●		●		0.5	1		●	●		●	●	21	
		●	●	●		●		1	2	●	●	●		●	●	22		●	●	●		●		1	2	●	●	●		●	●	22	
					●	●		1.5	3				●	●	●	23					●			1.5	3				●	●	●	23	
		●			●	●		2	4	●			●	●	●	24		●			●			2	4	●			●	●	●	24	
			●		●	●		2.5	5		●		●	●	●	25			●		●			2.5	5		●		●	●	●	25	
		●	●		●	●		3	6	●	●		●	●	●	26		●	●		●			3	6	●	●		●	●	●	26	
				●	●	●		3.5	7			●	●	●	●	27				●	●			3.5	7			●	●	●	●	27	
		●		●	●	●		4	8	●		●	●	●	●	28		●		●	●			4	8	●		●	●	●	●	28	
			●	●	●	●		4.5	9		●	●	●	●	●	29			●	●	●			4.5	9		●	●	●	●	●	29	
		●	●	●	●	●		5	10	●	●	●	●	●	●	30		●	●	●	●			5	10	●	●	●	●		●	30	

DIP Switch S2

Output Signal						Measuring Range Underflow	Measuring Range Overflow			Digital Output DO Signaling
4	5	6		7	8			9	10	
			0 ... 20 mA			Lower limit of output range -5 % *	Upper limit of output range +2.5 % *			DO not active
	●		4 ... 20 mA							
		●	0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %		●	GND → U_N (switching)
	●	●	2 ... 10 V							
●			0 ... 10 V		●	Lower limit of output range	Upper limit of output range	●	●	U_N → GND (switching)
●	●		2 ... 10 V							
●		●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range			
●	●	●	1 ... 5 V							

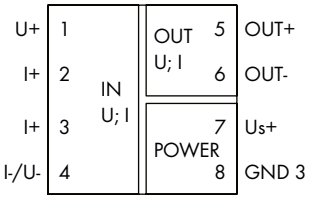
*acc. to NAMUR NE 43

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows: 24 V→ 0 V/0 V → 24 V.

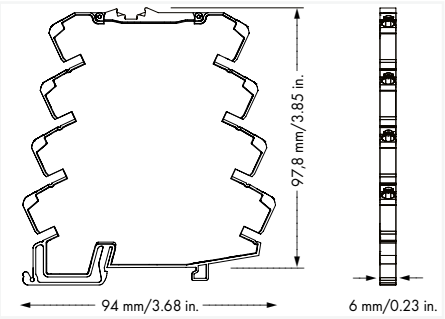
In order to increase the switching current of the DO, the latter may be expanded by a relay. Thanks to the common housing shape for the 857 Series, for example, a 857-304 Relay can be snapped in next to it. This output can be quickly and easily expanded to a switching current of 6A by simply using an adjacent jumper (859-402).

Isolation amplifier; Current and voltage input signal; Bipolar current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series



	Item No.	PU
	857-403	1



Short description:
WAGO's signal conditioner converts standard unipolar/bipolar signals, as well as amplifies, filters and electrically isolates standard analog signals.

Features:
- Overload protection of current input via resettable fuse
- Calibrated measurement range switching for all 456 signals
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency
- Clipping capability for analog signal limitation to output end values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

» Accessories Page 334

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage (DC); Current (DC)
Input signal (voltage)	±60 mV; 0 … 60 mV; ±100 mV; 0 … 100 mV; ±150 mV; 0 … 150 mV; ±300 mV; 0 … 300 mV; ±500 mV; 0 … 500 mV; ±1 V; 0 … 1 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±100 V; 0 … 100 V; ±200 V; 0 … 200 V
Input signal (current)	±0.3 mA; 0 … 0.3 mA; ±1 mA; 0 … 1 mA; ±5 mA; 0 … 5 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA; ±50 mA; 0 … 50 mA; ±100 mA; 0 … 100 mA
Input resistance (current input)	10 Ω (≥ 5 mA); 100 Ω (≤ 5 mA)
Input resistance (voltage input)	1 MΩ
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	± 5 V; 0 … 5 V; 1 … 5 V; ± 10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 100 µs (5 kHz)
Measurement error	
Transmission error (typ.)	≤ 0.08 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Rated voltage	200 V
Overvoltage category	II
Pollution degree	2
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Insulation parameters	
Insulation type (input/supply and analog output/relay output)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	39.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	EN 61010-1

DIP Switch Adjustability

DIP Switch S1

Input Signal Ranges							Reserve		Max. Operating Frequency	
1	2	3	4	5	6		7		8	
						Default setting*				5 kHz
				●		0 … 60 mV			●	100 Hz
				●	●	±60 mV				
			●			0 … 100 mV				
			●		●	±100 mV				
			●	●		0 … 150 mV				
			●	●	●	±150 mV				
		●				0 … 300 mV				
		●			●	±300 mV				
		●		●		0 … 500 mV				
		●		●	●	±500 mV				
		●	●			0 … 1 V				
		●	●		●	±1 V				
		●	●	●		0 … 5 V				
		●	●	●	●	±5 V				
	●					0 … 10 V				
	●				●	±10 V				
	●			●		0 … 50 V				
	●			●	●	±50 V				
	●		●			0 … 100 V				
	●		●		●	±100 V				
	●		●	●		0 … 200 V				
	●		●	●	●	±200 V				

DIP Switch S1

Input Signal Ranges						
1	2	3	4	5	6	
	●	●				0 … 0.3 mA
	●	●			●	±0.3 mA
	●	●		●		0 … 1 mA
	●	●		●	●	±1 mA
	●	●	●			0 … 5 mA
	●	●	●		●	±5mA
	●	●	●	●		0 … 10 mA
	●	●	●	●	●	±10 mA
●						0 … 20 mA
●					●	±20 mA
●				●		0 … 50 mA
●				●	●	±50 mA
●			●			0 … 100 mA
●			●		●	±100 mA
●		●				1 … 5 V
●		●		●		2 … 10 V
●		●	●			2 … 10 mA
●		●	●	●		4 … 20 mA

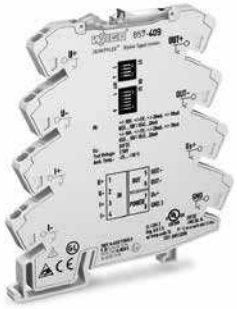
DIP Switch S2

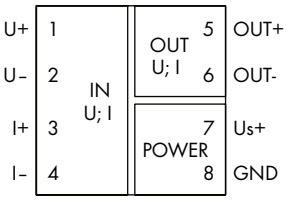
Output Signal Ranges						Reserve	Clipping	
1	2	3	4	5		6	7	
					Default setting*			inactive (analog response)
		●			0 … 10 V		●	active (limiting response)
		●		●	±10 V			
		●	●		2 … 10 V			
	●				0 … 5 V			
	●			●	±5 V			
	●		●		1 … 5 V			
	●	●			0 … 20 mA			
	●	●		●	±20 mA			
	●	●	●		4 … 20 mA			
●					0 … 10 mA			
●				●	±10 mA			
●			●		2 … 10 mA			

More information on measurement range setting is available in 857-402 instruction leaflet.
*The input and output range DIP switches must be readjusted when changing the default setting.

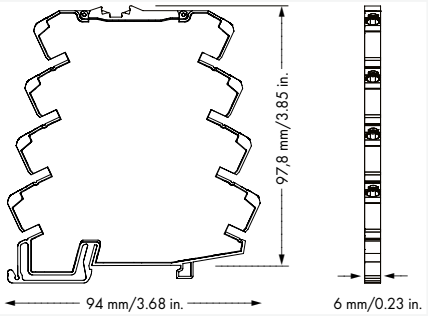
Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Zero/span adjustment; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-409	1



Short description:
WAGO's bipolar signal conditioner converts standard unipolar/bipolar signals, as well as amplifies, filters and electrically isolates the bipolar standard analog signals.

Features:
- Overload protection of current input via resettable fuse
- Zero/span adjustment across the entire measurement range
- Calibrated measurement range switching
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency

Safety information:
Input and output must be safely isolated from any hazardous live parts!

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.
Use in the living area is only permitted in conjunction with a power supply that meets the criteria of the living area according to EN 61000-6-3.

Configuration	
Configuration options	DIP switch; Potentiometer
Input	
Input signal type	Voltage; Current
Input signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Input signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	1 MΩ
Input current (max.)	50 mA
Input voltage (max.)	32 V
Zero/span adjustment	± 5 % of upper-range value
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	± 5 V; 0 … 5 V; 1 … 5 V; ± 10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Residual ripple	≤ 10 mV (rms)
Signal processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 68 µs (5 kHz)
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.2 % of upper-range value
Transmission error (under interference)	≤ 15 %
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC (SELV)
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption (default)	≤ 20 mA
Current consumption (max.)	≤ 40 mA
Safety and protection	
Rated voltage	300V
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Insulation parameters	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply)	Functional insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Cable type	Shielded cable
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	38.4g

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Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000m

Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	DNV; EN 61373

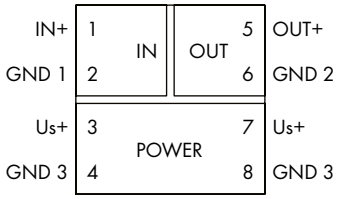
857-409

DIP Switch Adjustability

● = ON Default

DIP Switch S1 (4-fold)					DIP Switch S2 (6-fold)							
Input Signal					Output Signal						Max. Operating Frequency	
1	2	3	4		1	2	3	4	5		6	
●				±20 mA				●		±20 mA		5 kHz
●	●			±10 mA			●	●		±10 mA	●	100 Hz
●				±10 V	●	●		●		±10 V		
●	●			±5 V	●	●	●	●		±5 V		
				0 … 20 mA						0 … 20 mA		
		●		4 … 20 mA					●	4 … 20 mA		
	●			0 … 10 mA			●			0 … 10 mA		
	●	●		2 … 10 mA			●		●	2 … 10 mA		
				0 … 10 V	●	●				0 … 10 V		
		●		2 … 10 V	●	●			●	2 … 10 V		
	●			0 … 5 V	●	●	●			0 … 5 V		
	●	●		1 … 5 V	●	●	●		●	1 … 5 V		

Isolation amplifier; Current input signal; Current output signal; Supply voltage: 24 VDC; 6 mm module width
857 Series



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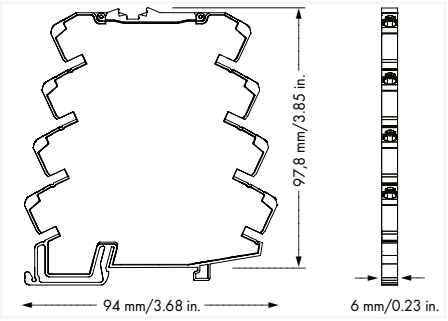
	857-411	1



Short description:
WAGO's pre-configured signal conditioner converts, amplifies, filters and electrically isolates analog standard signals.

Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

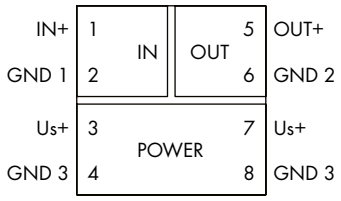
Note:
- The 3 (U_{s+}), 7 (U_{s+}), 4 (GND 3) and 8 (GND 3) connections are internally commoned.
- Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)

Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input current (max.)	50 mA
Output – analog	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA
Load impedance (current output)	≤ 600 Ω
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

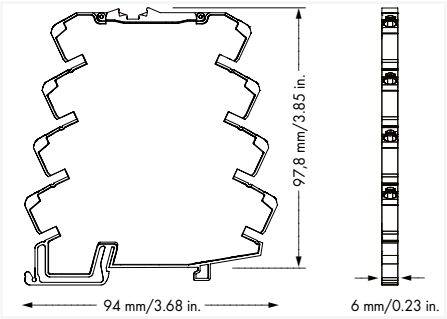
» Accessories Page 334

Isolation amplifier; Voltage input signal; Voltage output signal; Supply voltage: 24 VDC; 6 mm module width

857 Series



	Item No.	PU
	857-412	1



Short description:
WAGO's pre-configured signal conditioner converts, amplifies, filters and electrically isolates analog standard signals.

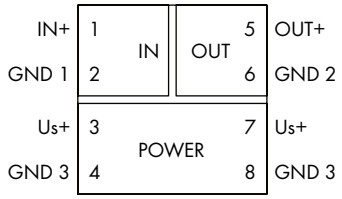
Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note::
- The 3 (U_{s+}), 7 (U_{s+}), 4 (GND 3) and 8 (GND 3) connections are internally commoned.
- Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)

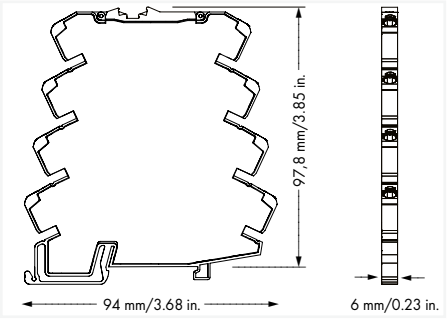
Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Voltage
Input signal (voltage)	0 … 10 V; 2 … 10 V
Input resistance (voltage input)	≥ 100 kΩ
Input voltage (max.)	30 V
Output – analog	
Output signal type	Voltage
Output signal (voltage)	0 … 10 V; 2 … 10 V
Load impedance (voltage output)	≥ 2 kΩ
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

Isolation amplifier; Voltage input signal; Current output signal; Supply voltage: 24 VDC; 6 mm module width
857 Series



Output Signal	Item No.	PU
0 … 20 mA	857-413	1
4 … 20 mA	857-414	1



Short description:
WAGO's pre-configured signal conditioner converts, amplifies, filters and electrically isolates analog standard signals.

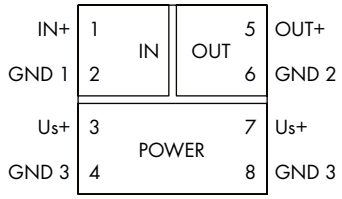
Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note::
- The 3 (U_{s+}), 7 (U_{s+}), 4 (GND 3) and 8 (GND 3) connections are internally commoned.
- Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)

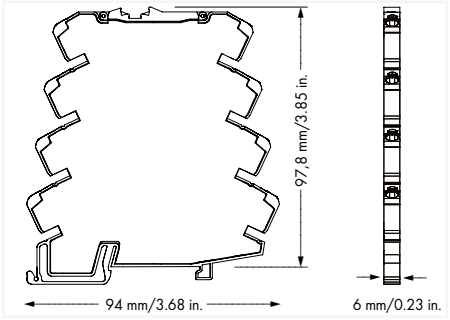
Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Voltage
Input resistance (voltage input)	≥ 100 kΩ
Input voltage (max.)	30 V
Output – analog	
Output signal type	Current
Output signal (current)	0 … 20 mA
Load impedance (current output)	≤ 600 Ω
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

Isolation amplifier; Voltage input signal; Current output signal; Supply voltage: 24 VDC; 6 mm module width
857 Series



Input Signal	Item No.	PU
0 ... 20 mA	857-415	1
4 ... 20 mA	857-416	1



Short description:
WAGO's pre-configured signal conditioner converts, amplifies, filters and electrically isolates analog standard signals.

Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

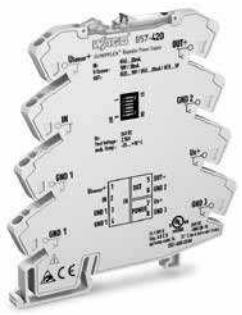
Note:
- The 3 (U_{s+}), 7 (U_{s+}), 4 (GND 3) and 8 (GND 3) connections are internally commoned.
- Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)

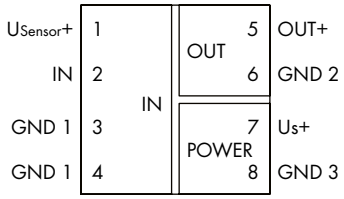
Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Current
Input resistance (voltage input)	≥ 50 kΩ
Input voltage (max.)	50 V
Output – analog	
Output signal type	Voltage
Output signal (current)	4 ... 10 mA
Load impedance (current output)	≤ 2 kΩ
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

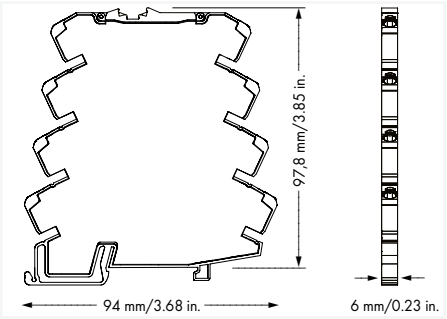
Isolation amplifier; Current input signal; Current and voltage output signal; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-420	1



Short description:
WAGO's isolation amplifier provides the power required for 2- or 3-wire field transmitters and electrically isolates analog signals.

Features:
- Power supply to SMART transmitters
- Calibrated measurement range switching
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Sensor supply	U_v = 18 V; 30 mA
Input current (max.)	50 mA
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Offset	≤ 20 µA
Residual ripple	≤ 10 mV (rms)
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 45 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	37 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	DNV

» Accessories Page 334

857-420

DIP Switch Adjustability

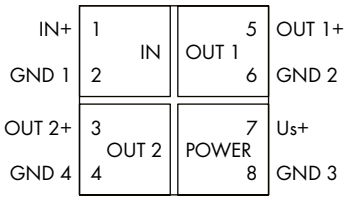
● = ON Default

DIP Switch S1 (6-fold)

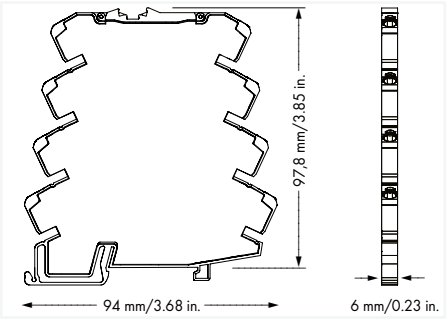
1	2	3	4	5	6	Input Signal	Output Signal
					n.c.	0 … 20 mA	0 … 20 mA
			●		n.c.	0 … 20 mA	4 … 20 mA
●	●				n.c.	0 … 20 mA	0 … 10 V
●	●		●		n.c.	0 … 20 mA	2 … 10 V
●	●	●			n.c.	0 … 20 mA	0 … 5 V
●	●	●	●		n.c.	0 … 20 mA	1 … 5 V
				●	n.c.	4 … 20 mA	0 … 20 mA
					n.c.	4 … 20 mA	4 … 20 mA
●	●			●	n.c.	4 … 20 mA	0 … 10 V
●	●				n.c.	4 … 20 mA	2 … 10 V
●	●	●		●	n.c.	4 … 20 mA	0 … 5 V
●	●	●			n.c.	4 … 20 mA	1 … 5 V

Isolation amplifier; Current and voltage input signal; 2 x current output signal; Supply voltage: 24 VDC; 6 mm module width

857 Series



	Item No.	PU
	857-423	1



Short description:
WAGO's signal splitter converts, amplifies, filters and electrically isolates standard analog signals.

Features:
- Two configurable current outputs
- Calibrated measurement range switching
- Switchable limit frequency

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 100 kΩ
Output – analog	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (current output)	≤ 300 Ω per channel
Signal processing	
Limit frequency	100 Hz / 1 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 300 µs (1 kHz)
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.2 % of upper-range value
Transmission error (under interference)	≤ 10 %
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 35 mA
Safety and protection	
Rated voltage	300 V
Protection type	IP20
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output 1/analog output 2/ supply)	Functional insulation
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	40.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

857-423

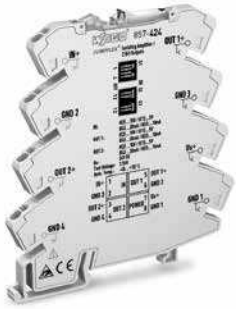
DIP Switch Adjustability

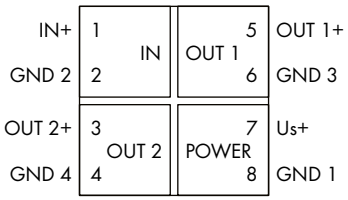
● = ON Default

DIP Switch S1 (6-fold)

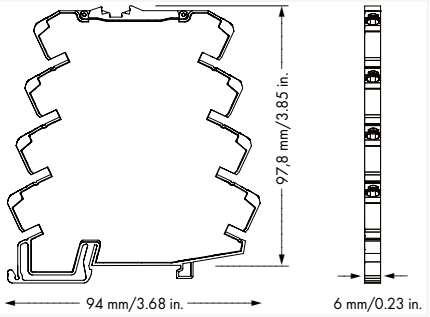
Input Signal				Max. Operating Frequency		Output Signal 1		Output Signal 2	
1	2	3		4		5		6	
●			0 ... 20 mA		1 kHz		0 ... 20 mA		0 ... 20 mA
●		●	4 ... 20 mA	●	100 Hz	●	4 ... 20 mA	●	4 ... 20 mA
	●		0 ... 10 V						
	●	●	2 ... 10 V						
			0 ... 5 V						
		●	1 ... 5 V						

Isolation amplifier; Current and voltage input signal; Supply voltage: 24 VDC; 6 mm module width
857 Series





Item No.	PU
857-424	1



Short description:
WAGO's signal splitter converts, amplifies, filters and electrically isolates standard analog signals. In addition, the input signal is split into two separate outputs.

Features:
- Two configurable voltage/current outputs
- Switchable limit frequency
- Safe 4-way isolation with 3 kV test voltage per EN 61010-1

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Input signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V
Output – analog	
Output signal type	Voltage; Current
Output signal (voltage)	0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ (per channel)
Load impedance (current output)	≤ 600 Ωper channel
Signal processing	
Limit frequency	100 Hz / 1 kHz (configurable via DIP switch)
Step response (typ.)	5.2 ms (100 Hz); 650 µs (1 kHz)
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC (SELV)
Nominal supply voltage U_S	24 VDC
Supply voltage range	-60 … +30 %
Current consumption (default)	< 27 mA
Current consumption (max.)	< 250 mA (2 x I_{out} 20 mA; Load impedance: 600 Ω; U_{s+}: 9.6 V)
Safety and protection	
Rated voltage	300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Protection type	IP20
Test voltage	
Test voltage (input/analog output 1/analog output 2/ supply)	3 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output1/analog output 2/ supply)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Cable type	Shielded cable
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	42 g

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Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C (individual arrangement; −40 … +50 °C (block arrangement))
Ambient temperature (storage)	-40 … +85 °C
Processing temperature	-25 … +50 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	75 °C
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1

857-424

DIP Switch Adjustability

● = ON Default

DIP Switch S1 (4 positions)

Input Signal				Max. Operating Frequency	
1	2	3		4	
●			0 … 20 mA		> 1 kHz
●		●	4 … 20 mA	●	100 Hz
●	●		0 … 10 mA		
●	●	●	2 … 10 mA		
			0 … 10 V		
		●	2 … 10 V		
	●		0 … 5 V		
	●	●	1 … 5 V		

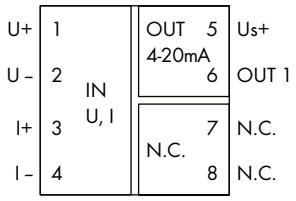
DIP Switch S2 (2 positions)

Output Signal 1		
1	2	
		0 … 10 V
●		2 … 10 V
	●	0 … 20 mA
●	●	4 … 20 mA

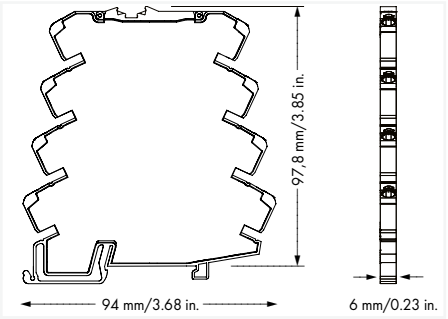
DIP Switch S3 (2 positions)

Output Signal 2		
1	2	
		0 … 10 V
●		2 … 10 V
	●	0 … 20 mA
●	●	4 … 20 mA

Loop-powered isolation amplifier; Bipolar current and voltage input signal; Current output signal; Configuration via DIP switch; Power via input; 6 mm module width
857 Series



	Item No.	PU
	857-450	1



Short description:
WAGO's loop-powered isolator converts, amplifies, filters and electrically isolates standard unipolar/bipolar analog signals.

Features:
- No additional supply voltage required
- Zero/span adjustment
- Standard unipolar/bipolar analog signals at input
- Calibrated measurement range switching
- Switchable limit frequency
- Safe 2-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	±1 V; 0 … 1 V; ±2 V; 0 … 2 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±20 V; 0 … 20 V
Input signal (current)	±5 mA; 0 … 5 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1 MΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V
Zero/span adjustment	± 5 % of upper-range value
Output – analog	
Output signal type	Current
Output signal (current)	4 … 20 mA
Load impedance (current output)	≤ 600 Ω
Signal processing	
Limit frequency	100 Hz / 30 Hz (configurable via DIP switch)
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	Loop-powered (via output)
Supply voltage	DC 8 … 30 V (Power is derived from the output circuit.)
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	37.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3

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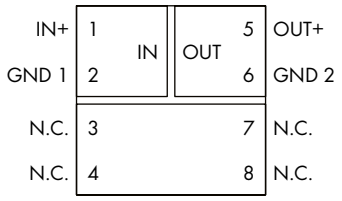
DIP Switch Adjustability

● = ON **Default**

DIP switch (6 positions)

Input Signal							Output Signal	Max. Operating Frequency	
1	2	3	4	5				6	
					4 … 20 mA	Current	4 … 20 mA		100 Hz
●		●	●		0 … 20 mA			●	30 Hz
●		●	●	●	±20 mA				
●		●			2 … 10 mA				
●			●		0 … 10 mA				
●			●	●	±10 mA				
●					0 … 5 mA				
●				●	±5 mA				
	●	●	●		0 … 20 V	Voltage			
	●	●	●	●	±20 V				
	●	●			2 … 10 V				
	●		●		0 … 10 V				
	●		●	●	±10 V				
	●				1 … 5 V				
		●	●		0 … 5 V				
		●	●	●	±5 V				
		●			0 … 2 V				
		●		●	±2 V				
			●		0 … 1 V				
			●	●	±1 V				

Passive isolator, 1-channel; Current input signal; Current output signal; Power via input; 6 mm module width
857 Series



	Item No.	PU
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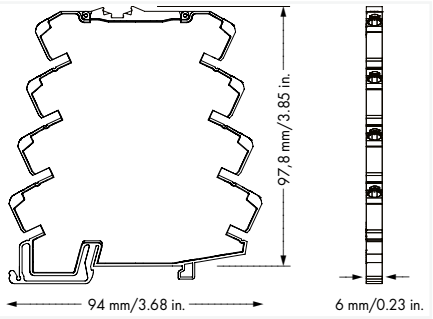

Short description:
WAGO's passive isolator (1-channel) electrically isolates and filters 0(4)–20 mA standard analog signals, while drawing power for signal transmission from the input circuit. The connected sensor supplies the passive isolator with the required power to energize the connected load.

Features:
- No additional supply voltage required
- Safe 2-way isolation with 3 kV test voltage per EN 61010-1

Safety information:
Outputs must not be left open!

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

Configuration	
Configuration options	pre-configured
Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA
Voltage drop at input	≤ 2.5 V (at 20 mA (output))
Input current (max.)	40 mA
Input voltage (max.)	20 V
Response threshold	200 µA
Output – analog	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Load error	≤ 0.05 % (of upper-range value; per 100 Ω load)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	Passive (via input)
Safety and protection	
Rated voltage	300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Overvoltage category	II
Pollution degree	2
Protection type	IP20
Test voltage	
Test voltage (input/output)	AC 3 kV; 50 Hz; 1 min
Insulation parameters(UL)	
Insulation type (input/analog output)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Cable type	Shielded cable
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	34.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 15 K)
Temperature range of connection cable (UL)	70 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1; DNV

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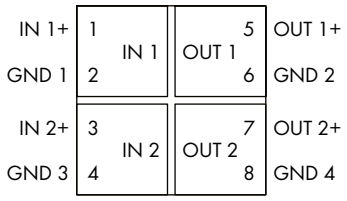
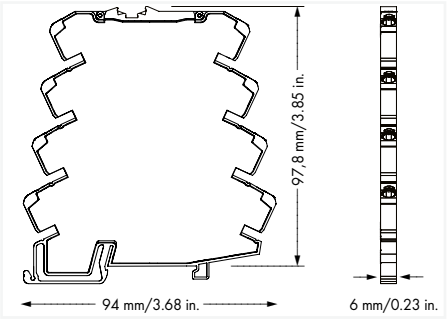
Passive isolator, 2-channel; Current input signal; 2 x current output signal; Power via input; 6 mm module width
857 Series



	Item No.	PU
	857-452	1



Short description:
WAGO's passive isolator (2-channel) electrically isolates and filters 0(4)–20 mA standard analog signals, while drawing power for signal transmission from the input circuit. The connected sensor supplies the passive isolator with the required power to energize the connected load.

Features:
- No additional supply voltage required
- Safe 4-way isolation with 3 kV test voltage per EN 61010-1

Safety information:
Outputs must not be left open!

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

Configuration	
Configuration options	pre-configured
Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA
Voltage drop at input	≤ 2.5 V (at 20 mA (output))
Input current (max.)	40 mA
Input voltage (max.)	20 V
Response threshold	200 µA
Output – analog	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)
Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Load error	≤ 0.05 % (of upper-range value; per 100 Ω load)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	Passive (via input)
Safety and protection	
Rated voltage	300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Overvoltage category	II
Pollution degree	2
Protection type	IP20
Test voltage	
Test voltage (input/output)	AC 3 kV; 50 Hz; 1 min
Insulation parameters(UL)	
Insulation type (input/analog output)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Cable type	Shielded cable
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	62 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 15 K)
Temperature range of connection cable (UL)	70 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1; DNV

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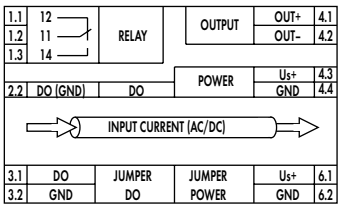
Current signal conditioner; Current input signal; Current and voltage output signal; Digital and relay output; Configuration via software; Supply voltage: 24 VDC; 22.5 mm module width
2857 Series



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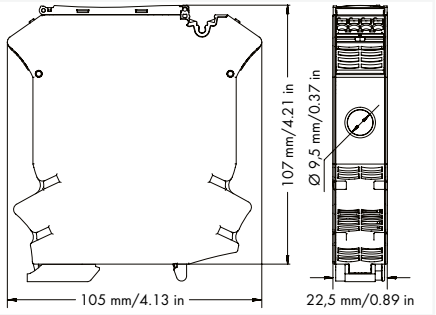
	2857-550	1



Short description:
WAGO's current signal conditioner measures AC/DC currents up to 100 A, while converting the measured current into an analog standard signal at the output.

Features:
- Both digital signal output and relay with changeover contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Clipping capability for analog signal limitation to output end values
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

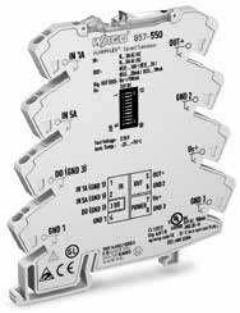
Note:
- This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.
- Additional setting options via WAGO Interface Configuration Software or WAGO Configuration Display

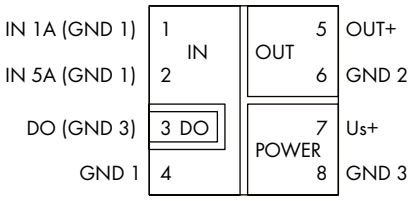
» Dip Switch configuration, see www.wago.com
» Configuration Software Page 322
» Configuration App Page 323
» Configuration Display Page 324
» Accessories Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; WAGO Configuration Display
Input	
Input signal type	Current
Input signal (current)	AC 0.5 … 100 A DC ±100 A
Frequency range	15 … 1000 Hz
Input current (max.)	100 A AC/DC
Response threshold	500 mA (AC); 250 mA (DC)
Resolution (current)	10 mA
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	± 5 V; 0 … 5 V; 1 … 5 V; ± 10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Output – relay	
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	250 VAC
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)
Signal processing	
Measurement method	True RMS measurement; arithmetic mean value
Limit frequency	3.3 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (DC; for software filter 3/default setting); 250 ms (AC)
Measurement error	
Transmission error (max.)	≤ 1 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	The conductor carrying the measurement current must have at least basic insulation for the voltage used. The test voltage of the conductor carrying the measurement current must be at least 1390 Vrms AC or 1390 VDC. The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Test voltage (measurement circuit/relay output/supply/analog output)	3 kVAC; 50 … 60 Hz; 1 min
Test voltage (measurement circuit/relay output/supply/service interface)	3 kVAC; 50 … 60 Hz; 1 min
Test voltage (analog output/service interface)	2 kVAC; 50 … 60 Hz; 1 min

Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (measurement circuit/relay output, supply, analog output and service interface)	Double insulation (safe isolation)
Insulation type (analog output/service interface)	Basic insulation
Insulation type (relay output/supply/analog output and service interface)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Feedthrough for measurement conductor	9.5 mm Ø
Physical data	
Width	22.5 mm / 0.886 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	102.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	80 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

Current signal conditioner; Current input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series





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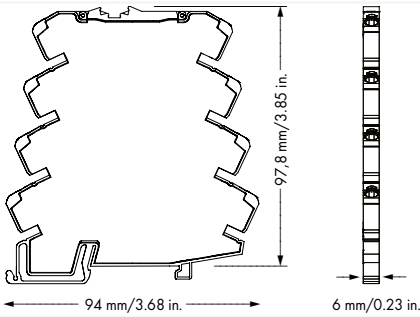


Short description:
WAGO's current signal conditioner measures both 0–1 A and 0–5 A AC/DC currents, converting the input signal to an standard analog signal at the output.

Features:
- PC configuration interface
- True RMS measurement or arithmetic mean value
- Digital switching output (configurable switching thresholds)
- Switchable filter function
- Calibrated measurement range switching
- 3-way electrical isolation with 2.5 kV test voltage
- Extremely fast response times
- Measurement range overflow indication

Note:
Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Current
Input signal (current)	AC/DC 0 … 1 A (IN 1); AC/DC 0 … 5 A (IN 2)
Frequency range	16 … 400 Hz
Input resistance (current input)	47 mΩ (IN 1); 10 mΩ (IN 2)
Input current (max.)	10 A (IN 1; 5 s); 15 A (IN 2; 5 s)
Response threshold	2 mA (IN 1); 4 mA (IN 2)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ (temperature range restrictions may occur)
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 (adjustable)
Signal processing	
Measurement method	True RMS measurement; arithmetic mean value
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.4 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	64 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	EN 50121-3-2; DNV

» Configuration Software Page 322
» Configuration App Page 323
» Accessories Page 334

857-550

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Input Signal		Measurement Method		Filter		Output Signal			
1		2		3		4	5	6	
	5 A		Mean square value		off				0 ... 20 mA
●	1 A	●	Arithmetic mean value	●	active		●		4 ... 20 mA
						●			0 ... 10 V
						●	●		2 ... 10 V
								●	0 ... 10 mA
							●	●	2 ... 10 mA
						●		●	0 ... 5 V
						●	●	●	1 ... 5 V

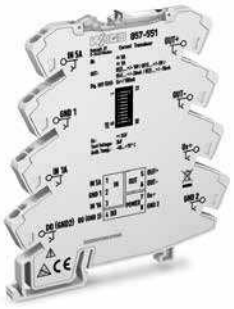
Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

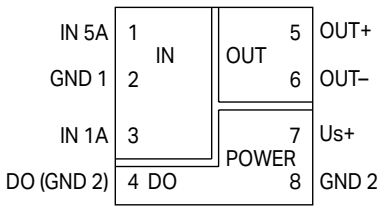
DIP Switch S1

7	8	Measurement Range Underflow	Measurement Range Overflow	Overcurrent (Input Signal - End Value + 20%)	9	10	Digit Output DO Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*	Upper limit of measurement range +5 %*			DO not active
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	Upper limit of measurement range +5 %		●	DO U_s+ switching
	●	Lower limit of measurement range	Upper limit of measurement range	Lower limit of measurement range	●	●	DO GND switching
●	●	Lower limit of measurement range	Upper limit of measurement range	Upper limit of measurement range			*acc. to NAMUR NE 43

3

Current signal conditioner; Current input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series





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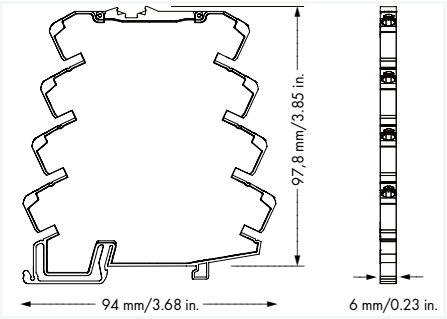

Short description:
WAGO's current signal conditioner measures AC/DC currents up to 5 A, converting the input signal to a standard analog signal at the output.

Features:
- Two isolated measurement inputs for 1 and 5 A AC/DC
- (when mounted individually: 6 A AC/DC)
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Switchable filter function
- 3-way electrical isolation with 2.5 kV test voltage

Note:
- Only the WAGO Interface Configuration Software can be used to set the measurement range of 0 to 6 A.
- Additional setting options via the WAGO Interface Configuration Software

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software
Input	
Input signal type	Current
Input signal (current)	AC/DC 0 … 5 A (IN 1; block arrangement); AC/DC 0 … 6 A (IN 1; individual arrangement)
Frequency range	16 … 200 Hz
Input resistance (current input)	47 mΩ (IN 1); 10 mΩ (IN 2)
Input current (max.)	15 A (IN 1; 5 s); 10 A (IN 3; 5 s)
Response threshold	10 mA (IN 1); 2 mA (IN 3)
Resolution (current)	1 mA (IN 1); 0.5 mA (IN 3)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Signal processing	
Measurement method	True RMS measurement; arithmetic mean value
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (for software filter 3)
Step response (max.)	250 ms
Measurement error	
Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	1 A input: ≤ 0.01 %/K (typ.); ≤ 0.02 %/K (max.); 5 A input: ≤ 0.02 %/K (typ.); ≤ 0.04 %/K (max.)
Supply	
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V
Measurement category per EN 61010-2-030	CAT II (input 300 VAC)
Note on insulation parameters	Danger: Configuration via the service interface must only be performed with a voltage-free measurement input! The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/analog output/supply/service interface)	3 kVAC; 50 Hz; 1 min
Insulation parameters	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Double insulation (impedance and basic insulation); Requirement: The GND 1 input is dangerous when active and the measurement is conducted as a low-side measurement!
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

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Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	38.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 34 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2, EN 61326-1
EMC emission of interference	EN 61000-6-3; EN 61326-1
Standards/specifications	EN 61010-1

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DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

1	2	Input	3	Measurement Method	4	Filter
		5 A		Effective value (RMS)		off
	●	2.5 A	●	Arithmetic mean value (bipolar output)	●	active
●		1 A				
●	●	0.5 A				

DIP Switch S1

5	6	7	Output Signal Range (Bipolar for Arithmetic Mean Value)
			(+/-) 0 … 20 mA
	●		4 … 20 mA
●			(+/-) 0 … 10 V
●	●		2 … 10 V
		●	(+/-) 0 … 10 mA
	●	●	2 … 10 mA
●		●	(+/-) 0 … 5 V
●	●	●	1 … 5 V

DIP Switch S1

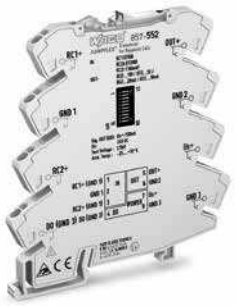
8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digital Output DO Signaling
		Lower limit of measurement range +2.5 %*	Upper limit of measurement range -5 %*		DO U_s switching
●		Lower limit of measurement range +2.5 %	Upper limit of measurement range	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measuring range	Upper limit of measuring range -5 %		

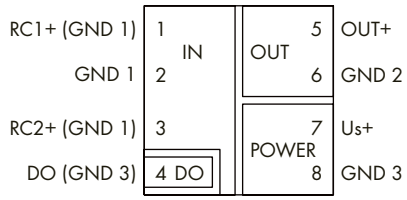
*acc. to NAMUR NE 43

Filter
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

Current signal conditioner; Input for Rogowski coils; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series





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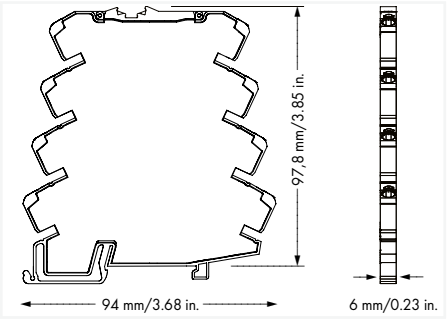

Short description:
WAGO's Rogowski signal conditioner records RMS values from alternating currents via Rogowski coil, converting the input signal into an standard analog signal on the output side.

Features:
- PC configuration interface
- Supports different Rogowski coil types
- Digital switching output (configurable switching thresholds)
- Configurable output signal
- Configuration via DIP switch
- 3-way electrical isolation with 2.5 kV test voltage
- No current bar interruption during installation
- Measurement range overflow indication

Note:
Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Voltage
Input signal (voltage)	50 Hz sinusoidal signals: AC 10.05 mV (RC1); AC 40.2 mV (RC2A); AC 90 mV (RC2B)
Sensitivity	RC2B: 22.5 mV/kA
Measurement range (current)	AC 500 A (RC1); AC 2000 A (RC2A); AC 4000 A (RC2B)
Frequency range	50 Hz (sinusoidal signals)
Response threshold	≤ 1 % (of measurement range nominal value)
Resolution (current)	250 mA (RC1); 1 A (RC2A); 1.5 A (RC2B)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 (adjustable)
Signal processing	
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms
Measurement error	
Transmission error (max.)	≤ 1 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE

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DIP Switch Adjustability

● = ON Default

DIP Switch S1

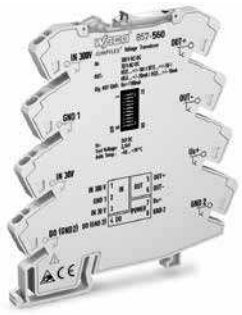
Input Signal		RC Configuration Input		Filter		Output Signal			
1		2		3		4	5	6	
	RC1 = RT500 from LEM		RC2A = RT2000 from LEM		off				0 ... 20 mA
●	RC2	●	RC2B = 22.5 mV/kA	●	active		●		4 ... 20 mA
						●			0 ... 10 V
						●	●		2 ... 10 V
								●	0 ... 10 mA
							●	●	2 ... 10 mA
						●		●	0 ... 5 V
						●	●	●	1 ... 5 V

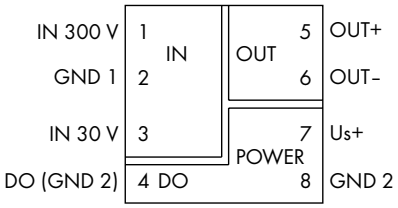
Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

DIP Switch S1

7	8	Measurement Range Underflow	Measurement Range Overflow	Overcurrent (Input Signal – End Value + 20%)	9	10	Digital Output DO Signaling
		Lower limit of measurement range +5 %*	Upper limit of measurement range +2.5 %*	Upper limit of measurement range +5 %*			DO not active
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	Upper limit of measurement range +5 %		●	DO U_S+ switching
	●	Lower limit of measurement range	Upper limit of measurement range	Lower limit of measurement range	●	●	DO GND switching
●	●	Lower limit of measurement range	Upper limit of measurement range	Upper limit of measurement range			*acc. to NAMUR NE 43

Voltage signal conditioner; Voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series





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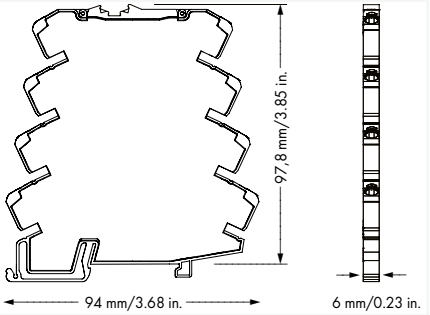

Short description:
WAGO's voltage signal conditioner measures AC/DC voltages up to 300 V, converting the input signal into a standard analog signal at the output.

Features:
- Two isolated measurement inputs for 30 and 300 V AC/DC
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Switchable filter function
- 3-way electrical isolation with 2.5 kV test voltage

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Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Voltage
Input signal (voltage)	AC/DC 300 V (IN 1); AC/DC 30 V (IN 2)
Measurement frequency	AC 10 … 100 Hz
Frequency range	10 … 100 Hz (AC)
Input resistance (voltage input)	≥ 300 kΩ
Response threshold	300 mV (IN 1); 30 mV (IN 2)
Resolution (voltage)	30 mV (IN 1); 3 mV (IN 2)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Applied supply voltage
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Signal processing	
Measurement method	RMS measurement; arithmetic mean value
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	30 ms
Measurement error	
Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 46 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V; 150 V (UL)
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	Danger: Configuration via the service interface must only be performed with a voltage-free measurement input! The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/analog output/supply/service interface)	2.5 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Reinforced insulation (safe isolation)
Insulation parameters	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Double insulation (impedance and basic insulation); Requirement: The GND 1 input is dangerous when active and the measurement is conducted as a low-side measurement!
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	40 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	80 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

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DIP Switch Adjustability

● = ON Default

DIP Switch S1

1	2	Input	3	Measurement Method	4	Filter
		300 V		Effective value (RMS)		off
	●	150 V	●	Arithmetic mean value (bipolar output)	●	active
●		30 V				
●	●	15 V				

DIP Switch S1

5	6	7	Output Signal Range (Bipolar for Arithmetic Mean Value)
			(+/-) 0 … 20 mA
	●		4 … 20 mA
●			(+/-) 0 … 10 V
●	●		2 … 10 V
		●	(+/-) 0 … 10 mA
	●	●	2 … 10 mA
●		●	(+/-) 0 … 5 V
●	●	●	1 … 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digital Output DO/ Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*		DO V_s+ switching
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measurement range -5 %	Upper limit of measurement range +5 %		

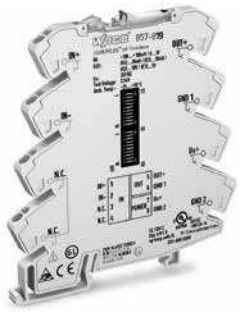
*acc. to NAMUR NE 43

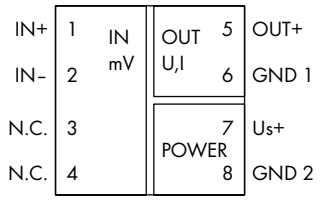
Filter
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

Voltage signal conditioner; Bipolar voltage input signal; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





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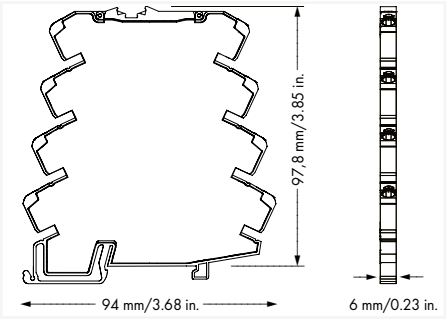

Short description:
WAGO's voltage signal conditioner converts millivolt signals (at the input) into a standard analog signal at the output.

Features:
- PC configuration interface
- Calibrated measurement range switching
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Note:
Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Voltage
Input signal (voltage)	±100 mV; 0 … 200 mV; 0 … 300 mV; 0 … 400 mV; 0 … 500 mV; 0 … 600 mV; 0 … 700 mV; 0 … 800 mV; 0 … 900 mV; 0 … 1 V
Input resistance (voltage input)	≥ 1 MΩ
Input voltage (max.)	±31.2 VDC
Measurement span (min.)	10 mV
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	50 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

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DIP Switch Adjustability

● = ON Default

Input Start Value																						Input End Value																						
DIP S1																						DIP S1			DIP S2					DIP S1				DIP S2					DIP S1			DIP S2			
1	2	3	4	5	6	7	mV	1	2	3	4	5	6	7	mV	1	2	3	4	5	6	7	mV	8	9	10	1	2	3	4	mV	8	9	10	1	2	3	4	mV	8	9	10	1	2	3	4	mV
							0		●				●		-34			●				●	34								100		●				●	-34			●				●	34	●		●			●	●	100
●							-100	●	●				●		-32	●		●				●	36	●							-100	●	●				●	-32	●		●				●	36		●	●			●	●	200
	●						-98			●			●		-30		●	●				●	38		●						-98			●			●	-30		●	●				●	38	●	●	●			●	●	300
●	●						-96	●		●			●		-28	●	●	●				●	40	●	●						-96	●		●			●	-28	●	●	●				●	40					●	●	●	400
		●					-94		●	●			●		-26					●			42			●					-94		●	●			●	-26				●			●	42	●				●	●	●	500
●		●					-92	●	●	●			●		-24	●				●			44	●		●					-92	●	●	●			●	-24	●				●		●	44		●			●	●	●	600
	●	●					-90				●		●		-22		●			●			46		●	●					-90				●		●	-22		●			●		●	46	●	●			●	●	●	700
●	●	●					-88	●			●		●		-20	●	●			●			48	●	●	●					-88	●			●		●	-20	●	●		●	●		●	48				●	●	●	●	800
			●				-86		●		●		●		-18				●	●			50				●				-86		●		●		●	-18			●	●	●		●	50	●		●	●	●	●	●	900
●			●				-84	●	●		●		●		-16	●			●	●			52	●			●				-84	●	●		●		●	-16	●		●	●	●		●	52		●	●	●	●	●	●	1000
	●		●				-82			●	●		●		-14		●		●	●			54		●		●				-82			●	●		●	-14		●	●	●			●	54								
●	●		●				-80	●		●	●		●		-12	●	●		●	●			56	●	●		●				-80	●		●	●		●	-12	●	●	●	●			●	56								
		●	●				-78		●	●	●		●		-10					●			58			●	●				-78		●	●	●		●	-10					●		●	58								
●		●	●				-76	●	●	●	●		●		-8	●				●			60	●		●	●				-76	●	●	●	●		●	-8	●				●		●	60								
	●	●	●				-74					●	●		-6		●			●			62		●	●	●				-74					●	●	-6		●			●		●	62								
●	●	●	●				-72	●				●	●		-4	●	●			●			64	●	●	●	●				-72	●				●	●	-4	●	●			●		●	64								
				●			-70		●			●	●		-2			●		●			66					●			-70		●			●	●	-2			●		●		●	66								
●				●			-68	●	●			●	●		0	●		●		●			68	●				●			-68	●	●			●	●	0	●		●		●		●	68								
	●			●			-66			●		●	●		2		●	●		●			70		●			●			-66			●		●	●	2		●	●		●		●	70								
●	●			●			-64	●		●		●	●		4	●	●	●		●			72	●	●			●			-64	●		●		●	●	4	●	●	●		●		●	72								
		●		●			-62		●	●		●	●		6			●		●			74			●		●			-62		●	●		●	●	6			●	●		●		74								
●		●		●			-60	●	●	●		●	●		8	●		●		●			76	●		●		●			-60	●	●	●		●	●	8	●			●	●		●	76								
	●	●		●			-58				●	●	●		10		●	●		●			78		●	●		●			-58				●	●	●	10		●		●	●		●	78								
●	●	●		●			-56	●			●	●	●		12	●	●	●		●			80	●	●	●		●			-56	●			●	●	●	12	●	●		●	●		●	80								
			●	●			-54		●		●	●	●		14			●	●	●			82			●	●	●			-54		●		●	●	●	14			●	●	●		●	82								
●			●	●			-52	●	●		●	●	●		16	●		●	●	●			84	●		●	●	●			-52	●	●		●	●	●	16	●		●	●	●		●	84								
	●		●	●			-50			●	●	●	●		18		●		●	●			86		●		●	●			-50			●	●	●	●	18		●	●	●	●		●	86								
●	●		●	●			-48	●		●	●	●	●		20	●	●		●	●			88	●	●		●	●			-48	●		●	●	●	●	20	●	●	●	●	●		●	88								
		●	●	●			-46		●	●	●	●	●		22					●	●		90			●	●	●			-46		●	●	●	●	●	22					●	●	●	90								
●		●	●	●			-44	●	●	●	●	●	●		24	●				●	●		92	●		●	●	●			-44	●	●	●	●	●	●	24	●				●	●	●	92								
	●	●	●	●			-42							●	26		●			●	●		94		●	●	●	●			-42							26		●			●	●	●	94								
●	●	●	●	●			-40	●						●	28	●	●			●	●		96	●	●	●	●	●			-40	●						28	●	●			●	●	●	96								
					●		-38		●					●	30			●		●	●		98						●		-38		●					30			●		●	●	●	98								
●					●		-36	●	●					●	32	●		●			●	●	100	●					●		-36	●	●					32	●		●		●	●	●	100								

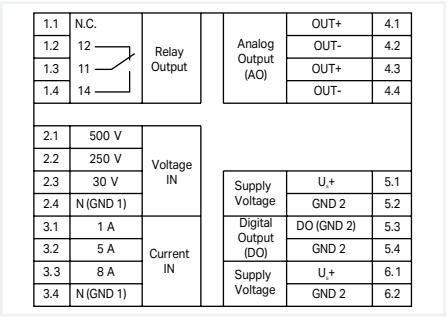
DIP Switch S2

Output Signal				9	10	Measurement Range Underflow	Measurement Range Overflow
6	7	8					
			0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2,5 % *
●			4 ... 20 mA			(0 mA / 1.9 mA / 3.8 mA / 0 V / 0.95 V / 1.9 V)	(10.25 mA / 20.5 mA / 5.125 V / 10.25 V)
	●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2,5 %
●	●		2 ... 10 mA			(0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	(10.25 mA / 20.5 mA / 5.125 V / 10.25 V)
		●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range
●		●	2 ... 10 V			(0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	(10 mA / 20 mA / 5 V / 10 V)
	●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range
●	●	●	1 ... 5 V			(0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	(10 mA / 20 mA / 5 V / 10 V)

DIP Switch S2 (5) not connected

*acc. to NAMUR NE 43

Single-Phase Power Signal Conditioner; Current and voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC
2857 Series



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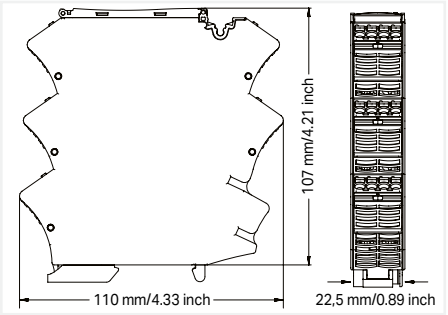


Short description:
WAGO's 1-phase power measurement module monitors and reports signal states with up to two switching thresholds. The sensor and status information that is collected is also converted to a standard analog signal. Current, voltage, effective power, apparent power or reactive power can be selected as the measured variable.
Additionally, both frequency and phase angle are displayed.

Features:
- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Adjustable software filter
- Simulation of input/output response via WAGO Interface Configuration Display
- Analog unipolar/bipolar signals (current/voltage) at output
- Additional digital signal output for configured measurement range limits
- The digital output can be configured as a frequency generator or pulse output (S0 interface).

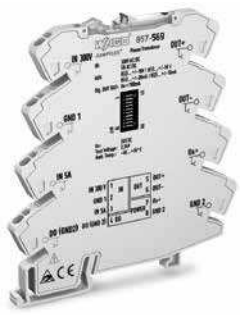
Note:
This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 6 A is not exceeded.
Additional setting options via WAGO Interface Configuration Software or WAGO Configuration Display

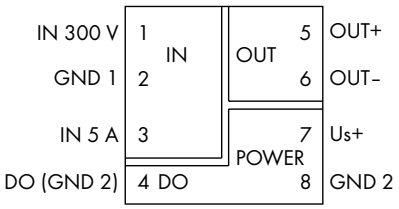
» Configuration Software	Page 322
» Configuration Display	Page 324
» Accessories	Page 334

Configuration	
Configuration options	WAGO Interface Configuration Software; WAGO Configuration Display
Input	
Input signal type	Voltage; Current
Input signal (voltage)	AC/DC 500 V (IN 2.1; per EN 61010-1); AC/DC 300 V (IN 2.1; per UL 61010-1); AC/DC 250 V (IN 2.2); 30 V AC/DC (IN 2.3)
Input signal (current)	AC/DC 1 A (IN 3.1); AC/DC 5 A (IN 3.2) ; 8 A AC/DC (IN 3.3)
Frequency range	15 … 400 Hz
Input current (max.)	1.2 × IN (≤ 60 °C); 1 × IN (60 … 70 °C)
Input voltage (max.)	1.2 × U_N
Response threshold (voltage)	500 mVAC / 600 mVDC (IN 2.1); 50 mVAC / 500 mVDC (IN 2.2); 20 mVAC / 100 mVDC (IN 2.3)
Response threshold (current)	1.5 mAAC / 7.5 mADC (IN 3.1); 3 mAAC / 10 mADC (IN 3.2); 7.5 mAAC / 12 mADC (IN 3.3)
Resolution (voltage)	50 mV (IN 2.1); 30 mV (IN 2.2); 5 mV (IN 2.3)
Resolution (current)	1 mA (for all measurement ranges)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	± 12 V (SELV)
Output signal (current)	±24 mA (SELV)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	2 (max.)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Configurable functions (DO)	Disabled; US/GND switching; Threshold value switch; Frequency generator; Pulse output (S0 interface)
Setting range (frequency generator)	0.3 … 100 Hz
Setting range (pulse output)	1000 … 1 pulses/kW(h)
Output – relay	
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)
Signal processing	
Measurement method	True RMS measurement (TRMS)
Measured variables (calculated)	Active power; Apparent power; Reactive power; Mains frequency; Phase angle
Limit frequency	2 kHz
Software filter (adjustable)	Filter level: 1 … 30
Step response (max.)	350 ms (for default settings)
Measurement error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 70 mA (+ I_{DO})
Safety and protection	
Rated voltage	600 V; 300 V (UL)
Measurement category per EN/UL 61010-2-030	CAT III (input)
Note on insulation parameters	The digital output (DO) is at the potential of the supply. The service interface is located on the analog output potential.
Protection type	IP20

Test voltage	
Test voltage (input IN 2.1/relay output; per EN 61010-1)	5.4 kVAC ; 50 Hz; 5 s; 3.6 kVAC; 50 Hz; 1 min
Test voltage (input IN 2.1/relay output; per UL 61010-1)	3.51 kVAC; 60 Hz; 1 min
Test voltage (input/supply and analog output/relay output)	3.51 kVAC; 50 … 60 Hz; 1 min
Test voltage (supply/analog output)	3.6 kVAC; 50 … 60 Hz; 1 min
Insulation parameters (UL)	
Overvoltage category	III
Pollution degree	2
Insulation type (input/supply and analog output/relay output)	Reinforced insulation (safe isolation)
Insulation parameters	
Overvoltage category	III
Pollution degree	2
Insulation type (input IN 2.1/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply and analog output/relay output)	Double insulation (impedance and basic insulation); Requirement: The N (GND 1) input is dangerous when active!
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	22.5 mm / 0.886 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	149 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Temperature range of connection cable (UL)	95 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1; UL 61010-1; UL 61010-2-201

Power signal conditioner; Current and voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series





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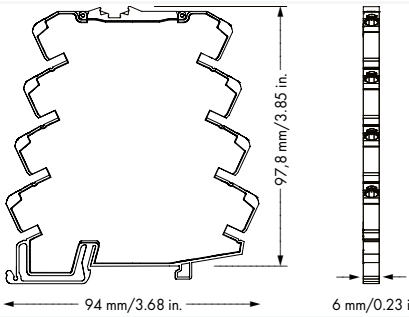


Short description:
WAGO's power measurement module measures both AC/DC voltages and currents, converting the input signal into a standard analog signal at the output.
Measured value processing can be switched between RMS value or arithmetic mean value and between effective, apparent or reactive power, and phase angle.

Features:
- Two isolated measurement inputs for both AC/DC voltages and currents
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Switchable filter function
- 3-way electrical isolation with 2.5 kV test voltage

» Configuration Software Page 322
» Configuration App Page 323
» Accessories Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Voltage; Current
Input signal (voltage)	AC/DC 300 V (IN 1)
Input signal (current)	AC/DC 0 … 5 A (IN 2)
Measurement frequency	AC 15 … 70 Hz
Frequency range	15 … 70 Hz (AC)
Input resistance (current input)	≤ 10 mΩ
Input resistance (voltage input)	≥ 300 kΩ
Input current (max.)	10 A AC/DC (IN 2; permanent)
Input voltage (max.)	600 V (IN 1; permanent)
Response threshold	300 mV (IN 1); 10 mA (IN 2)
Resolution (voltage)	30 mV (IN 1)
Resolution (current)	1 mA (IN 2)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Applied supply voltage
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Signal processing	
Measurement method	RMS measurement; arithmetic mean value
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	100 ms
Measurement error	
Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 46 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V; 150 V (UL)
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	Danger: Configuration via the service interface must only be performed with a voltage-free measurement input! The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/analog output/supply/service interface)	2.5 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Reinforced insulation (safe isolation)
Insulation parameters	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Double insulation (impedance and basic insulation); Requirement: The GND 1 input is dangerous when active and the measurement is conducted as a low-side measurement!

Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	39.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	80 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

857-569

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

1	2	Measured Variable	3		4	Filter
		Effective power		Not assigned		Off
	●	Apparent power			●	Active
●		Reactive power				
●	●	Power factor				

DIP Switch S1

5	6	7	Output Signal Range
			0 … 20 mA
	●		4 … 20 mA
●			0 … 10 V
●	●		2 … 10 V
		●	0 … 10 mA
	●	●	2 … 10 mA
●		●	0 … 5 V
●	●	●	1 … 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digit Output DO/Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*		DO V_s+ switching
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measurement range	Upper limit of measurement range		

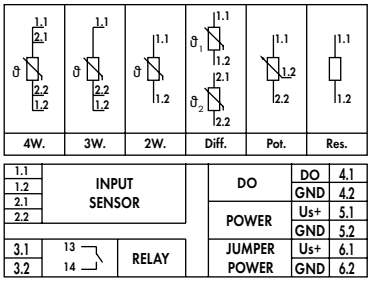
*acc. to NAMUR NE 43

Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling:
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

Threshold value switch; RTD sensors; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width

2857 Series



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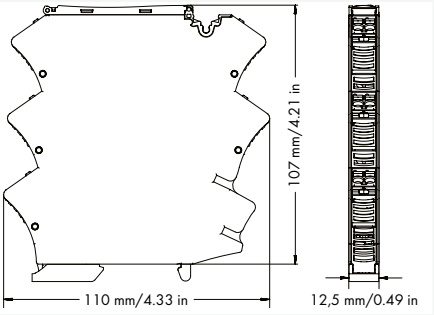
	2857-533	1



Short description:
WAGO's RTD threshold value switch for RTD sensors, potentiometers and resistors monitors and reports signals for up to two switching thresholds.

Features:
- Both digital signal output and relay with make contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Configurable RTD factor
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe three-way isolation with 4 kV test voltage per EN 61010-1

Note:
- This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

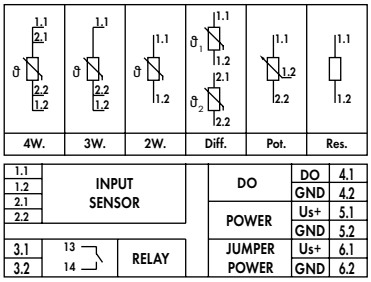
» Dip Switch configuration, see www.wago.com
» Configuration Software Page 322
» Configuration App Page 323
» Configuration Display Page 324
» Accessories Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; WAGO Configuration Display
Input	
Input signal type	RTD sensors; Potentiometers; Resistor
Input – RTD sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000; Pt5000; Pt10000; Pt10 ... Pt20000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 ... 850°C
Input – resistors	
Input range (resistor)	0 ... 100 kΩ
Input range (potentiometer)	0 ... 100 kΩ
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 ... 60 s (via software)
Output – relay	
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Number of make/switch-on contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	250 VAC
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 ... 60 s (via software)
Signal processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Hysteresis	Adjustable via DIP switch or software
Step response (typ.)	60 ms (2-wire); 360 ms (3-wire); 540 ms (4-wire); 360 ms (Potentiometer)
Measurement error	
Transmission error (max.)	± 1 K
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Rated voltage	300V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	Temperature sensors are not intended for use in dangerous circuits, provided the external temperature sensors used do not have basic insulation in accordance with EN/UL 61010-1 (300 VAC; overvoltage category II; pollution degree 2). The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/relay output/supply)	4 kVAC; 60 Hz; 1 min
Test voltage (input/service interface)	3 kVAC; 60 Hz; 1 min
Test voltage (relay output/service interface)	4 kVAC; 60 Hz; 1 min
Test voltage (supply/service interface)	2.5 kVAC; 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input, supply and service interface/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply/service interface)	Basic insulation

Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	12.5 mm / 0.492 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	86.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	80 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

Threshold value switch; RTD sensors; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width; Railway

2857 Series



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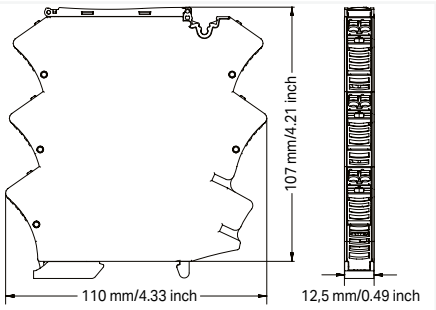


Short description:
WAGO's RTD threshold value switch for RTD sensors, potentiometers and resistors monitors and reports signals for up to two switching thresholds.

Features:
- Both digital signal output and relay with make contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Configurable RTD factor
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe three-way isolation with 4 kV test voltage per EN 61010-1
- For railway applications

Note:
This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.

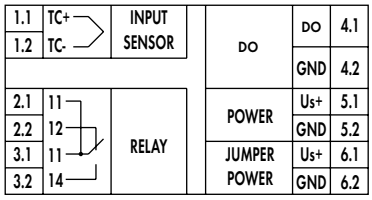
Configuration	
Configuration options	WAGO Interface Configuration Software; WAGO Configuration Display
Input	
Input signal type	RTD sensors; Potentiometers; Resistor
Input – RTD sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000; Pt1000; Pt5000; Pt10000; Pt10 … Pt20000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850°C
Input – resistors	
Input range (resistor)	0 … 100 kΩ
Input range (potentiometer)	0 … 100 kΩ
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Output – relay	
Number of make/switch-on contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	250 VAC
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)
Signal processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (2-wire); 360 ms (3-wire); 540 ms (4-wire); 360 ms (Potentiometer)
Measurement error	
Transmission error (max.)	± 1 K
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Note on insulation parameters	Temperature sensors are not intended for use in dangerous circuits, provided the external temperature sensors used do not have basic insulation in accordance with EN 61010-1 (300 VAC; overvoltage category II; pollution degree 2). The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/relay output/supply)	4 kVAC; 60 Hz; 1 min
Test voltage (input/service interface)	3 kVAC; 60 Hz; 1 min
Test voltage (relay output/service interface)	4 kVAC; 60 Hz; 1 min
Test voltage (supply/service interface)	2.5 kVAC; 60 Hz; 1 min
Insulation parameters	
Overvoltage category	II
Pollution degree	2
Insulation type (input, supply and service interface/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply/service interface)	Basic insulation

» Configuration Software Page 322
» Configuration Display Page 324
» Accessories Page 334

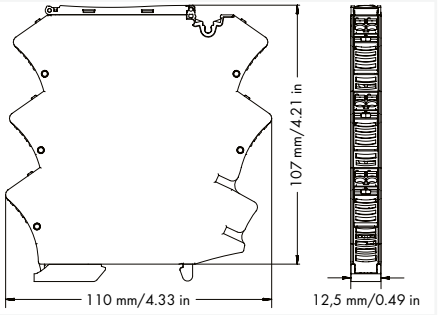
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	12.5 mm / 0.492 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	86 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 30 K)
Relative humidity	5 … 95 %
Operating altitude (max.)	2000 m
Environmental conditions per DIN EN 50155:2018-05	
Altitude	A1
Operating temperature class	OT3
Extended operating temperature at switch-on	ST1
Quick temperature changes	H1
Power supply interruptions	S1
Switching classes (power supply)	C2
Service life	L4 at 40 °C (max.)
Protective coatings for populated PCBs	PC2
Temporary supply voltage dips	Criterion B
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

Threshold value switch; Thermocouples; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width

2857 Series



	Item No.	PU
	2857-534	1



Short description:
WAGO's thermocouple threshold value switch for TC sensors monitors and reports signals of up to two switching thresholds.

Features:
- Both digital signal output and relay with changeover contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe three-way isolation with 4 kV test voltage per EN 61010-1

Note:
- This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

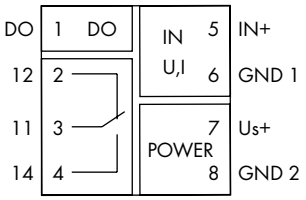
» DIP switch configuration, see www.wago.com
» Configuration Software Page 322
» Configuration App Page 323
» Configuration Display Page 324
» Accessories Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; WAGO Configuration Display
Input	
Input signal type	TC sensors
Input – TC sensors	
Sensor types (TC)	Type J; Type K; Type E; Type N; Type R; Type S; Type T; Type B; Type C
Temperature measurement range (TC)	-210 … 1200 °C (Type J); -200 … 1372 °C (Type K)
Cold junction compensation	On/Off (Default: On)
Cold junction error	3 K (typ. 2 K)
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Output – relay	
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Number of changeover/switchover contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	250 VAC
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)
Signal processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Hysteresis	Adjustable via DIP switch or software
Step response (typ.)	60 ms (Cold junction compensation (Off)); 360 ms (Cold junction compensation (ON))
Measurement error	
Transmission error (max.)	± 1 K
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	Temperature sensors are not intended for use in dangerous circuits, provided the external temperature sensors used do not have basic insulation in accordance with EN/UL 61010-1 (300 VAC; overvoltage category II; pollution degree 2). The digital output (DO) is at the potential of the supply.
Protection type	IP20
Test voltage	
Test voltage (input/relay output/supply)	4 kVAC; 60 Hz; 1 min
Test voltage (input/service interface)	3 kVAC; 60 Hz; 1 min
Test voltage (relay output/service interface)	4 kVAC; 60 Hz; 1 min
Test voltage (supply/service interface)	2.5 kVAC; 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input, supply and service interface/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply/service interface)	Basic insulation

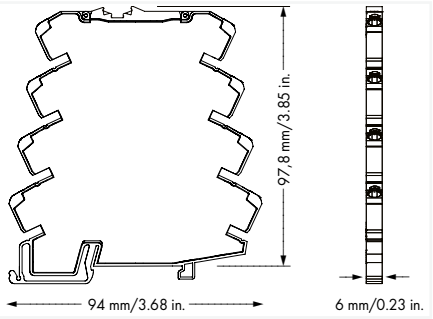
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	12.5 mm / 0.492 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	63.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	80 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

Threshold value switch; Analog values; 1 changeover contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series



	Item No.	PU
	857-531	1



Short description:
WAGO's threshold value switch for analog signals monitors standard analog signals and reports signals exceeding a preset threshold.

Features:
- PC configuration interface
- Digital switching output
- Changeover contact relay output
- Calibrated measurement range switching
- Threshold value configuration via DIP switches and teach-in function via push/slide switch
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
- Use shielded signal lines!
  Only use shielded signal lines for analog input and output signals.
  Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

» Configuration Software	Page 322
» Configuration App	Page 323
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Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; Push/slide switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	±10 V; 0 … 30 V
Input signal (current)	±20 mA
Input resistance (current input)	≤ 200 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	22 mA
Input voltage (max.)	31 V
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 (adjustable)
Configurable rise/fall delay time (DO)	10 s
Output – relay	
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Drop-out time (typ.)	4 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 30 s (via software)
Signal processing	
Hysteresis	Adjustable via DIP switch or software
Step response (typ.)	16 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 25 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	38.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61131-2; EN 61326-1
EMC emission of interference	EN 61000-6-4; EN 61131-2; EN 61326-1
Standards/specifications	EN 50121-3-2; DNV; EN 61373

857-531

DIP Switch Adjustability

● = ON Default

DIP-Switch S1

Input Signal Limits ±0.25 V; ±0.5 mA					Hysteresis	
1	2	3	4		5	
				±10 V		5 mV; 10 µA
	●			0 ... 10 V	●	10 mV, 20 µA
		●		2 ... 10 V		
	●	●		0 ... 5 V		
			●	1 ... 5 V		
	●		●	±5 V		
		●	●	0 ... 15 V		
	●	●	●	0 ... 30 V		
●				±20 mA		
●	●			0 ... 20 mA		
●		●		4 ... 20 mA		
●	●	●		0 ... 10 mA		
●			●	2 ... 10 mA		
●	●		●	±10 mA		

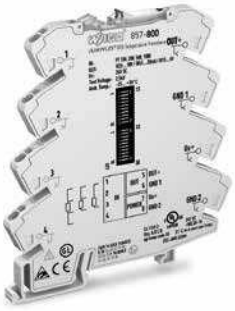
DIP Switch S1

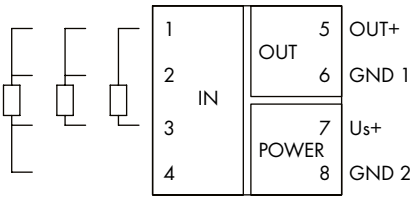
Configurable Rise/Fall Delay Time in sec.				Digital Output DO Signaling		
6	7	8		9	10	
			0			DO not active
●			1		●	GND → U_N (switching)
	●		2	●	●	U_N → GND (switching)
●	●		3			
		●	4			
●		●	5			
	●	●	8			
●	●	●	10			

3

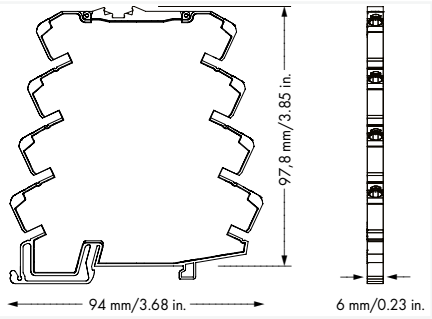
Temperature signal conditioner for RTD sensors; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-800	1



Short description:
WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects a sensor wire break/short circuit
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Pt sensors; Resistor
Input – RTD sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850°C
Input – resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

857-800

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2 Leiter				Pt100				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3 Leiter	●			Pt200	●			4 ... 20 mA						
	●	4 Leiter		●		Pt500		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
			●	●		Pt1000	●	●		2 ... 10 mA						
					●	1 kΩ			●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ	●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

* acc. to NAMUR NE 43

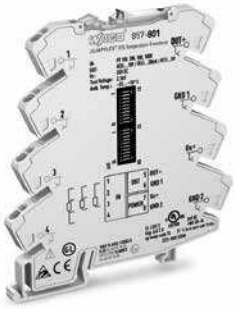
DIP Switch S2

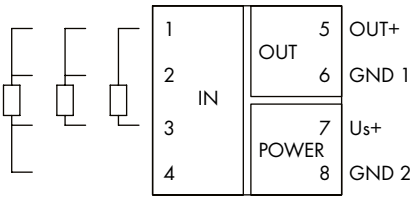
Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees on the Celsius (C) scale or 122K degrees on the Fahrenheit (F) scale.

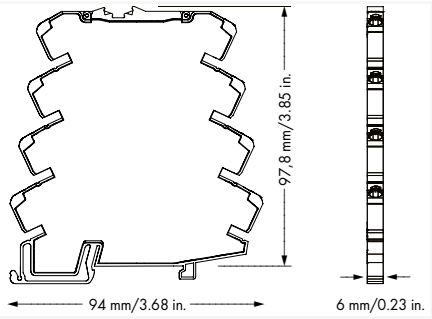
Temperature signal conditioner for RTD sensors; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-801	1



Short description:
WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:
- PC configuration interface
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Detects calibrated measurement range switching
- Detects a sensor wire break/short circuit
- Measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Note:
Additional setting options as well as output signal inversion via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Pt sensors; Resistor
Input – RTD sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850 °C
Measurement span (RTD) min.	50 K
Input – resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Measurement span (min.)	50 Ω
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Configuration Software Page 322
» Configuration App Page 323
» Accessories Page 334

857-801

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2-wire				Pt100				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Pt200	●			4 ... 20 mA						
	●	4-wire		●		Pt500		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
			●	●		Pt1000	●	●		2 ... 10 mA						
					●	1 kΩ			●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ	●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

* acc. to NAMUR NE 43

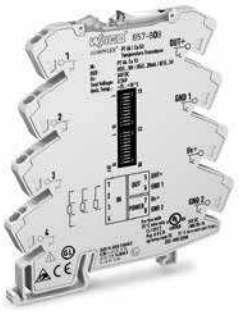
DIP Switch S2

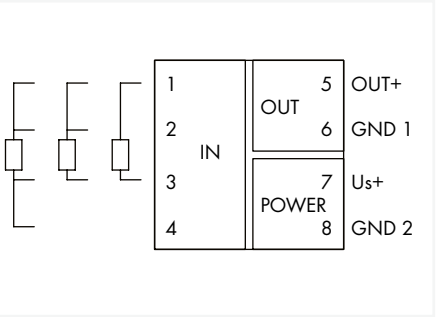
Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees on the Celsius (C) scale or 122K degrees on the Fahrenheit (F) scale.

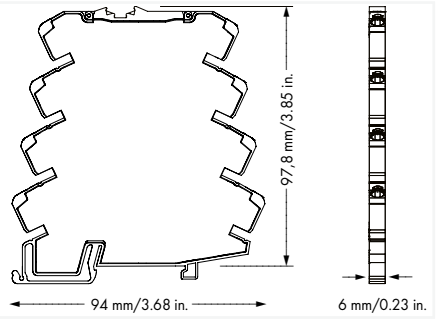
Temperature signal conditioner for RTD sensors; Current and voltage output signal; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-808	1



Short description:
WAGO's temperature signal conditioner records signals from Pt46 and Cu53 sensors, converting a temperature signal into a standard analog signal at the output.

Features:
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects a sensor wire break/short circuit
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Pt sensors; Cu sensors
Input – RTD sensors	
Sensor types (RTD)	Pt46; Cu53
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 300°C (Pt46); 0 … 180°C (Cu53)
Measurement span (RTD) min.	50 K
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Accessories Page 334

857-808

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2-wire				Pt46				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Cu53	●			4 ... 20 mA						
	●	4-wire						●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
							●	●		2 ... 10 V						
									●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
							●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

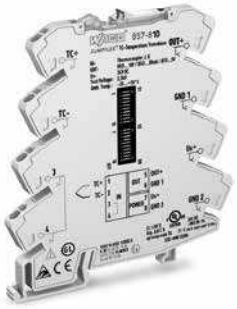
* acc. to NAMUR NE 43

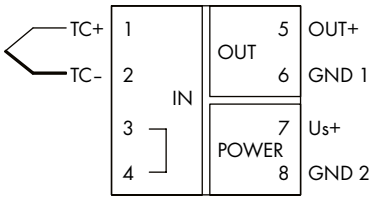
DIP Switch S2

Start Temperature						End Temperature																			
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572
	●		●	-50	-58		●		●			45	113		●		●	●		150	302								
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320								
		●	●	-30	-22			●	●			55	131			●	●	●		170	338								
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356								
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374								
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392								

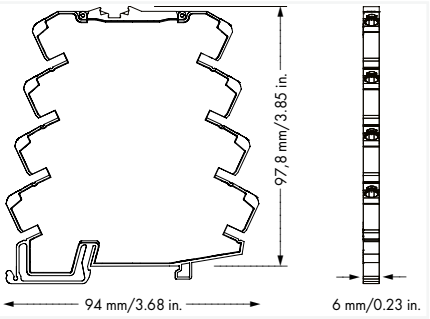
Temperature signal conditioner for thermocouples; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-810	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples (type J, K) and converts the temperature signal into a standard analog signal at the output.

Features:
- For type J and K thermocouples
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	TC sensors
Input – TC sensors	
Sensor types (TC)	Type J; Type K
Temperature measurement range (TC)	-200 … 1200 °C (Type J); -200 … 1350 °C (Type K)
Measurement span (TC) min.	100 K
Cold junction compensation	On/Off (Default: On)
Cold junction error	3 K (typ. 2 K)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	60 ms (cold junction compensation (Off)); 120 ms (cold junction compensation (ON))
Measurement error	
Transmission error (typ.)	≤ 0.1% at max. measurement span (type J, K)
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

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857-810

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Cold Junction Compensation		Sensor type			Output signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1		2	3		4	5	6		7	8			
	on			J				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
●	off	●		K	●			4 ... 20 mA					
						●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
					●	●		2 ... 10 mA					
							●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●		●	2 ... 10 V					
						●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●	●	1 ... 5 V					

DIP 9 and 10 n.c.

* acc. to NAMUR NE 43

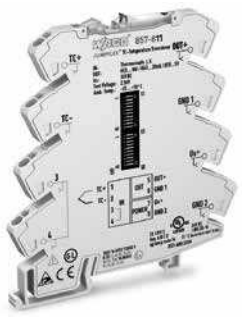
DIP Switch S2

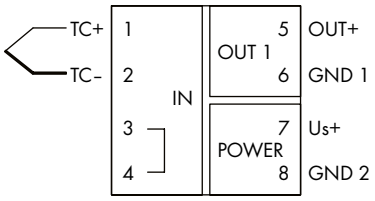
Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							1000	1832					●		225	437						●	625	1157					●	●	1025	1877
●				-200	-328	●						0	32	●				●		250	482	●					●	650	1202	●				●	●	1050	1922
	●			-175	-283		●					10	50		●			●		275	527		●				●	675	1247		●			●	●	1075	1967
●	●			-150	-283	●	●					20	68	●	●			●		300	572	●	●				●	700	1292	●	●			●	●	1100	2012
		●		-125	-193			●				30	86			●		●		325	617			●			●	725	1337			●		●	●	1125	2057
●		●		-100	-148	●		●				40	104	●		●		●		350	662	●		●			●	750	1382	●		●		●	●	1150	2102
	●	●		-90	-130		●	●				50	122		●	●		●		375	707		●	●			●	775	1427		●	●		●	●	1175	2147
●	●	●		-80	-112	●	●	●				60	140	●	●	●		●		400	752	●	●	●			●	800	1472	●	●	●		●	●	1200	2192
			●	-70	-94				●			70	158				●	●		425	797				●		●	825	1517				●	●	●	1225	2237
●			●	-60	-76	●			●			80	176	●			●	●		450	842	●			●		●	850	1562	●			●	●	●	1250	2282
	●		●	-50	-58		●		●			90	194		●		●	●		475	887		●		●		●	875	1607		●		●	●	●	1275	2327
●	●		●	-40	-40	●	●		●			100	212	●	●		●	●		500	932	●	●		●		●	900	1652	●	●		●	●	●	1300	2372
		●	●	-30	-22			●	●			125	257			●	●	●		525	977			●	●		●	925	1697			●	●	●	●	1325	2417
●		●	●	-20	-4	●		●	●			150	302	●		●	●	●		550	1022	●		●	●		●	950	1742	●		●	●	●	●	1350	2462
	●	●	●	-10	14		●	●	●			175	347		●	●	●	●		575	1067		●	●	●		●	975	1787		●	●	●	●	●	1375	2507
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●	●		600	1112	●	●	●	●		●	1000	1832	●	●	●	●	●	●	1400	2552

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

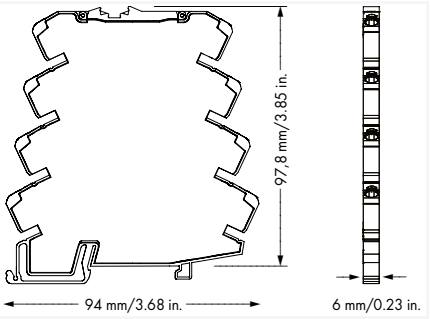
Temperature signal conditioner for thermocouples; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-811	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples of type J and K (E, R, N, S, T, B, C) and converts the temperature signal into a standard analog signal.

Features:
- PC configuration interface
- For thermocouples of type J and K (E, R, N, S, T, B, C)
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Note:
Additional setting options as well as output signal inversion via WAGO Interface Configuration Software or WAGO Interface Configuration App

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	TC sensors
Input – TC sensors	
Sensor types (TC)	Type J; Type K
Temperature measurement range (TC)	-210 … 1200 °C (Type J); -200 … 1350 °C (Type K)
Measurement span (TC) min.	100 K
Cold junction compensation	On/Off (Default: On)
Cold junction error	3 K (typ. 2 K)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	60 ms (cold junction compensation (Off)); 120 ms (cold junction compensation (ON))
Measurement error	
Transmission error (typ.)	≤ 0.1% at max. measurement span (type J, K)
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

» Configuration Software Page 322
» Configuration App Page 323
» Accessories Page 334

857-811

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Cold Junction Compensation		Sensor Type			Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1		2	3		4	5	6		7	8			
	ein			J				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
●	aus	●		K	●			4 ... 20 mA					
						●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
					●	●		2 ... 10 V					
							●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●		●	2 ... 10 V					
						●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●	●	1 ... 5 V					

DIP 9 and 10 n.c.

* acc. to NAMUR NE 43

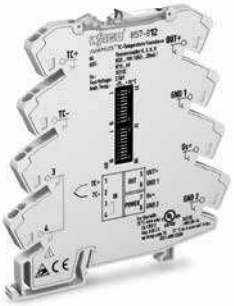
DIP Switch S2

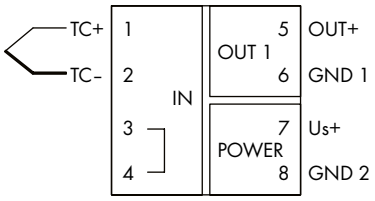
Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							1000	1832					●		225	437						●	625	1157					●	●	1025	1877
●				-200	-328	●						0	32	●				●		250	482	●					●	650	1202	●				●	●	1050	1922
	●			-175	-283		●					10	50		●			●		275	527		●				●	675	1247		●			●	●	1075	1967
●	●			-150	-283	●	●					20	68	●	●			●		300	572	●	●				●	700	1292	●	●			●	●	1100	2012
		●		-125	-193			●				30	86			●		●		325	617			●			●	725	1337			●		●	●	1125	2057
●		●		-100	-148	●		●				40	104	●		●		●		350	662	●		●			●	750	1382	●		●		●	●	1150	2102
	●	●		-90	-130		●	●				50	122		●	●		●		375	707		●	●			●	775	1427		●	●		●	●	1175	2147
●	●	●		-80	-112	●	●	●				60	140	●	●	●		●		400	752	●	●	●			●	800	1472	●	●	●		●	●	1200	2192
			●	-70	-94				●			70	158				●	●		425	797				●		●	825	1517				●	●	●	1225	2237
●			●	-60	-76	●			●			80	176	●			●	●		450	842	●			●		●	850	1562	●			●	●	●	1250	2282
	●		●	-50	-58		●		●			90	194		●		●	●		475	887		●		●		●	875	1607		●		●	●	●	1275	2327
●	●		●	-40	-40	●	●		●			100	212	●	●		●	●		500	932	●	●		●		●	900	1652	●	●		●	●	●	1300	2372
		●	●	-30	-22			●	●			125	257			●	●	●		525	977			●	●		●	925	1697			●	●	●	●	1325	2417
●		●	●	-20	-4	●		●	●			150	302	●		●	●	●		550	1022	●		●	●		●	950	1742	●		●	●	●	●	1350	2462
	●	●	●	-10	14		●	●	●			175	347		●	●	●	●		575	1067		●	●	●		●	975	1787		●	●	●	●	●	1375	2507
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●	●		600	1112	●	●	●	●		●	1000	1832	●	●	●	●	●	●	1400	2552

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

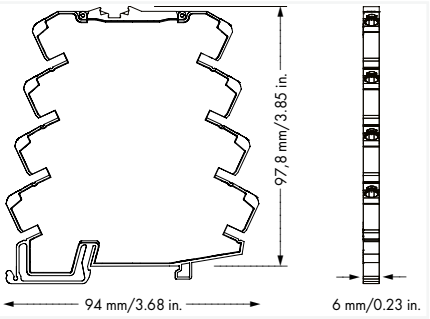
Temperature signal conditioner; for thermocouples; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-812	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples (type K, S, B, R) and converts the temperature signal into a standard analog signal at the output.

Features:
- For thermocouples of type K, S, B and R
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	TC sensors
Input – TC sensors	
Sensor types (TC)	Type K; Type S; Type B; Type R
Temperature measurement range (TC)	0 … 1200 °C (Type K); 0 … 1600 °C (Type S); 600 … 1800 °C (Type B); 0 … 1600 °C (Type R)
Cold junction compensation	On/Off (Default: On)
Cold junction error	3 K (typ. 2 K)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	60 ms (cold junction compensation (Off)); 120 ms (cold junction compensation (ON))
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 334

857-812

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Cold Junction Compensation		Sensor Type			Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1		2	3		4	5	6		7	8			
	Ein			K				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
●	Aus	●		S	●			4 ... 20 mA					
			●	B		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
		●	●	R	●	●		2 ... 10 mA					
							●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●		●	2 ... 10 V					
						●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●	●	1 ... 5 V					

DIP Switch S1 (9) n.c.

* acc. to NAMUR NE 43

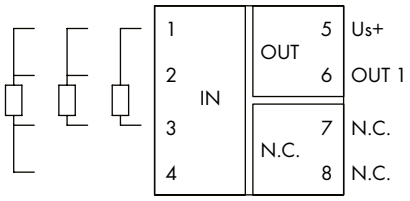
DIP Switch S1+S2

Start Temperature							End Temperature												
S1	S2				°C	°F	S2						°C	°F	S2						°C	°F
10	1	2	3	4			5	6	7	8	9	10			5	6	7	8	9	10		
					0	32							1000	1832	●		●		●		1000	1832
●					50	122	●						0	32		●	●		●		1050	1922
	●				100	212		●					50	122	●	●	●		●		1100	2012
●	●				150	302	●	●					100	212				●	●		1150	2102
		●			200	392			●				150	302	●			●	●		1200	2192
●		●			250	482	●		●				200	392		●		●	●		1250	2282
	●	●			300	572		●	●				250	482	●	●		●	●		1300	2372
●	●	●			350	662	●	●	●				300	572			●	●	●		1350	2462
			●		400	752				●			350	662	●		●	●	●		1400	2552
●			●		450	842	●			●			400	752		●	●	●	●		1450	2642
	●		●		500	932		●		●			450	842	●	●	●	●	●		1500	2732
●	●		●		550	1022	●	●		●			500	932						●	1550	2822
		●	●		600	1112			●	●			550	1022	●					●	1600	2912
●		●	●		650	1202	●		●	●			600	1112		●				●	1650	3002
	●	●	●		700	1292		●	●	●			650	1202	●	●				●	1700	3092
●	●	●	●		750	1382	●	●	●	●			700	1292			●			●	1750	3182
				●	800	1472					●		750	1382	●		●			●	1800	3272
●				●	850	1562	●				●		800	1472								
	●			●	900	1652		●			●		850	1562								
●	●			●	950	1742	●	●			●		900	1652								
		●		●	1000	1832			●		●		950	1742								

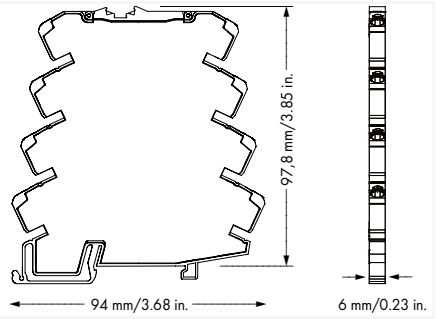
3

Temperature signal conditioner for RTD sensors; Current output signal; Power via output; 6 mm module width

857 Series



	Item No.	PU
	857-815	1



Short description:
WAGO's loop-powered RTD temperature signal conditioner records sensors (Pt100, Pt200, Pt500, Pt1000) and resistors up to 4.5 kΩ, converting the temperature signal into a standard analog signal at the output.

The loop-powered RTD temperature signal conditioner provides safe isolation between input and output with 3 kV test voltage per EN 61010-1.

Features:
- No additional supply voltage required
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects a sensor wire break/short circuit
- 3-way electrical isolation with 2.5 kV test voltage

Note:
Use shielded signal lines!
Only use shielded signal lines for analog input and output signals.
Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

» Accessories Page 334

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Pt sensors; Resistor
Input – RTD sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850 °C
Measurement span (RTD) min.	50 K
Input – resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Output – analog	
Output signal type	Current
Output signal (current)	4 … 20 mA; 20 … 4 mA
Load impedance (current output)	See derating graphic
Signal processing	
Step response (typ.)	1000 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((40 K/set measurement range [K]) + 0.1) %
Transmission error (under interference)	≤ 5 %
Temperature coefficient	≤ 0.02 %/K
Supply	
Power supply type	Loop-powered (via output)
Supply voltage	DC 8 … 30 V (power is derived from the output circuit)
Power loss (max.) $P_{l\,(max.)}$	0.7 W
Safety and protection	
Rated voltage	150 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Protection type	IP20
Test voltage	
Test voltage (input/analog output)	3 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	38.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	75 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1; EN 50121-3-2
Standards/specifications	EN 50121-3-2; EN 61010-1; EN 61373

857-815

DIP Switch Adjustability

● = ON Default

DIP Switch S1

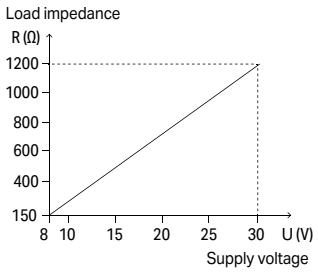
Sensor Connection			Sensor Type				Output Signal		N.C.				Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6		7	8	9	10				
		2-wire				Pt100		4 … 20 mA					Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Pt200	●	20 … 4 mA								
	●	4-wire		●		Pt500					●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
●	●	2-wire	●	●		Pt1000										
					●	1 kΩ						●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ										
											●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range

* acc. to NAMUR NE 43

DIP Switch S2

Output Signal Start Temperature						Output Signal End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

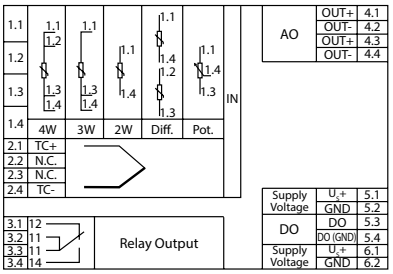
The measurement span must have the following min. magnitude:
- in the Celsius scale (°C): 50 K
- in the Fahrenheit scale (°F): 90 K



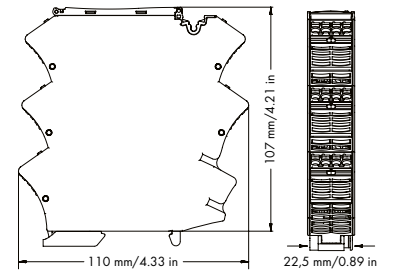
Derating

Temperature signal conditioner; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC

2857 Series



	Item No.	PU
	2857-535	1



Short description:
WAGO's RTD TC temperature signal conditioner for RTD sensors, potentiometers, resistors and thermocouples monitors and reports signals for up to two switching thresholds. The sensor and status information that is collected is also converted to a standard analog signal.

Features:
- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Configurable Pt factor
- Adjustable software filter
- Simulation of input/output response via interface configuration display
- Input of customer-specific sensors via the interface configuration software
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1
- Analog unipolar/bipolar signals (current/voltage) at output
- Additional digital signal output for configured measurement range limits
- Adjustable transfer characteristic

Note:
This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{S+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 1 A is not exceeded.

» Configuration Software	Page 322
» Configuration Display	Page 324
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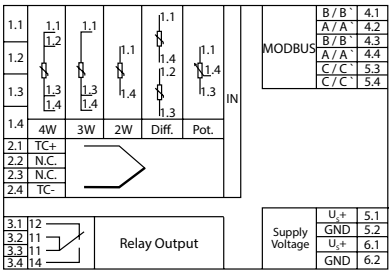
Configuration	
Configuration options	WAGO Interface Configuration Software; WAGO Interface Configuration App; WAGO Configuration Display
Input	
Input signal type	RTD sensors; Potentiometer; Resistor; TC sensors
Input – RTD sensors	
Sensor types (RTD)	Pt10 ... Pt2000 (expandable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 ... 850°C
Measurement span (RTD) min.	50 K
Input – TC sensors	
Sensor types (TC)	Type J; Type K; Type E; Type R; Type N; Type S; Type T; Type B; Type C
Temperature measurement range (TC)	-210 ... 1200 °C (Type J); -200 ... 1372 °C (Type K); -200 ... 1000 °C (Type E); 250 ... 1768 °C (Type R); -200 ... 1300 °C (Type N); -50 ... 1664 °C (Type S); -200 ... 400 °C (Type T); 250 ... 1820 °C (Type B); 0 ... 2320 °C (Type C)
Measurement span (TC) min.	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)
Input – resistors	
Input range (resistor)	0 ... 10 kΩ
Input range (potentiometer)	0 ... 10 kΩ
Measurement span (min.)	50 Ω
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	± 12 V
Output signal (current)	±24 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 ... 60 s (via software)
Output – relay	
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 ... 60 s (via software)
Signal processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	130 ms (2-wire); 700 ms (3-wire); 700 ms (4-wire); 600 ms (differential); 500 ms (Potentiometer); 150 ms (cold junction compensation (Off)); 400 ms (cold junction compensation (ON))
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (100 K/set measurement range [K]) %
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	-60 ... +30 %
Current consumption at nominal supply voltage	≤ 70 mA (+ I_{DO})

Safety and protection	
Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	The digital output (DO) is at the potential of the supply. The service interface is located on the analog output potential. The DIN-rail contact (functional ground) is capacitively coupled to the analog output.
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Test voltage (input/analog output/relay output/supply)	3 kVAC; 50 … 60 Hz; 1 min
Test voltage (input/DIN-rail contact/relay output/supply)	3 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/relay output/supply)	Reinforced insulation (safe isolation)
Insulation type (input/DIN-rail contact/relay output/supply)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	22.5 mm / 0.886 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	126.9 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	85 °C
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1; EN 61373

Temperature signal conditioner; Configuration via software; Supply voltage: 24 VDC
2857 Series



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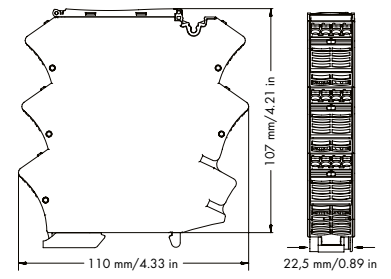

Short description:
WAGO's RTD TC temperature signal conditioner for RTD sensors, potentiometers, resistors and thermocouples monitors and reports signals for up to two switching thresholds. The sensor and status information that is collected is also made available to a higher-order device (e.g., a PLC) via a bus connection.

Features:
- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Configurable Pt factor
- Adjustable software filter
- Simulation of input/output response via interface configuration display
- Input of customer-specific sensors via the interface configuration software
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1
- Output-end RS-485 interface with Modbus protocol
- Terminating resistor can be adjusted at the output
- Adjustable transfer characteristic

Note:
This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_{s+} (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 1 A is not exceeded.

Configuration	
Configuration options	WAGO Interface Configuration Software; WAGO Configuration Display; WAGO Interface Configuration App; Rotary encoder switch
Input	
Input signal type	RTD sensors; Potentiometer; Resistor; TC sensors
Input – RTD sensors	
Sensor types (RTD)	Pt10 … Pt2000 (expandable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850°C
Measurement span (RTD) min.	50 K
Input – TC sensors	
Sensor types (TC)	Type J; Type K; Type E; Type R; Type N; Type S; Type T; Type B; Type C
Temperature measurement range (TC)	-210 … 1200 °C (Type J); -200 … 1372 °C (Type K); -200 … 1000 °C (Type E); 250 … 1768 °C (Type R); -200 … 1300 °C (Type N); -50 … 1664 °C (Type S); -200 … 400 °C (Type T); 250 … 1820 °C (Type B); 0 … 2320 °C (Type C)
Measurement span (TC) min.	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)
Input – resistors	
Input range (resistor)	0 … 10 kΩ
Input range (potentiometer)	0 … 10 kΩ
Measurement span (min.)	50 Ω
Output – MODBUS	
Number of devices (max.)	64
Addressing	Via rotary encoder switch: 1 … 99; Via service interface: 1 … 247 (rotary encoder switch set to "0")
Parity	Even; others can be configured
Connector	6 x picoMAX® for daisy chain configuration
Bus length (max.)	1000 m
Terminating resistor	Can be activated; 150 Ω; 120 Ω + 1 nF
Parameter	Read input registers (0x04): Measured value: address (0x0000); data type (float); access (read) Relay status: address (0x0002); data type (word); access (read)
Output – relay	
Dielectric strength (open contact) (AC, 1 min)	1 kV_{rms}
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)
Communication	
Communication	Modbus® RTU
Interface	RS-485 (2-wire)
Number of devices (max.)	64
Bus length (max.)	≤ 1000 m
Baud rate	9.6 kBd … 19.2 kBd
Terminating resistor	Can be activated; 150 Ω; 120 Ω + 1 nF
Addressing	Via rotary encoder switch: 1 … 99; Via service interface: 1 … 247 (rotary encoder switch set to "0")
Signal processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	130 ms (2-wire); 700 ms (3-wire); 700 ms (4-wire); 600 ms (differential); 500 ms (Potentiometer); 150 ms (cold junction compensation (Off)); 400 ms (cold junction compensation (ON))
Measurement error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (100 K/set measurement range [K]) %
Temperature coefficient	≤ 0.01 %/K

» Configuration Software Page 322
» Configuration Display Page 324
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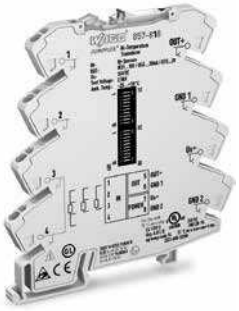
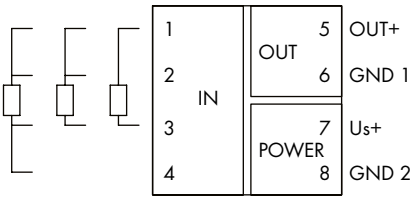
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	-60 … +30 %
Current consumption at nominal supply voltage	≤ 50 mA
Safety and protection	
Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	The service interface is located on the service interface potential.The DIN-rail contact (functional ground) is capacitively coupled to the communication interface.
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Test voltage (input/communication interface/relay output/supply)	3 kVAC; 50 … 60 Hz; 1 min
Test voltage (input/DIN-rail contact/relay output/supply)	3 kVAC; 50 … 60 Hz; 1 min
Insulation parameters(UL)	
Overvoltage category	II
Pollution degree	2
Insulation type (input/DIN-rail contact/relay output/ supply)	Reinforced insulation (safe isolation)
Insulation type (input/communication interface/relay output/supply)	Reinforced insulation (safe isolation)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Connector	6 x *picoMAX*® for daisy chain configuration
Physical data	
Width	22.5 mm / 0.886 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	13 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of connection cable (UL)	85 °C
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1; EN 61373

Temperature signal conditioner for Ni sensors; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





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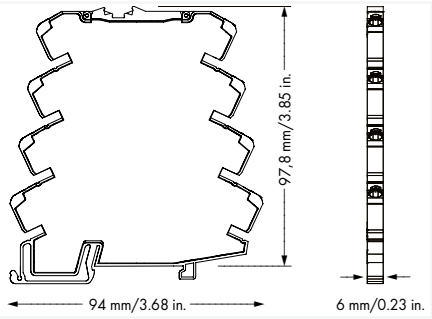
	857-818	1



Short description:
WAGO's Ni temperature signal conditioner (Ni = nickel) records signals from Ni sensors featuring all standard characteristics and converts the temperature signal into a standard analog signal at the output.

Features:
- For Ni100, Ni120, Ni200; Ni500 and Ni1000 sensors
- Calibrated measurement range switching
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Ni sensors
Input voltage (max.)	±31.2 VDC
Input – RTD sensors	
Sensor types (RTD)	Ni100; Ni120; Ni200; Ni500; Ni1000
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Step response (typ.)	60 ms (2-wire); 120 ms (3-wire); 30 ms (4-wire)
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	60.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

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DIP Switch Adjustability

● = ON | **Default**

DIP Switch S1

Connection Technology			Temperature Coefficient			Sensor Type			
1	2		3	4		5	6	7	
		2-wire			6178 ppm/K *1				Ni100
●		3-wire	●		5000 ppm/K	●			Ni120
	●	4-wire		●	6720 ppm/K		●		Ni200
			●	●	6370 ppm/K	●	●		Ni500
								●	Ni1000

*1 6178 ppm/K acc. to DIN 4376

DIP Switch S1 DIP Switch S2

Start Temperature				End Temperature															
8	9	10	°C	1	2	3	4	5	T / °C	1	2	3	4	5	T / °C	1	2	3	4	5	T / °C
			0						100	●	●		●		100		●	●		●	210
●			-60	●					0			●	●		110	●	●	●		●	220
	●		-50		●				10	●		●	●		120				●	●	230
●	●		-40	●	●				20		●	●	●		130	●			●	●	240
		●	-30			●			30	●	●	●	●		140		●		●	●	250
●		●	-20	●		●			40					●	150	●	●		●	●	260
	●	●	-10		●	●			50	●				●	160			●	●	●	270
●	●	●	0	●	●	●			60		●			●	170	●		●	●	●	280
							●		70	●	●			●	180		●	●	●	●	290
				●			●		80			●		●	190	●	●	●	●	●	300
					●		●		90	●		●		●	200						

DIP Switch S2

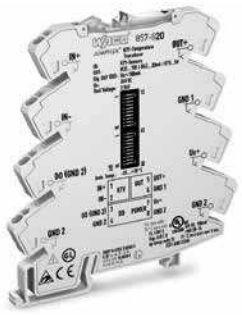
Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
6	7	8		9	10				
			0 ... 20 mA			Lower limit of output range -5 % **2	Upper limit of output range +2.5 %*2	Upper limit of output range +5 %*2	Lower limit of output range -12.5 % **2
●			4 ... 20 mA						
	●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range
●	●		2 ... 10 mA						
		●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range +5 %	Upper limit of output range +5 %
●		●	2 ... 10 V						
	●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
●	●	●	1 ... 5 V						

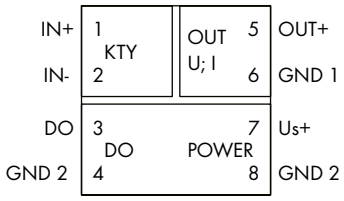
* but not when lower limit of output range = 0 V or 0 mA

*2 acc. to NAMUR NE 43

Temperature signal conditioner for KTY sensors; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width

857 Series





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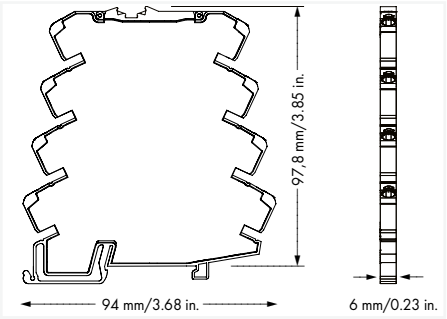
	857-820	1



Short description:
WAGO's KTY temperature signal conditioner records signals from KTY sensors featuring all standard characteristics and converts the temperature signal into a standard analog signal at the output.

Features:
- Supports all standard KTY sensors
- Calibrated measurement range switching
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Configuration	
Configuration options	DIP switch
Input	
Input signal type	KTY sensors
Input voltage (max.)	±30 VDC
Input – KTY sensors	
Sensor types (KTY)	KTY81-110; KTY81-120; KTY81-121; KTY81-122; KTY81-150; KTY81-210; KTY81-220; KTY81-221; KTY81-222; KTY81-250; KTY82-110; KTY82-120; KTY82-121; KTY82-122; KTY82-150; KTY82-220; KTY82-221; KTY82-222; KTY82-250; KTY83-110; KTY83-120; KTY83-121; KTY83-122; KTY83-150; KTY83-151; KTY84-130; KTY84-150; KTY84-151; KTY16; KTY19; ST13; ST20
Sensor connection	2-wire
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Signal processing	
Step response (typ.)	50 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	35.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

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DIP Switch Adjustability

● = ON

Default

DIP Switch S1

Sensor Type				
1	2	3	4	
				KTY81-110, KTY81-120, KTY82-110, KTY82-120
●				KTY81-121, KTY82-121
	●			KTY81-122, KTY82-122
●	●			KTY81-150, KTY82-150
		●		KTY81-210, KTY81-220, KTY82-210, KTY82-220
●		●		KTY81-221, KTY82-221
	●	●		KTY81-222, KTY82-222
●	●	●		KTY81-250, KTY82-250
			●	KTY83-110, KTY83-120,
●			●	KTY83-121
	●		●	KTY83-122
●	●		●	KTY83-150
		●	●	KTY83-151
●		●	●	KTY84-130, KTY84-150
	●	●	●	KTY84-151
●	●	●	●	KTY16, KTY19, ST13, ST20

DIP Switch S2

Start Temperature				End Temperature															
1	2	3	°C	4	5	6	7	8	°C	4	5	6	7	8	°C	4	5	6	7	8	°C
			0						100	●	●		●		100		●	●		●	210
●			-55	●					0			●	●		110	●	●	●		●	220
	●		-50		●				10	●		●	●		120				●	●	230
●	●		-40	●	●				20		●	●	●		130	●			●	●	240
		●	-30			●			30	●	●	●	●		140		●		●	●	250
●		●	-20	●		●			40					●	150	●	●		●	●	260
	●	●	-10		●	●			50	●				●	160			●	●	●	270
●	●	●	0	●	●	●			60		●			●	170	●		●	●	●	280
							●		70	●	●			●	180		●	●	●	●	290
				●			●		80			●		●	190	●	●	●	●	●	300
					●		●		90	●		●		●	200						

DIP Switch S1

Output Signal				9	10	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
6	7	8							
			0 ... 20 mA			Lower limit of output range -5 % **2	Upper limit of output range +2.5 %*2	Upper limit of output range 5 %*2	Lower limit of output range -12.5 % **2
●			4 ... 20 mA						
	●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range
●	●		2 ... 10 mA						
		●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range +5 %	Upper limit of output range +5 %
●		●	2 ... 10 V						
	●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
●	●	●	1 ... 5 V						

* but not when lower limit of output range = 0V or 0mA

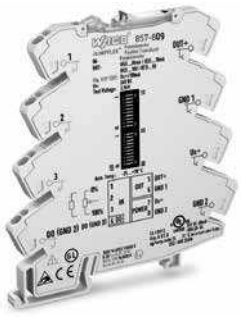
*2 acc. to NAMUR NE 43

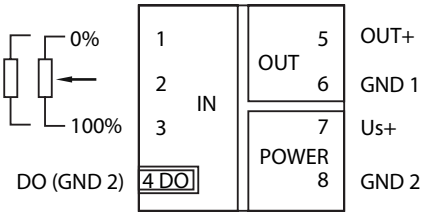
DIP Switch S2

9	10	Digital Output DO Measurement Range Overflow Indication
		DO not active
	●	GND → U_N (rising)
●	●	U_N → GND (falling)

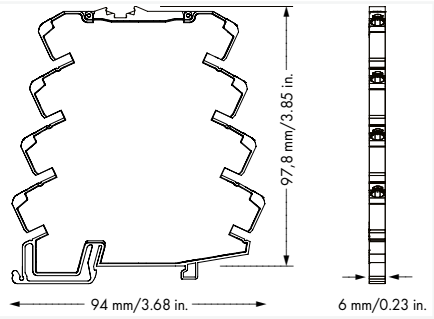
Potentiometer signal conditioner; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-809	1



Short description:
WAGO's potentiometer signal conditioner records resistance signals (e.g., from potentiometers) and converts them into a standard analog signal. The device is supplied with 24 VDC (nominal voltage). It is set via DIP switch or push/slide switch.

Features:
- PC configuration interface
- Calibrated measurement range switching
- Automatic potentiometer identification
- 3-way electrical isolation with 2.5 kV test voltage

Note:
- Use shielded signal lines!
  Only use shielded signal lines for analog input and output signals.
  Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

» Configuration Software	Page 322
» Configuration App	Page 323
» Accessories	Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App; Push/slide switch
Input	
Input signal type	Potentiometers; Resistor
Input – resistors	
Input range (resistor)	10 Ω … 100 kΩ
Input range (potentiometer)	100 Ω … 100 kΩ
Potentiometer supply voltage (max.)	2.5 V
Measurement range (min.)	100 Ω
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Number of switching thresholds (DO)	1 (adjustable)
Signal processing	
Step response (typ.)	32 ms
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})
Safety and protection	
Rated voltage	300 V
Overvoltage category	II
Pollution degree	2
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2 kV; 50 Hz; 1 min
Insulation parameters	
Insulation type (input/analog output/supply)	Functional insulation
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

857-809

DIP Switch Adjustability

● = ON | Default

DIP Switch S1 und S2

Input		Start Value						End Value					
DIP S1		DIP S1					Resistor Ω	DIP S1				DIP S2	Resistor Ω
1		2	3	4	5	6		7	8	9	10	1	
	Potentiometer						0						100000
●	Resistor	●					0	●					0
			●				10		●				10
		●	●				11	●	●				11
				●			12			●			12
		●		●			13	●		●			13
			●	●			15		●	●			15
		●	●	●			16	●	●	●			16
					●		18				●		18
		●			●		20	●			●		20
			●		●		22		●		●		22
		●	●		●		24	●	●		●		24
				●	●		27			●	●		27
		●		●	●		30	●		●	●		30
			●	●	●		33		●	●	●		33
		●	●	●	●		36	●	●	●	●		36
						●	39					●	39
		●				●	43	●				●	43
			●			●	47		●			●	47
		●	●			●	51	●	●			●	51
				●		●	56			●		●	56
		●		●		●	62	●		●		●	62
			●	●		●	68		●	●		●	68
		●	●	●		●	75	●	●	●		●	75
					●	●	82				●	●	82
		●			●	●	91	●			●	●	91
			●		●	●	40		●		●	●	40
		●	●		●	●	50	●	●		●	●	50
				●	●	●	60			●	●	●	60
		●		●	●	●	70	●		●	●	●	70
			●	●	●	●	80		●	●	●	●	80
		●	●	●	●	●	90	●	●	●	●	●	90

DIP Switch S2

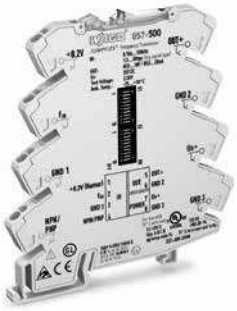
Factor of Initial Value			Factor of End Value			Output		Output Signal Range		
2	3		4	5		6		7	8	
		x1			x1		Current			0 ... 10 V/0 ... 20 mA
●		x10	●		x10	●	Voltage	●		2 ... 10 V/4 ... 20 mA
	●	x100		●	x100				●	0 ... 5 V/0 ... 10 mA
●	●	x1000	●	●	x1000			●	●	1 ... 5 V/2 ... 10 mA

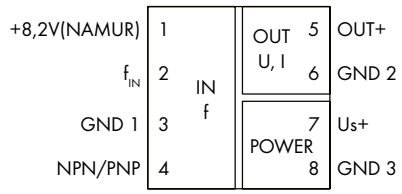
9	10	Measurement Range Underflow	Measurement Range Overflow	Wire Break
		Upper limit of output range* +2.5 %	Lower limit of output range* -5 %	Upper limit of output range* +5 %
●		Upper limit of output range +2.5 %	Lower limit of output range	Upper limit of output range +5 %
	●	Upper limit of output range	Lower limit of output range	Upper limit of output range +5 %
●	●	Upper limit of output range	Lower limit of output range	Lower limit of output range

* acc. to NAMUR NE 45

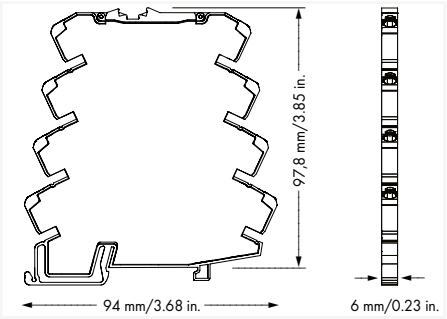
Frequency signal conditioner; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

857 Series





	Item No.	PU
	857-500	1



Short description:
WAGO's frequency signal conditioner collects 0.1 … 120 kHz signals from NAMUR, NPN or PNP sensors and converts them into a standard analog signal.

Features:
- PC configuration interface
- Signal acquisition from NAMUR, NPN or PNP sensors
- Calibrated measurement range switching
- 3-way electrical isolation with 2.5 kV test voltage

» Configuration Software Page 322
» Configuration App Page 323
» Accessories Page 334

Configuration	
Configuration options	DIP switch; WAGO Interface Configuration Software; WAGO Interface Configuration App
Input	
Input signal type	Frequency generators; NAMUR sensors; NPN/PNP transistor outputs; Mechanical contact (dry contact)
Input – sensor type 1	
Sensor type 1	Frequency generator; NPN/PNP transistor output with pull-up or pull-down resistor
Measurement range (frequency) 1	0.1 Hz … 120 kHz
Measurement span 1 (min.)	10 Hz
Signal level	1.5 V; 10 V; 20 V (switchable)
Input voltage (max.)	± DC 31.2 V
Signal form	Any
Coupling	AC/DC (adjustable; AC above 10 Hz)
Input resistance	10 kΩ
Input – sensor type 2	
Sensor type 2	NAMUR sensor (DIN EN 50227)
Measurement range (frequency) 2	0.1 Hz … 1 kHz
Pulse length 2	≥ 500 µs
Measurement span 2 (min.)	10 Hz
Sensor supply	DC 8.2 V
Signal current (0)	≤ 1.2 mA
Signal current (1)	≥ 2.1 mA
Hysteresis	0.45 mA
Short circuit monitoring	≥ 4.7 mA
Wire break monitoring	≤ 0.2 mA
Input resistance 2	≤ 600 Ω
Input – sensor type 3	
Sensor type 3	NPN/PNP transistor output without pull-up or pull-down resistor; mechanical contact (dry contact)
Measurement range (frequency) 3	0.1 Hz … 20 kHz
Pulse length 3	≥ 25 µs
Measurement span 3 (min.)	100 Hz
Open-circuit voltage	DC 5 V
NPN residual voltage	≤ 1.5 V
PNP switching voltage	≥ 7.5 V (+ residual voltage UCE sat)
Output – analog	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal processing	
Conversion time	Peak-time measurement method (> 400 Hz): < 20 ms; Pulse time measurement method (< 400 Hz): < 200 µs + $T_{Cycle\ duration}$
Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA
Safety and protection	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	36.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	EN 61373

Frequency signal conditioner; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width
857 Series

857-500

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Source Input			Coupling		Operation with Disturbed Frequency Signals for Acceptable Signal Level (applies only to f_{IN} input)			
1	2		3		4	5	High	Low
		Frequency generator or NPN/PNP transistor outputs with pull-up or pull-down resistor		AC/DC			> 1.5 V	< 0.4 V
●		NAMUR	●	AC (without DC), see Figure 1	●		> 10 V	< 8 V
	●	NPN/PNP transistor outputs without pull-up or pull-down resistor input Dry Contact				●	> 20 V	<16 V
					●	●	> 1.5 V	< 0.4 V

DIP Switch S1 / DIP Switch S2

Input Start Value					Frequency/Hz	Input End Value					Frequency/Hz
6	7	8	9	10		1	2	3	4	5	
					100						1000
●					0.1	●					0.1
	●				1		●				1
●	●				100	●	●				100
		●			200			●			200
●		●			300	●		●			300
	●	●			400		●	●			400
●	●	●			500	●	●	●			500
			●		600				●		600
●			●		700	●			●		700
	●		●		800		●		●		800
●	●		●		900	●	●		●		900
		●	●		1000			●	●		1000
●		●	●		2000	●		●	●		2000
	●	●	●		3000		●	●	●		3000
●	●	●	●		4000	●	●	●	●		4000
				●	5000					●	5000
●				●	6000	●				●	6000
	●			●	7000		●			●	7000
●	●			●	8000	●	●			●	8000
		●		●	9000			●		●	9000
●		●		●	10000	●		●		●	10000
	●	●		●	20000		●	●		●	20000
●	●	●		●	30000	●	●	●		●	30000
			●	●	40000				●	●	40000
●			●	●	50000	●			●	●	50000
	●		●	●	60000		●		●	●	60000
●	●		●	●	70000	●	●		●	●	70000
		●	●	●	80000			●	●	●	80000
●		●	●	●	90000	●		●	●	●	90000
	●	●	●	●	100000		●	●	●	●	100000
●	●	●	●	●	120000	●	●	●	●	●	120000

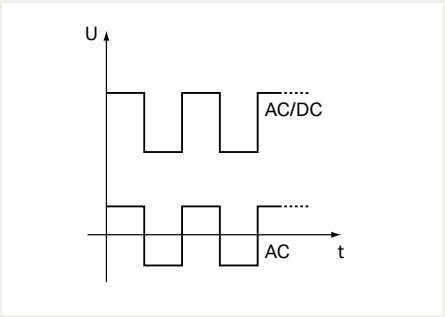


Figure 1: Coupling

DIP Switch S2

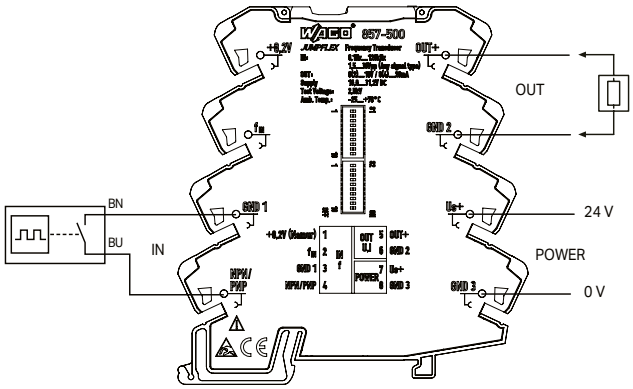
Output Signal					9	10	Measurement Range Underflow	Measurement Range Overflow	Only for NAMUR Sensors	
6	7	8							Wire Break	Short Circuit
			0 ... 20 mA	Current			Lower limit of output range* -5 %	Upper limit of output range* +2.5 %	Upper limit of output range* 5 %	Lower limit of output range * -12.5 %
	●		4 ... 20 mA							
		●	0 ... 10 mA		●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range 5 %	Lower limit of output range
	●	●	2 ... 10 mA							
●			0 ... 10 V	Voltage		●	Lower limit of output range	Upper limit of output range	Upper limit of output range 5 %	Upper limit of output range 5 %
●	●		2 ... 10 V							
●		●	0 ... 5 V		●	●	Lower limit of output range	Upper limit of output range	Ausgangsbereichsanfang	Lower limit of output range
●	●	●	1 ... 5 V							

*acc. to NAMUR NE 43

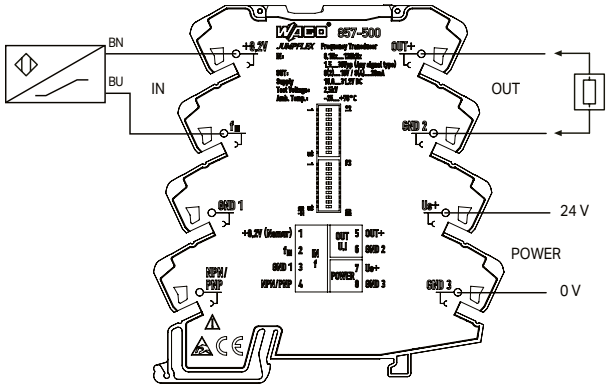
857-500

Wiring examples

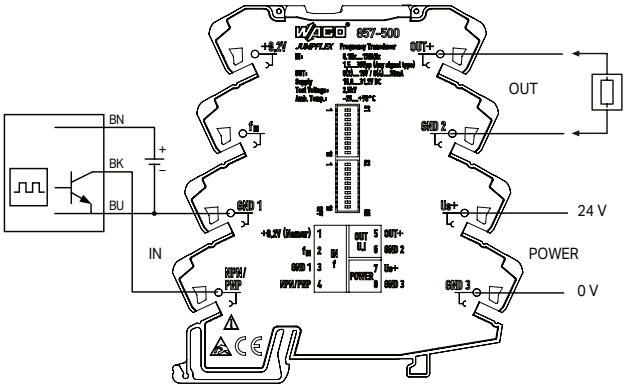
2-Wire DC (Mechanical Contact)



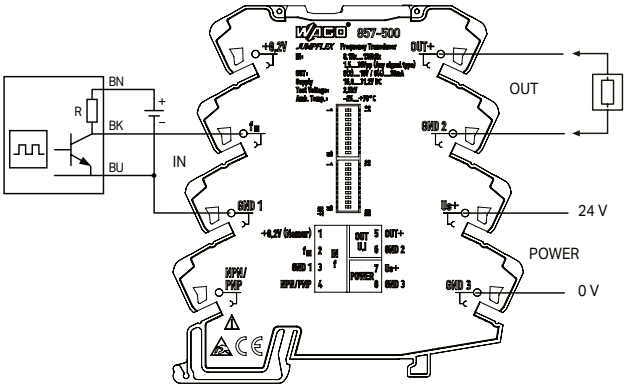
2-Wire DC NAMUR Sensor



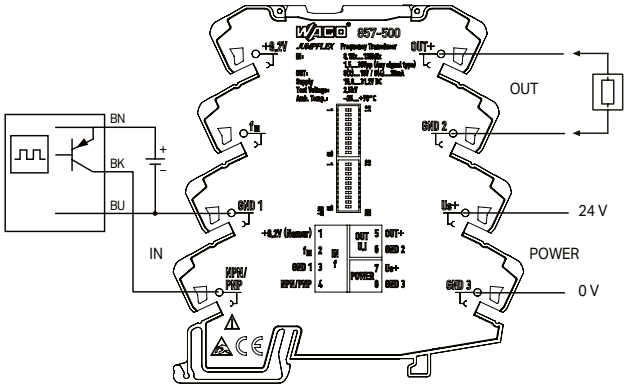
NPN Transistor Output



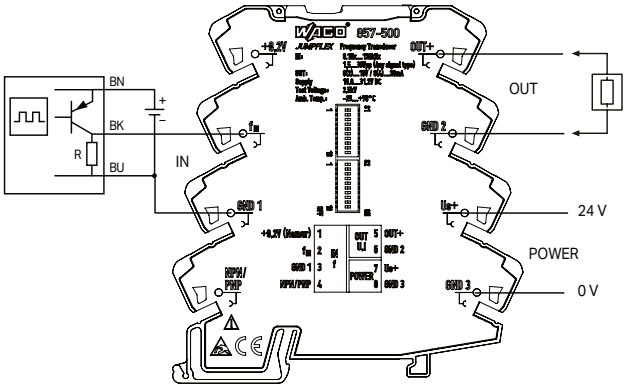
NPN Transistor Output with Pull-Up Resistor



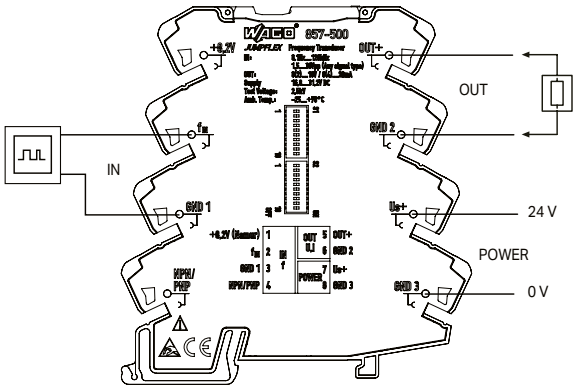
PNP Transistor Output



PNP Transistor Output with Pull-Down Resistor



Frequency Generator



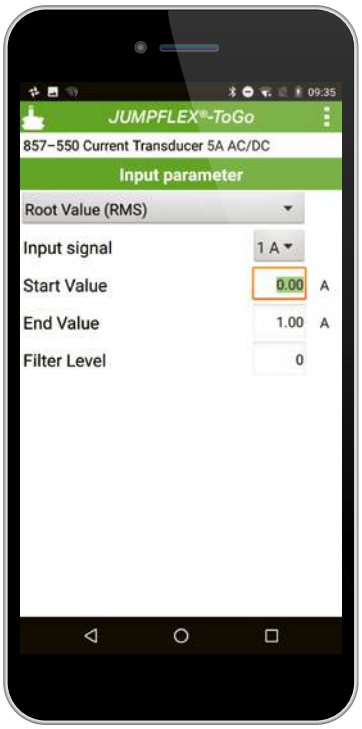
Interface configuration software

All signal conditioners offer user-friendly configuration at a glance using the interface configuration software.

Software features:
- Simulation of input and output parameters (2857 Series)
- Automatic module recognition
- Configuration and visualization of process values
- Parameterization of the digital switch output (threshold functionality)
- Communication via WAGO USB Service Cable (750-923) or WAGO Bluetooth® Adapter (750-921), pluggable on both series
- Creation of configuration reports
- Backup of configuration settings

Free software download at:
www.wago.com/configuration-software

JUMPFLEX®-ToGo configuration app



(Android smartphone)

The *JUMPFLEX*®-ToGo App brings the power of PC-based configuration software to your Android mobile device.

App features:
- Configuration of input and output parameters with a stroke of the finger
- Simple display of configuration data and current value
- Communication via WAGO Bluetooth® Adapter (750-921)

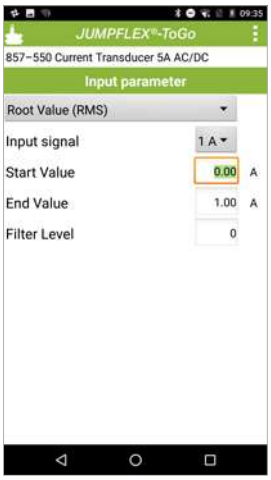
3

WAGO INTERFACE

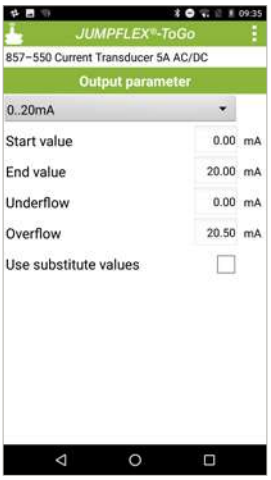
Free download from Google Play Store

Bluetooth® Adapter, 750-921

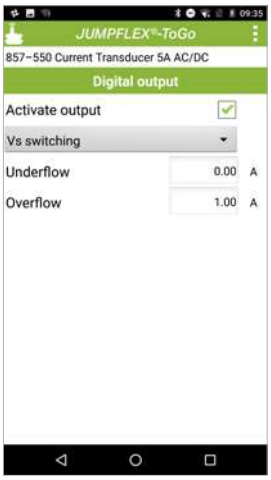
Device information



Input parameters



Output parameters



Digital output

Actual value

Configuration display
2857 Series

	Item No.	PU
	2857-900	1

Features
- Easy mounting on 2857 Series devices
- Automatic module detection
- Capacitive user interface with slider function
- Intuitive menu navigation
- Multicolor backlight for status indication
- Device configuration and process value visualization
- Easy copying of device configuration

Operating Data	
Operating voltage	3.3 VDC
Current consumption	≤ 60 mA
Physical data	
Width	22 mm / 0.866 inches
Height	13 mm / 0.512 inches
Depth	59 mm / 2.323 inches
Mechanical data	
Mounting type	Pluggable module
Material data	
Weight	24.3 g
Environmental requirements	
Ambient temperature (operation at UN)	-20 … +70 °C
Ambient temperature (storage)	-30 … +80 °C
Relative humidity	10 … 95 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2

Housing width: 22.5 mm

Housing width: 12.5 mm

Bluetooth® adapter
750 Series

	Item No.	PU
	750-921	1

Technical data

Device specification	Master or Slave
Security encryption	128-bit encryption
Radio technology	Bluetooth® 2.1
Frequency band	ISM band, 2402 … 2483 MHz
Security authentication	PIN code or configurable access list
Supported profiles	Serial Port Profile (SPP)
Communication type	Peer-to-peer connection
Coexistence	Frequency Hopping Spread Spectrum (FHSS); Adaptive Frequency Hopping (AFH); Adaptive transmission power with configurable upper limit; configurable channel blacklist; supports coexistence optimized inquiry (transmission time ≤ 0.1 s; transmission cycle ≥ 2.9 s);
Transmission range	20 m in open space (Class 2)
Antenna	Integrated
Receiver sensitivity	-82 dBm
Configuration options	AT commands (e.g., via HyperTerminal)
Current consumption (5 V system supply)	60 mA
Indicators	Operating mode

Physical data

Width	15 mm / 0.591 inches
Height	50 mm / 1.969 inches
Depth	19 mm / 0.748 inches

Material data

Weight	16.6 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	-20 … +60 °C
Protection type	IP20

***Bluetooth*® Adapter in Connection with 750 Series**
The *Bluetooth*® Adapter wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of the coupler/controller. It also provides an active connection to a programmable fieldbus controller.

As a cable substitute, the *Bluetooth*® Adapter allows communication between two fieldbus controllers, as well as between fieldbus couplers/controllers via WAGO software tools (e.g., WAGO-I/O-CHECK, WAGO-I/O-PRO).

Configurable coexistence properties ensure trouble-free operation in the presence of other radio systems.

***Bluetooth*® Adapter in Connection with 857 Series**
The *Bluetooth*® wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of a configurable 857 Series Module.

As a cable substitute, the *Bluetooth*® Adapter allows communication between Modules and WAGO software tool (WAGOframe) or configuration APP for Android-based end devices.

If required, adapter configuration may be performed via AT commands.

The adapter is supplied via both service interface and power supply of coupler/controller or Module.

Note:
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.

Application example: 750 Series

Application example: 857 Series

Configuration cable; USB connector
750 Series

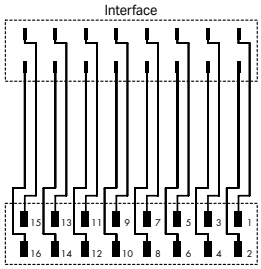
Length	Item No.	PU
2,5 m	750-923	1
5,0 m	750-923/000-001	1

The WAGO USB Communication Cable connects a PC (notebook) to both the service interface of the 857 Series Signal Conditioners and the configuration interface of WAGO's I/O fieldbus couplers/controllers.

Notice!
Using the WAGO 759-923 USB Communication Cable in combination with select programmable fieldbus controllers requires the specific firmware versions listed below:
750-841: Firmware Version 12 (or higher)
750-872/0020-0000: Firmware Version 2 (or higher)

Technical data	
Connection type	4-pole male connector - USB A-type plug
Pole number	4
Supported operating systems	Windows XP (SP3 or higher); Windows 7; Windows 10; Windows 11
Physical data	
Width	15 mm / 0.591 inches
Height	50 mm / 1.97 inches
Depth	19 mm / 0.748 inches
Mechanical data	
Sheathed cable color	black
Weight	64.8 g
Environmental requirements	
Ambient temperature (operation)	-25 … +70 °C
Protection type	IP20
EMC immunity to interference	per EN 61000-4-3, EN 61000-4-6
EMC emission of interference	per EN 55022

Interface adapter; 16-pole; analog
857 Series



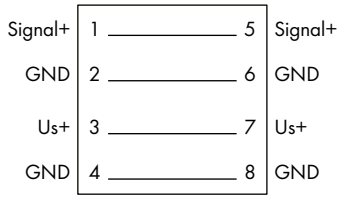
16-pole male connector

	Item No.	PU
	857-980	1

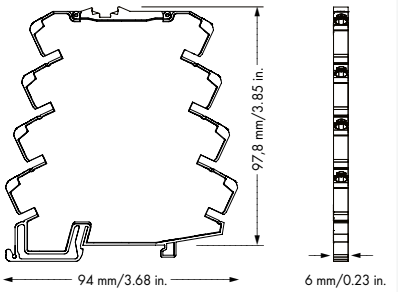
Note:
The specified technical data are maximum values. They may be limited by the accessories used.

Electrical data	
Inputs/outputs	8-channel analog input or output
Operating voltage	≤30 VDC
Limiting continuous current	1 A
Contact resistance	≤ 20 mΩ
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	0.5 kV_{rms}
Protection type	IP20
Connection data	
Performance level	3
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	16
Connection type 1	System
Connection 2	
Design 2	Plug for jumper slot
Pole number 2	16
Connection type 2	Field
Mechanical data	
Mounting type	Pluggable module
Material data	
Weight	41.4 g
Environmental requirements	
Ambient temperature (operation at UN)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	DNV

Supply and through module
857 Series



	Item No.	PU
	857-979	25



Short description:
This supply and through module transmits electrically isolated signals, e.g., in conjunction with the 857-980 Interface Adapter for analog signals (Item No. 857-980). When used as a supply module, it transmits the power from the connected clamping points to the adjacent modules via push-in type jumper bars.

Operating Data	
Operating voltage	≤ AC/DC 30 V
Continuous current (max.)	8 A
Contact resistance	≤ 10 mΩ
Safety and protection	
Pollution degree	2
Protection type	IP20
Connection data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 35 K)
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	DNV

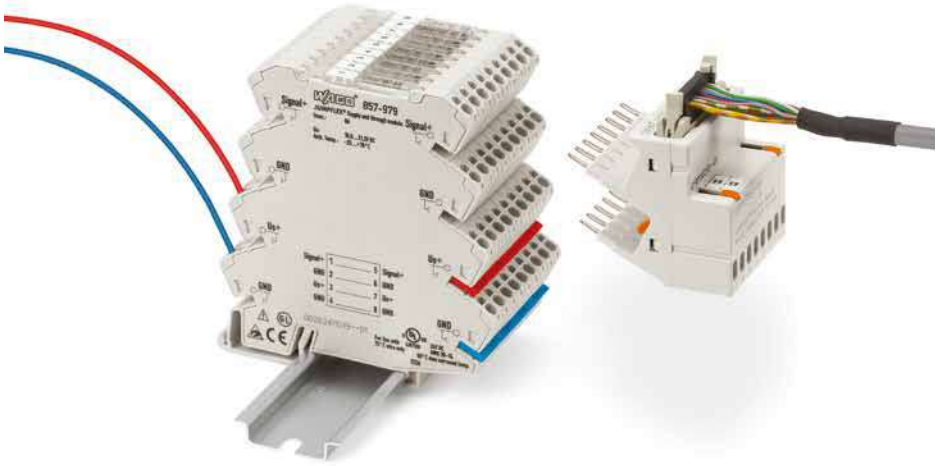
857-979

Application example:

Power supply for 8 modules with plugged interface adapter

•WAGO interface adapter, 857-980
•WAGO ribbon cable, 706-100/1602-200, 16-pole socket/open-ended
•Push-in type jumper bar, 9-way, 859-409

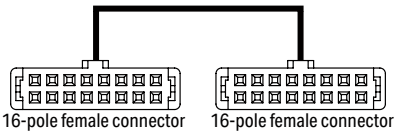
1



2

Connection cable; 16-pole; Pluggable connector per DIN 41651; 16-pole; Pluggable connector per DIN 41651; Conductor cross-section: 0.14 mm²

706 Series



Length	Item No.	PU
1 m	706-753/301-100	1
2 m	706-753/301-200	1
3 m	706-753/301-300	1

Short description:
WAGO's 16-pole interface cables transmit the signal one-to-one from the 16-pole connector and are available in 1-, 2- and 3-meter lengths. Signal transmission from the 857-980 Interface Adapter is also possible.

These cables are suitable for system wiring when paired with 857-980 Interface Adapter.

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical data	
Operating voltage	≤35 VDC
Current per wire (max.)	1 A
Connection data	
Cable type	LiYY
Color code	per DIN VDE 47100
Connection 1	
Connector	Pluggable connector per DIN 41651; female connector
Pole number 1	16
Connection type 1	System
Wire cross-section	0.14 mm²
Connection type	Pluggable Connector per DIN 41651
Connection 2	
Connector 2	Pluggable connector per DIN 41651; female connector
Pole number 2	16
Connection type 2	System
Material data	
Weight	10 g
Environmental requirements	
Ambient temperature (operation at UN)	-25 … +70 °C

Connection cable; 16-pole; open-ended; Conductor cross-section: 0.14 mm²; UR components
Serie 706

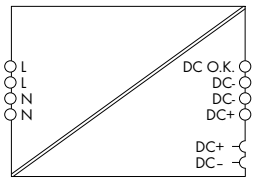
Length	Item No.	PU
2 m	706-100/1602-200	1

Color coding acc. to DIN VDE 47100		16 poles flat connector Pin number
White		1
Brown		2
Green		3
Yellow		4
Grey		5
Pink		6
Blue		7
Red		8
Black		9
Violet		10
Grey-Pink		11
Red-Blue		12
White-Green		13
Brown-Green		14
White-Yellow		15
Yellow-Brown		16

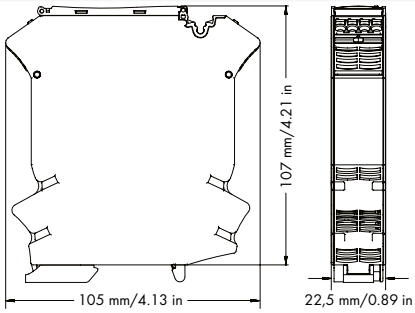
Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical data	
Operating voltage	≤ AC/DC 35 V
Current per wire (max.)	1 A
Connection data	
Cable type	LiYY
Color code	per DIN VDE 47100
Connection 1	
Connector	Pluggable connector per DIN 41651; female connector
Pole number 1	16
Connection type 1	System
Wire cross-section	0.14 mm²
Connection type	Pluggable Connector per DIN 41651
Connection 2	
Connector 2	Open-ended
Connection type 2	Open-ended
Material data	
Weight	202 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current
787 Series



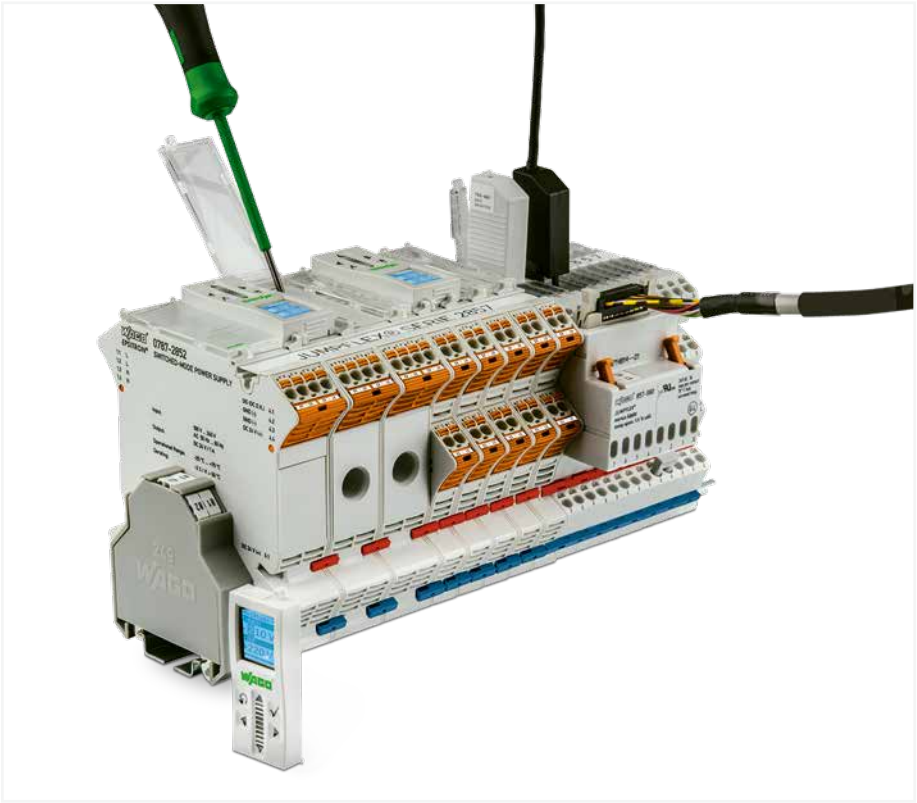
	Item No.	PU
	787-2852	1



Features:
- Switched-mode power supply in 22.5 mm wide 2857 Series housing; device shares a common profile with the 2857 and 857 Series Signal Conditioners.
- Both 24 VDC and 0 V output voltage can be easily supplied to adjacent modules via 859-4xx Jumpers.
- Pluggable *picoMAX*® Connection Technology
- Natural convection cooling
- DC OK message as active signal output (24 VDC, 20 mA)
- Integrated redundancy diode enables easy fail-safe power supply via parallel connection of two power supplies.
- Approvals for worldwide applications

Input	
Phases	1
Nominal input voltage $U_{i\,nom}$	1 x 100 … 240 VAC
Input voltage range	1 x 85 … 264 VAC; 120 … 372 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.28 A (240 VAC; Nominal load); ≤ 0.49 A (100 VAC; Nominal load)
Inrush current	≤ 30 A
Power factor	≥ 0.6 (230 VAC; Nominal load; per EN 61000-3-2)
Power factor correction (PFC)	None
Mains failure hold-up time	≥ 20 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC (SELV)
Nominal output current $I_{o\,nom}$	1 A
Nominal output power	24 W
Residual ripple	≤ 100 mV (peak-to-peak)
Current limitation	1.1 x $I_{o\,nom}$ (typ.)
Overload behavior	Constant current
Signaling and communication	
Signaling	1 x LED DC OK (green); 1 x Overload LED (red)
Operation status indicator	Green LED (U_o > 21.5 V); Red LED (overload)
Efficiency/Power losses	
Power loss P_l	≤ 1 W; ≤ 4.3 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,(max.)}$	5 W (100 VAC / 24 VDC; 1 A)
Efficiency (typ.)	86 % (230 VAC; nominal load); 84 % (110 VAC; nominal load)
Circuit protection	
Internal fuse	T 2 A / 250 VAC
Backup fusing (recommended)	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and protection	
Protection class	II
Protection type	IP20; per EN 60529
Pollution degree	2
Transient suppression (primary)	Varistor
Overvoltage protection; secondary	Internal protective circuit; ≤ 29 … 31 VDC (in the event of a fault)
Short-circuit-protected	Yes
Open-circuit-proof	Yes
Parallel operation	Yes, for 2 devices of the same type
Series operation	Yes, for 2 devices of the same type
MTBF	> 500,000 h (at 25 °C per IEC 61709)
Connection data	
Number of jumper slots	4
Connection type	Input/Output/Signaling
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 10 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	22.5 mm / 0.886 inches
Height from upper-edge of DIN-rail	107 mm / 4.213 inches
Depth	105 mm / 4.122 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	200 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C (Nominal mounting position; −20 … +55 °C (in any mounting position))
Ambient temperature (storage)	-25 … +85 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	-2 %/K (> 60 °C)

Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 60950-1; DNV
Standards/specifications (pending)	UL 60950; cULus 508; ANSI/ISA 12.12.01 (Class I Div. 2); ATEX/IEC Ex



Application example

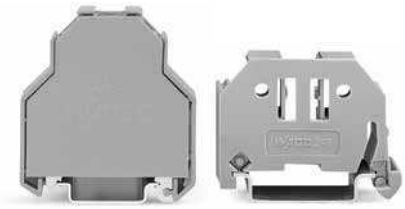
Accessories

Push-in type jumper bar; light gray; insulated; 18 A		
Description	Item No.	PU
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)

Item no. suffixes for colored push-in type jumper bars		
	Item No.	
yellow	... /000-029	
red	... /000-005	
blue	... /000-006	

Comb-style jumper bar; insulated		
	Item No.	PU
2-way	281-482	100

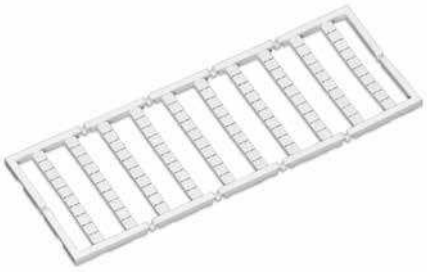
Operating tool with a partially insulated shaft; Type 2; Blade: 3.5 x 0.5 mm		
	Item No.	PU
	210-720	1



End stop		
Width	Item No.	PU
6 mm	249-116	1
10 mm	249-117	1
14 mm	249-197	1

Test pin		
	Item No.	PU
	735-500	1

Marking



WMB Multi Marking System		
Marking	**Item No.**	PU
plain	**793-501**	5 cards
1 ...10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

Marking Strip for TOPJOB® S; white; plain; 11 mm wide		
	Item No.	PU
50 m reel	**2009-110**	1

WAGO Energy Measurement Technology

WAGO Energy Measurement Technology

4

Selection Guide: Current Transformers
The Right Solution for Every Application

Current Transformers 855 Series	Split-Core Current Transformers	Plug-In Current Transformers with CAGE CLAMP® Connection Technology
		
Application	Retrofit	New systems
Coil bobbin	Separable	Closed
Connection technology	Connection cable (color coded)	CAGE CLAMP®
Mounting	Round cable (insulated), copper current bar (insulated	Round cable, copper current bar, DIN-rail, mounting plate
Compatibility with other WAGO components	750-493, (750-493/000-001) 750-494, (750-494/000-001) 750-495, (750-495/000-001) 857-550, 2857-570/024-001 2857-570/024-005	
Primary rated current	60 … 1000 A	50 … 2500 A
Secondary rated current	1 A / 5 A	1 A / 5 A
Accuracy class	0.5; 1 or 3	1 or 3
Surrounding air temperature	–10 … +55 °C	–5 … +50 °C
Standards	EN 61869-2	EN 61869-2
Approvals	–	c UL us
Connection examples		

* In the measurement range between 0.8 and 32 A and in combination with WAGO's 3-Phase Power Measurement Modules, accuracy class 0.5 per EN 61869-2 is achieved.

Plug-In Current Transformers with *picoMAX*® Pluggable Connectors		Rogowski Coils RC 70 / RC 125 / RC 175	Current and Voltage Taps
			
New systems		Retrofit	New systems
Closed		Bayonet connector, separable	Closed
picoMAX®		Connecting cable	Push-in CAGE CLAMP®
Round cable, copper current bar, mounting plate		Round cable, copper current bar	Jumper slot of the 285 series 2-Conductor Through Teremin Blocks 285-150, 285-195, 285-1185, 285-141, 285-181, 285-1161
750-493,750-494 750-495, 857-550, 2857-570/024-001		750-495/000-002 857-552 2857-570/024-000	750-493 750-494 750-495 857-550 2857-570/024-001
32 A	35 / 64 A	Up to 4000 A	150 … 350 A
320 mA	1 A	22,5 mV/kA	1 A
0.5*	1	0.5	0.5
–10 … +55 °C		–40 … +80 °C	–25 … +70 °C
EN 61869-2		IEC 61010-1 / EN 61869-2	EN 61869-2, EN 60947-7-3, IEC 60068-2-6
–	cULus	UL listed	–
			

Selection Guide: WAGO Measurement Technology
The Right Solution for Every Application

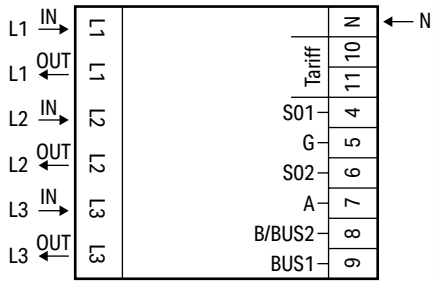
Measurement Devices 879, 750, 857 and 2857 Series	Energy Meters			Through-Hole Current Signal Conditioner	Current Sigal Conditioner	Voltage Signal Conditioner
Illustration						
Application	Measurement, indication, billing (MID approval)			Measurement, isolation, amplification, filtering, conversion		
Input voltage	3 x 230 / 400 VAC	3 x 230 / 400 VAC	3 x 230 / 400 VAC			300 VAC/VDC
Input Current	Direct: 65 A	Direct: 65 A	1 A / 5 A*	Via hall sensor: max. 100 AAC/ADC	Direct: max. 6 AAC/ADC	
Output	Modbus®, M-Bus and 2 x S0 interfaces			Analog output module (±10 V / ±20 mA) Digital output Relay output (max. 6 A)	Analog output (±10 V / ±20 mA) Digital output	
Energy consumption	x	x	x			
Active, apparent and reactive energy/power	x	x	x			
Phase position	x	x	x			
Rotary field detection	x	x	x			
Power factor	x	x	x			
Four-quadrant operation (inductive, capacitive, consumer, generator)	x	x	x			
Neutral conductor measurement						
Specialty functions	Display and *Bluetooth*®					
Other product variants						
Housing width	72 mm (4TE)	72 mm (4TE)	35 mm (2TE)	22,5 mm	6 mm	6 mm
Item number	879-3000	879-3020	879-3040	2857-550	857-551	857-560
Note	Plug-in current transformers, split-core current transformers, Rogowski coils, voltage taps – see "Selection Guide: WAGO Current Transformers"					

* Only with a current transformer
** Only with a Rogowski coil

3-Phase Power Measurement Modules					3-Phase Power Measurement Module	1-Phase Power Measurement Module
						
Measurement and evaluation with the WAGO I/O System			AC/DC current measurement via external shunt	Measurement in the medium-voltage range	Measurement, evaluation and recording at a distance from the control level	Measurement, isolation, amplification, filtering, conversion
3~ 277 / 480 VAC 2 x 277 VDC	3~ 277 / 480 VAC 2 x 277 VDC	3~ 400 / 690 VAC	3~ 277 / 480 VAC 2 x 277 VDC	3~ 20 kV exclusively via sensors per IEC 61869-7	3~ 400 / 690 VAC	500 VAC/VDC
1 A (750-493)* 5 A (750-493/000-001)*	1 A (750-494)* 5 A (750-494/000-001)*	1 A (750-495)* 5 A (750-495/000-001)* to 4000 A (750-495/000-002)**	Depending on external shunt (50 … 300 mV)	300 A exclusively via sensors per IEC 61869-8	1 A (2857-570/024-001)* 5 A (2857-570/024-005)* to 4000 A (2857-570/024-000)**	Direct: max. 8 AAC/ADC
		Process data in the WAGO I/O System			RS-485 Serial interface (Modbus-RTU) Digital output	Analog output (±10 V / ±20 mA) Digital output Relay output (max. 6 A)
x	x	x	x	x	x	x
x	x	x	x	x	x	x
x	x	x	x	x	x	x
	x	x	x	x	x	
(x)	x	x	x	x	x	
	x	x	x	x	x	
		x			x	
					microSD slot	Digital output as S0 interface
	Extended temperatur range: -20 … +60 °C: 750-494/025-000 (1 A), 750-494/025-001 (5 A)	750 XTR: 750-495/040-000 (1 A), 750-495/040-001 (5 A), 750-495/040-002 (Rogowski coil)				
12 mm	12 mm	24 mm	12 mm	24 mm	72 mm (4TE)	22,5 mm
See information on current	See information on current	See information on current	750-494/000-005	750-495/040-010	See information on current	2857-569
Plug-in current transformers, split-core current transformers, Rogowski coils, voltage taps – see "Selection Guide: WAGO Current Transformers"						

Energy meter (MID); for direct connection; 65 A; 3 x 230/400 V; 50 Hz; Modbus® and M-Bus; 2 x S0 interface; 4PU

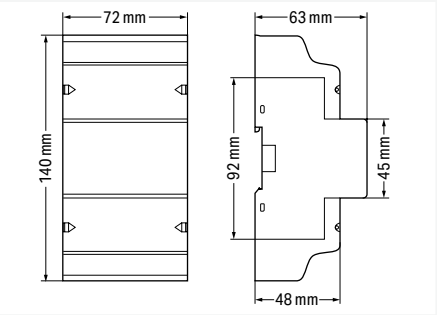
Serie 879



	Item No.	PU
	879-3000	1

Short description:
Crucial for trimming costs, comprehensive energy measurement is necessary to optimize energy consumption. WAGO's portfolio now has new energy meters that simplify this task while offering several key advantages. They use push-in connection technology with a lever, making them connect quickly and easily. The devices have a width of just 72 mm for direct measurement. These slim profiles save a tremendous amount of control cabinet space. In addition to the values for active and reactive energy, the energy meters also record the mains frequency, as well as current, voltage and power for all phases. And the user can conveniently scan all of these energy characteristics at a glance on a large, illuminated display.

Features:
- Push-in CAGE CLAMP® and lever save time at every stage
- Real space savings: 72 mm wide (4PU)
- The communications pro: M-Bus/Modbus® interface and two S0 pulse outputs
- Full transparency at a glance: display energy quality characteristics on an illuminated full-format display
- Intuitive configuration: touch-sensitive controls and configuration app via Bluetooth®

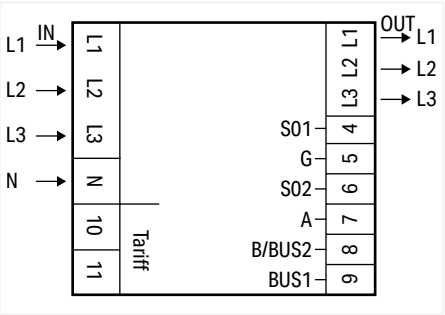


Configuration	
Configuration options	Touch-sensitive controls; Configuration app via *Bluetooth®*
Input	
Input signal type	Voltage; Current
Network configuration	Two-wire, three-wire and four-wire networks
Nominal input voltage $U_{I\,nom}$	3 x 230 … 400 VAC
Input voltage range	±20 %
Reference current I_{ref}	5 A
Input current I_i	≤ 65 A
Frequency range	45 … 60 Hz
Communication	
Communication	Modbus®; M-Bus; Bluetooth®
Interface	RS-485 (2-wire); 2x S0 interfaces (configurable)
Rate control input	230 VAC
Indicators	LCD with backlight
Signal processing	
Measured variables (calculated)	Active and reactive energy in supply and reference direction
Measurement type (load profile)	No
Measurement error	
Accuracy class	Class B (= 1 % error); Active energy per EN 50470-3
Calibration validity period	8 years
Supply	
Power supply type	Via measurement circuit
Power consumption $P_{max.}$ (phase; active power)	2 W
Power consumption $P_{max.}$ (phase; apparent power)	10 VA
Safety and protection	
Dielectric strength	4 kV; 1 min
Impulse withstand voltage (1.2/50 µs)	6 kV
Pollution degree	2
Protection type	IP51 / IP20; IP51 (front side); IP20 (connection)
Protection class	II
Connection data	
Connection type 1	Voltage/current
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2616 Series
Actuation type	Lever
Solid conductor	0.75 … 16 mm² / 18 … 4 AWG
Fine-stranded conductor	0.75 … 25 mm² / 18 … 4 AWG
Fine-stranded conductor; with insulated ferrule	0.75 … 16 mm²
Fine-stranded conductor; with uninsulated ferrule	0.75 … 16 mm²
Strip length	18 … 20 mm / 0.71 … 0.79 inches
Connection type 2	Communication/rate control input
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2604 Series
Actuation type 2	Lever
Solid conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule 2	0.25 … 2.5 mm²
Strip length 2	9 … 11 mm / 0.35 … 0.43 inches
Physical data	
Width	72 mm / 2.835 inches
Height	140 mm / 5.512 inches
Depth	63 mm / 2.48 inches
Note (dimensions)	Height without cover: 92 mm

Mechanical data	
Mounting type	DIN-35 rail
Material data	
Housing material	PC 940A
Weight	280 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Relative humidity	≤ 75% (during storage ≤ 95 %)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 50470-1/3; MID-compliant

Energy meter (MID); for direct connection; 65 A; 3 x 230/400V; 50 Hz; Modbus® and M-Bus; 2 x S0 interface; 4PS

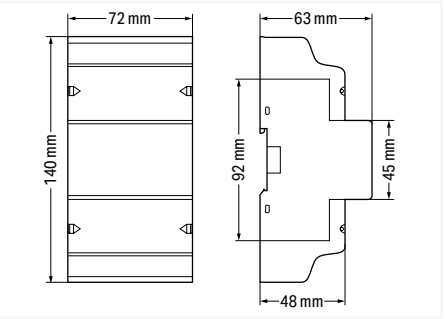
Serie 879



	Item No.	PU
	879-3020	1

Short description:
Crucial for trimming costs, comprehensive energy measurement is necessary to optimize energy consumption. WAGO's portfolio now has new energy meters that simplify this task while offering several key advantages. They use push-in connection technology with a lever, making them connect quickly and easily. The devices have a width of just 72 mm for direct measurement. These slim profiles save a tremendous amount of control cabinet space. In addition to the values for active and reactive energy, the energy meters also record the mains frequency, as well as current, voltage and power for all phases. And the user can conveniently scan all of these energy characteristics at a glance on a large, illuminated display.

Features:
- Push-in CAGE CLAMP® and lever save time at every stage
- Real space savings: 72 mm wide (4PS)
- The communications pro: M-Bus/Modbus® interface and two S0 pulse outputs
- Full transparency at a glance: display energy quality characteristics on an illuminated full-format display
- Intuitive configuration: touch-sensitive controls and configuration app via Bluetooth®

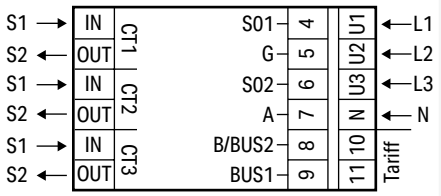


Configuration	
Configuration options	Touch-sensitive controls; Configuration app via *Bluetooth®*
Input	
Input signal type	Voltage; Current
Network configuration	Two-wire, three-wire and four-wire networks
Nominal input voltage $U_{i\,nom}$	3 x 230 … 400 VAC
Input voltage range	±20 %
Reference current I_{ref}	5 A
Input current I_i	≤ 65 A
Frequency range	45 … 60 Hz
Communication	
Communication	Modbus®; M-Bus; Bluetooth®
Interface	RS-485 (2-wire); 2x S0 interfaces (configurable)
Rate control input	230 VAC
Indicators	LCD with backlight
Signal processing	
Measured variables (calculated)	Active and reactive energy in supply and reference direction
Measurement type (load profile)	No
Measurement error	
Accuracy class	Class B (= 1 % error); Active energy per EN 50470-3
Calibration validity period	8 years
Supply	
Power supply type	Via measurement circuit
Power consumption $P_{max.}$ (phase; active power)	2 W
Power consumption $P_{max.}$ (phase; apparent power)	10 VA
Safety and protection	
Dielectric strength	4 kV; 1 min
Impulse withstand voltage (1.2/50 µs)	6 kV
Pollution degree	2
Protection type	IP51 / IP20; IP51 (front side); IP20 (connection)
Protection class	II
Connection data	
Connection type 1	Voltage/current
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2616 Series
Actuation type	Lever
Solid conductor	0.75 … 16 mm² / 18 … 4 AWG
Fine-stranded conductor	0.75 … 25 mm² / 18 … 4 AWG
Fine-stranded conductor; with insulated ferrule	0.75 … 16 mm²
Fine-stranded conductor; with uninsulated ferrule	0.75 … 16 mm²
Strip length	18 … 20 mm / 0.71 … 0.79 inches
Connection type 2	Communication/rate control input
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2604 Series
Actuation type 2	Lever
Solid conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule 2	0.25 … 2.5 mm²
Strip length 2	9 … 11 mm / 0.35 … 0.43 inches
Physical data	
Width	72 mm / 2.835 inches
Height	140 mm / 5.512 inches
Depth	63 mm / 2.48 inches
Note (dimensions)	Height without cover: 92 mm

Mechanical data	
Mounting type	DIN-35 rail
Material data	
Housing material	PC 940A
Weight	280 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Relative humidity	≤ 75% (during storage ≤ 95 %)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 50470-1/3; MID-compliant

Energy meter (MID); for transformer connection; 1 A / 5 A; 3 x 230/400 V; 50 Hz; Modbus® and M-Bus; 2 x S0 interface; 2PU CT

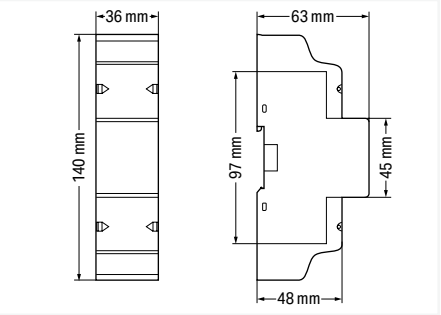
Serie 879



	Item No.	PU
	879-3040	1

Short description:
Crucial for trimming costs, comprehensive energy measurement is necessary to optimize energy consumption. WAGO's portfolio now has new energy meters that simplify this task while offering several key advantages. They use push-in connection technology with a lever, making them connect quickly and easily. Versions for current transformers are even slimmer at only 35 mm. These slim profiles save a tremendous amount of control cabinet space. In addition to the values for active and reactive energy, the energy meters also record the mains frequency, as well as current, voltage and power for all phases. And the user can conveniently scan all of these energy characteristics at a glance on a large, illuminated display.

Features:
- Push-in CAGE CLAMP® and lever save time at every stage
- Real space savings: 35 mm wide (2PUCT)
- Measurement of supply and purchase
- Energy measurement in four tariffs
- The communications pro: M-Bus/Modbus® interface and two S0 pulse outputs
- Full transparency at a glance: display energy quality characteristics on an illuminated full-format display
- Intuitive configuration: touch-sensitive controls and configuration app via Bluetooth®

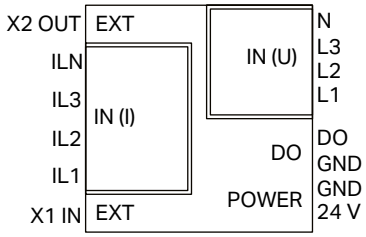


Configuration	
Configuration options	Touch-sensitive controls; Configuration app via *Bluetooth®*
Input	
Input signal type	Voltage; Current
Network configuration	Two-wire, three-wire and four-wire networks
Nominal input voltage $U_{i\,nom}$	3 x 230 … 400 VAC
Input voltage range	±20 %
Reference current I_{ref}	1 A
Input current I_i	≤ 5 A
Current transformer (secondary)	1 A; 5 A
Current transformer ratio	1:1 … 9999 : 1 / 5:5 … 9995 : 5
Frequency range	45 … 60 Hz
Communication	
Communication	Modbus®; M-Bus; Bluetooth®
Interface	RS-485 (2-wire); 2x S0 interfaces (configurable)
Rate control input	230 VAC
Indicators	LCD with backlight
Signal processing	
Measured variables (calculated)	Active and reactive energy in supply and reference direction
Measurement type (load profile)	No
Measurement error	
Accuracy class	Class B (= 1 % error); Active energy per EN 50470-3
Calibration validity period	8 years
Supply	
Power supply type	Via measurement circuit
Power consumption $P_{max.}$ (phase; active power)	2 W
Power consumption $P_{max.}$ (phase; apparent power)	10 VA
Safety and protection	
Dielectric strength	4 kV; 1 min
Impulse withstand voltage (1.2/50 µs)	6 kV
Pollution degree	2
Protection type	IP51 / IP20; IP51 (front side); IP20 (connection)
Protection class	II
Connection data	
Connection type 1	Voltage/current
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2604 Series
Actuation type	Lever
Solid conductor	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 … 2.5 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 … 2.5 mm²
Strip length	9 … 11 mm / 0.35 … 0.43 inches
Connection type 2	Communication/rate control input
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2604 Series
Actuation type 2	Lever
Solid conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 4 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule 2	0.25 … 2.5 mm²
Strip length 2	9 … 11 mm / 0.35 … 0.43 inches
Physical data	
Width	36 mm / 1.417 inches
Height	97 mm / 3.82 inches
Depth	63 mm / 2.48 inches
Note (dimensions)	Height with cover: 140 mm

Mechanical data	
Mounting type	DIN-35 rail
Material data	
Housing material	PC 940A
Weight	165 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Relative humidity	≤ 75% (during storage ≤ 95 %)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 50470-1/3; MID-compliant

3-Phase Power Measurement Module; 3 x 277/480 V/RC; Modbus RTU; Digital output; Configuration via software; Supply voltage: 24 VDC

Serie 2857



	Item No.	PU
	2857-570/024-000	1

Short description:
WAGO's 3-Phase Power Measurement Module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level.

Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® interface. In addition, the measured variables can be stored on a microSD card.

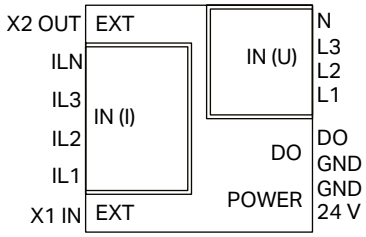
Features:
- Current measurement via Rogowski Coils RC xxx
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® interface
- Configurable digital signal output as pulse output

Configuration	
Configuration options	WAGO Interface Configuration Software
Input	
Input signal type	Voltage; Current; RTD sensors
Network configuration	3-phase power measurement with N-conductor (4-conductor); 3-phase power measurement without N-conductor (3-conductor)
Input signal (voltage)	277 VAC (U_{LN}); 480 VAC (U_{LL}); 90 mV AC (WAGO Rogowski Coils RC xxx)
Sensitivity	22.5 mV/kA (WAGO Rogowski Coils RC xxx)
Measurement range (current)	4 x 4000 AAC (WAGO Rogowski Coils RC xxx)
Frequency range	50 … 60 Hz (Harmonics analysis: 0 … 3.3 kHz)
Output – MODBUS	
Number of devices (max.)	32
Addressing	Via interface configuration software
Connector	2 x RJ-45 (daisy chain configuration)
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; Pulse output (S0 interface)
Communication	
Communication	Modbus® RTU
Interface	RS-485 (2-wire) via RJ-45
Number of devices (max.)	32
Addressing	Via interface configuration software
Signal processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Outputs; Energy sources; Power factors; Mains frequency; Harmonics analysis (up to 41st harmonic); Total harmonic distortion (THD)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)
Measurement error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})
Safety and protection	
Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
Safe isolation	Input/supply and communication per EN 61010-1
Requirement (N input)	Neutral conductors as part of the mains circuit, shall be considered hazardous live.
IL_x input requirement	Coils/converters with basic insulation
Protection type	IP20
Test voltage (input/output/supply)	AC 3.51 kV; 50 Hz; 1 min
Connection data	
Connection type 1	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inches
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)

Physical data	
Width	72 mm / 2.835 inches
Height	90 mm / 3.54 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	117.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

3-Phase Power Measurement Module; 3 x 277/480 V/1 A; Modbus RTU; Digital output; Configuration via software; Supply voltage: 24 VDC

Serie 2857



	Item No.	PU
	2857-570/024-001	1

Short description:
WAGO's 3-Phase Power Measurement Module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level.

Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® interface. In addition, the measured variables can be stored on a microSD card.

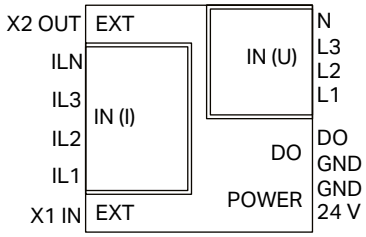
Features:
- Current measurement via 1A current transformer
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® interface
- Configurable digital signal output as pulse output

Configuration	
Configuration options	WAGO Interface Configuration Software
Input	
Input signal type	Voltage; Current; RTD sensors
Network configuration	3-phase power measurement with N-conductor (4-conductor); 3-phase power measurement without N-conductor (3-conductor)
Input signal (voltage)	277 V AC (U_{LN}); 480 V AC (U_{LL})
Input signal (current)	1 AAC (Current transformer)
Frequency range	50 … 60 Hz (Harmonics analysis: 0 … 3.3 kHz)
Input resistance (current input)	22 mΩ
Input resistance (voltage input)	1.5 MΩ
Input current (max.)	1 AAC
Response threshold	10 mA
Resolution (current)	10 mA
Output – MODBUS	
Number of devices (max.)	32
Addressing	Via interface configuration software
Connector	2 x RJ-45 (daisy chain configuration)
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; Pulse output (S0 interface)
Communication	
Communication	Modbus® RTU
Interface	RS-485 (2-wire) via RJ-45
Number of devices (max.)	32
Addressing	Via interface configuration software
Signal processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Outputs; Energy sources; Power factors; Mains frequency; Harmonics analysis (up to 41st harmonic); Total harmonic distortion (THD)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)
Measurement error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})
Safety and protection	
Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
Safe isolation	Input/supply and communication per EN 61010-1
Requirement (N input)	Neutral conductors as part of the mains circuit, shall be considered hazardous live.
IL_x input requirement	Coils/converters with basic insulation
Protection type	IP20
Test voltage (input/output/supply)	AC 3.51 kV; 50 Hz; 1 min

Connection data	
Connection type 1	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inches
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)
Physical data	
Width	72 mm / 2.835 inches
Height	90 mm / 3.54 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	115.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

3-Phase Power Measurement Module; 3 x 277/480 V/5 A; Modbus RTU; Digital output; Configuration via software; Supply voltage: 24 VDC

Serie 2857



	Item No.	PU
	2857-570/024-005	1

Short description:
WAGO's 3-Phase Power Measurement Module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level.

Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® interface. In addition, the measured variables can be stored on a microSD card.

Features:
- Current measurement via 5A current transformer
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® interface
- Configurable digital signal output as pulse output

Configuration	
Configuration options	WAGO Interface Configuration Software
Input	
Input signal type	Voltage; Current; RTD sensors
Network configuration	3-phase power measurement with N-conductor (4-conductor); 3-phase power measurement without N-conductor (3-conductor)
Input signal (voltage)	277 VAC (U_{LN}); 480 VAC (U_{LL})
Input signal (current)	5 AAC (Current transformer)
Frequency range	50 … 60 Hz (Harmonics analysis: 0 … 3.3 kHz)
Input resistance (current input)	5 mΩ
Input resistance (voltage input)	1.5 MΩ
Input current (max.)	5 AAC
Response threshold	5 mA
Resolution (current)	0.15 mA
Output – MODBUS	
Number of devices (max.)	32
Addressing	Via interface configuration software
Connector	2 x RJ-45 (daisy chain configuration)
Output – digital	
Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; Pulse output (S0 interface)
Communication	
Communication	Modbus® RTU
Interface	RS-485 (2-wire) via RJ-45
Number of devices (max.)	32
Addressing	Via interface configuration software
Signal processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Outputs; Energy sources; Power factors; Mains frequency; Harmonics analysis (up to 41st harmonic); Total harmonic distortion (THD)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)
Measurement error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)
Supply	
Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})
Safety and protection	
Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
Safe isolation	Input/supply and communication per EN 61010-1
Requirement (N input)	Neutral conductors as part of the mains circuit, shall be considered hazardous live.
IL_x input requirement	Coils/converters with basic insulation
Protection type	IP20
Test voltage (input/output/supply)	AC 3.51 kV; 50 Hz; 1 min

Connection data	
Connection type 1	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 24 … 14 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inches
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)
Physical data	
Width	72 mm / 2.835 inches
Height	90 mm / 3.54 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	115.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

Plug-in current transformer; CAGE CLAMP® connection technology
855 Series

Short description:
These plug-in units (855 Series) are inductive, single-conductor current transformers. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.

Features:
- Screwless CAGE CLAMP® connection technology
- Several mounting options available
- Vibration- and shock-resistant
- High mechanical retention forces
- High current-carrying capacity
- Continuous overload of 120% the nominal primary current
- Low-voltage current transformer for operating voltages up to max. 1.2 kV
- For 690 V power networks
- UL recognized components

Input current transformers	
Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N / 1 s (max. 100 kA / 1 s)
Overcurrent limiting factor	FS5 / FS10 (type dependent; see type plate inscription)
Rated frequency	50 … 60 Hz
Safety and protection	
Highest voltage for equipment U_m	AC 1.2 kV_{rms}
Test voltage	AC 6 kV; 50 Hz; 1 min
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 4 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 4 mm² / 28 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	60 mm / 2.362 inches
Height	80.9 mm / 3.185 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Installation on round cable; Closed current transformer; Installation on mounting plate; Mounting on DIN-rail via DIN-rail adapter; Mounting on round cable
Material data	
Insulation class	E
Environmental requirements	
Ambient temperature (operation at U_N)	-5 … +50 °C
Ambient temperature (storage)	-25 … +70 °C
Operating altitude (max.)	1000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2; UL: E356480

Accessories

Carrier rail adapter for plug-in current transformers (855-3xx/xxxx-xxxx and 855-4xx/xxxx-xxxx)

Item No.	PU
855-9900	1

Quick-mount kit for plug-in current transformers with CAGE CLAMP® connections

Item No.	PU
855-9910	1

3-phase power measurement module

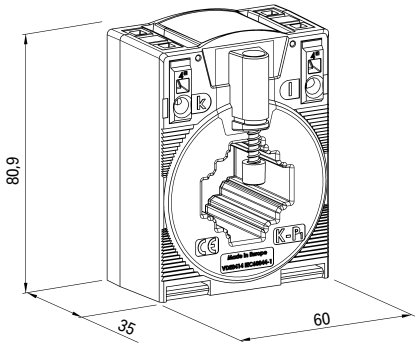
Rated Voltage	Item No.	PU
480 VAC	750-493	1
480 VAC	750-494	1
690 VAC	750-495	1

Operating tool with a partially insulated shaft; Type 1; Blade: (3.5 x 0.4) mm

Item No.	PU
210-720	1

» Terminal Block Assembly for Current Transformers Page 368

Plug-in current transformer; CAGE CLAMP® connection technology
855 Series

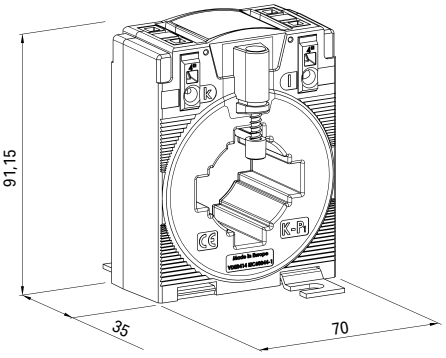


855-3xx/xxxx-xxxx

Busbar 1: 30 x 10 mm
Busbar 2: 25 x 12 mm
Busbar 3: 20 x 20 mm

Round cable: 26 mm

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
50 A	1 A	1.25 VA	3	855-301/050-103	1
50 A	5 A	1.25 VA	3	855-305/050-103	1
60 A	1 A	1.25 VA	1	855-301/060-101	1
60 A	5 A	1.25 VA	1	855-305/060-101	1
75 A	1 A	2.5 VA	1	855-301/075-201	1
75 A	5 A	2.5 VA	1	855-305/075-201	1
100 A	1 A	2.5 VA	1	855-301/100-201	1
100 A	5 A	2.5 VA	1	855-305/100-201	1
150 A	1 A	5 VA	1	855-301/150-501	1
150 A	5 A	5 VA	1	855-305/150-501	1
200 A	1 A	5 VA	1	855-301/200-501	1
200 A	5 A	5 VA	1	855-305/200-501	1
250 A	1 A	5 VA	1	855-301/250-501	1
250 A	5 A	5 VA	1	855-305/250-501	1
300 A	5 A	5 VA	1	855-305/300-501	1
400 A	1 A	10 VA	1	855-301/400-1001	1
400 A	5 A	10 VA	1	855-305/400-1001	1
600 A	1 A	10 VA	1	855-301/600-1001	1
600 A	5 A	10 VA	1	855-305/600-1001	1



855-4xx/xxxx-xxxx

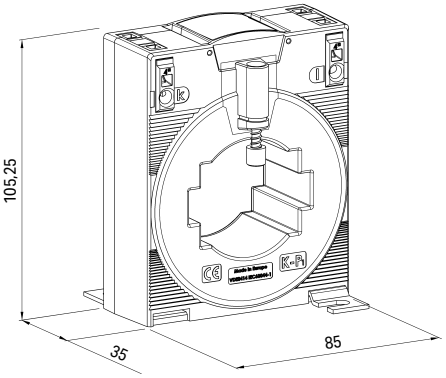
Busbar 1: 40 x 10 mm
Busbar 2: 30 x 15 mmm

Round cable: 32 mm

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
250 A	1 A	5 VA	1	855-401/250-501	1
250 A	5 A	5 VA	1	855-405/250-501	1
400 A	1 A	5 VA	1	855-401/400-501	1
400 A	5 A	5 VA	1	855-405/400-501	1
600 A	1 A	5 VA	1	855-401/600-501	1
750 A	5 A	5 VA	1	855-405/750-501	1

Plug-in current transformer; CAGE CLAMP® connection technology
855 Series

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
400 A	1 A	10 VA	1	855-501/400-1001	1
400 A	5 A	10 VA	1	855-505/400-1001	1
600 A	1 A	10 VA	1	855-501/600-1001	1
600 A	5 A	10 VA	1	855-505/600-1001	1
800 A	1 A	10 VA	1	855-501/800-1001	1
800 A	5 A	10 VA	1	855-505/800-1001	1
1000 A	1 A	10 VA	1	855-501/1000-1001	1
1000 A	5 A	10 VA	1	855-505/1000-1001	1

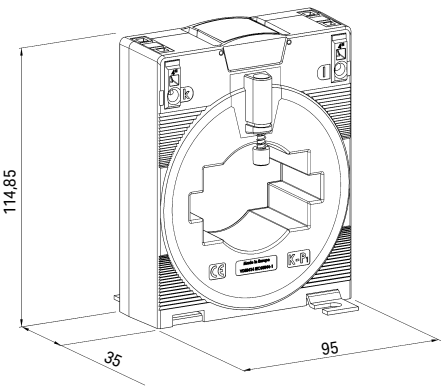


855-5xx/xxxx-xxxx

Busbar 1: 50 x 12 mm
Busbar 2: 40 x 30 mm

Round cable: 44 mm

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
1500 A	5 A	5 VA	1	855-605/1500-501	1
1500 A	1 A	5 VA	1	855-601/1500-501	1



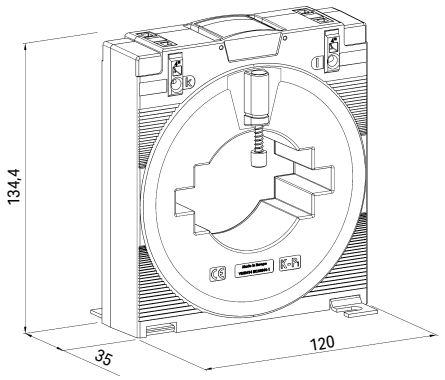
855-6xx/xxxx-xxxx

Busbar 1: 63 x 10 mm
Busbar 2: 50 x 30 mm

Round cable: 44 mm

Plug-in current transformer; CAGE CLAMP® connection technology
855 Series

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
1000 A	1 A	10 VA	1	855-801/1000-1001	1
2000 A	5 A	10 VA	1	855-805/2000-1001	1
2000 A	1 A	10 VA	1	855-801/2000-1001	1

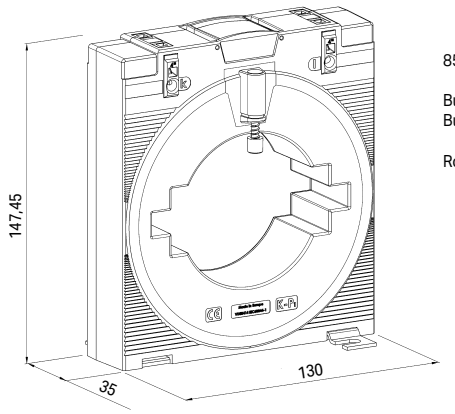


855-8xx/xxxx-xxxx

Busbar 1: 80 x 10 mm
Busbar 2: 60 x 30 mm

Round cable: 55 mm

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
2500 A	5 A	10 VA	1	855-1005/2500-1001	1
2500 A	1 A	10 VA	1	855-1001/2500-1001	1



855-10xx/xxxx-xxxx

Busbar 1: 100 x 10 mm
Busbar 2: 80 x 30 mm

Round cable: 70 mm

Plug-in current transformer; for billing purposes
855 Series

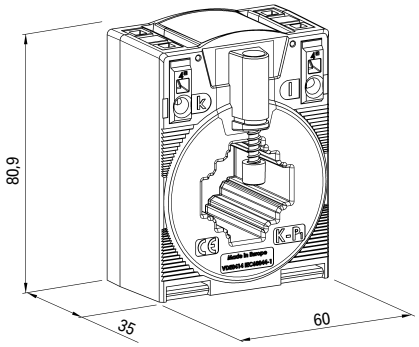
Short description:
WAGO's plug-in current transformers for billing measurement (855 Series) are inductive, single-conductor current transformers. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.
These plug-in current transformers comply with the conformity assessment procedure (module D) and can be used for billing.

Features:
- Screwless CAGE CLAMP® connection technology
- Several mounting options available
- Vibration- and shock-resistant
- High mechanical retention forces
- High current-carrying capacity
- Continuous overload of 120% the nominal primary current
- Low-voltage current transformer for operating voltages up to max. 1.2 kV
- For 690 V power networks
- Accessories: 879-3040; Energy Meter; with Push-in CAGE CLAMP® and lever; transformer connection (2PUCT)

Input current transformers	
Rated continuous thermal current I_{cth}	AC 1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N / 1 s (max. 100 kA / 1 s)
Overcurrent limiting factor	FS5 / FS10 (type dependent; see type plate inscription)
Rated frequency	50 … 60 Hz
Safety and protection	
Highest voltage for equipment U_m	AC 1.2 kV_{rms}
Test voltage	AC 6 kV; 50 Hz; 1 min
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 4 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 4 mm² / 28 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	60 mm / 2.362 inches
Height	80.9 mm / 3.185 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Installation on round cable; Closed current transformer; Installation on mounting plate; Mounting on DIN-rail via DIN-rail adapter; Mounting on round cable
Material data	
Insulation class	E
Environmental requirements	
Ambient temperature (operation at U_N)	-5 … +50 °C
Ambient temperature (storage)	-25 … +70 °C
Operating altitude (max.)	1000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2

Plug-in current transformer; for billing purposes
855 Series

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
100 A	5 A	2.5 VA	0.5	855-305/100-209	1
150 A	5 A	2.5 VA	0.5	855-305/150-209	1
200 A	5 A	5 VA	0.5	855-305/200-509	1
250 A	5 A	5 VA	0.5	855-305/250-509	1
300 A	5 A	5 VA	0.5	855-305/300-509	1
400 A	5 A	5 VA	0.5	855-305/400-509	1
500 A	5 A	5 VA	0.5	855-305/500-509	1
600 A	5 A	5 VA	0.5	855-305/600-509	1
750 A	5 A	5 VA	0.5	855-305/750-509	1

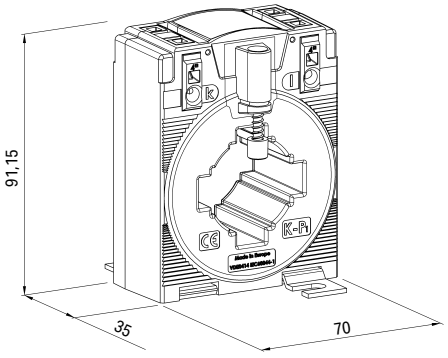


855-3xx/xxxx-xxxx

Busbar 1: 30 x 10 mm
Busbar 2: 25 x 12 mm
Busbar 3: 20 x 20 mm

Round cable: 26 mm

Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	PU
200 A	5 A	2.5 VA	0.5	855-405/200-209	1
250 A	5 A	2.5 VA	0.5	855-405/250-209	1
300 A	5 A	5 VA	0.5	855-405/300-509	1
400 A	5 A	5 VA	0.5	855-405/400-509	1
500 A	5 A	5 VA	0.5	855-405/500-509	1
600 A	5 A	5 VA	0.5	855-405/600-509	1
750 A	5 A	5 VA	0.5	855-405/750-509	1



855-4xx/xxxx-xxxx

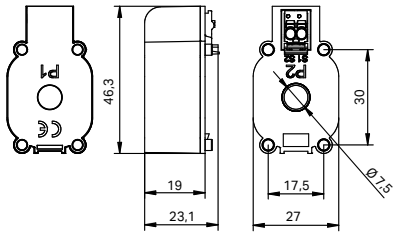
Busbar 1: 40 x 10 mm
Busbar 2: 30 x 15 mmm

Round cable: 32 mm

Plug-in current transformer; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1

855 Series

Primary rated current	Item No.	PU
35 A	855-2701/035-001	15 (1)
64 A	855-2701/064-001	15 (1)



Short description:
WAGO's plug-in current transformers (855 Series) are inductive, single-conductor current transformers. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.

Features:
- All-new design with picoMAX® connection technology
- Ready for space-restricted applications
- Simple assembly permits 17.5 mm phase spacing, allowing perfect adjustment to any circuit breaker.
- Easily mount on DIN-rail or panels via DIN-rail adapter (855-9927)
- Convert current from 64 A or 35 A to 1 A
- Accuracy class: 1

Input current transformers	
Rated continuous thermal current I_{cth}	100 %
Rated short-time thermal current I_{th}	60 x I_N / 1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz
Output current transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA
Measurement error	
Accuracy class	1
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 3.5, 2091-1122
Solid conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Feedthrough for measurement conductor	Ø 7.5 mm
Physical data	
Width	27 mm / 1.063 inches
Height	46 mm / 1.811 inches
Depth	23 mm / 0.906 inches
Mechanical data	
Mounting type	Installation on round cable; Closed current transformer; Mounting on DIN-rail via DIN-rail adapter; Mounting on round cable
Material data	
Insulation class	E
Flammability class per UL94	V2
Housing material	PA 66
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2; UL

Accessories

Carrier rail adapter; for plug-in current transformer

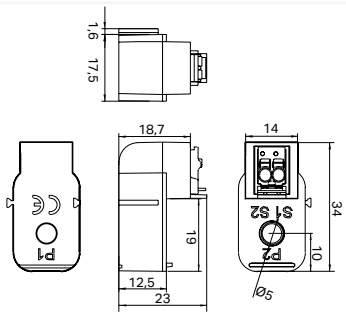
Item No.	Pack. Unit
855-9927	1

Operating tool with a partially insulated shaft; Type 1; Blade: (2.5 x 0.4) mm

Item No.	Pack. Unit
210-719	1

Plug-in current transformer; Primary rated current 32 A; Secondary rated current 320 mA
855 Series

	Item No.	PU
	855-1700/032-000	15 (1)



Short description:
WAGO's picoMAX® plug-in current transformer with low-power output is specifically tailored to WAGO's 750 Series 3-Phase Power Measurement Modules.

Features:
- All-new, low-power output design with picoMAX®
- Assembly via side latches
- Can be mounted directly on an ECB

Note
- The 855-1700/032-000 Plug-In Current Transformer is exclusive to the WAGO I/O System and shall only be used with WAGO's 750 Series 3-Phase Power Measurement Modules.
- Recommended conductor cross-section and length: 1.5 mm² (14 AWG) and maximum 3.0 m at the output

* Measurement range: 0.8 to 32 A in combination with the 3-Phase Power Measurement Modules (750-493/-494/-495)
** Testing adheres to EN 61869-2 with a conversion ratio of 16 A/0.16 A (accuracy class: 0.5) and an extended primary current of 200%.

Input current transformers	
Primary rated current	32 A
Rated short-time thermal current I_{th}	2 kA / 0.1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz
Output current transformer	
Secondary rated current	0.32 A
Rated power S_r	0.01 VA
Measurement error	
Accuracy class	0.5
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 3.5, 2091-1122
Solid conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Feedthrough for measurement conductor	Ø 5.0 mm
Physical data	
Width	17 mm / 0.669 inches
Height	34 mm / 1.339 inches
Depth	23 mm / 0.906 inches
Mechanical data	
Mounting type	Closed current transformer; Installation on round cable
Material data	
Insulation class	E
Housing material	PA 66
Weight	11 g
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61869-2; EN 61010-1

Accessories

3-phase power measurement module

Rated Voltage	Item No.	Pack. Unit
480 VAC	750-493	1
480 VAC	750-494	1
690 VAC	750-495	1

Operating tool with a partially insulated shaft; Type 1; Blade: (2.5 x 0.4) mm

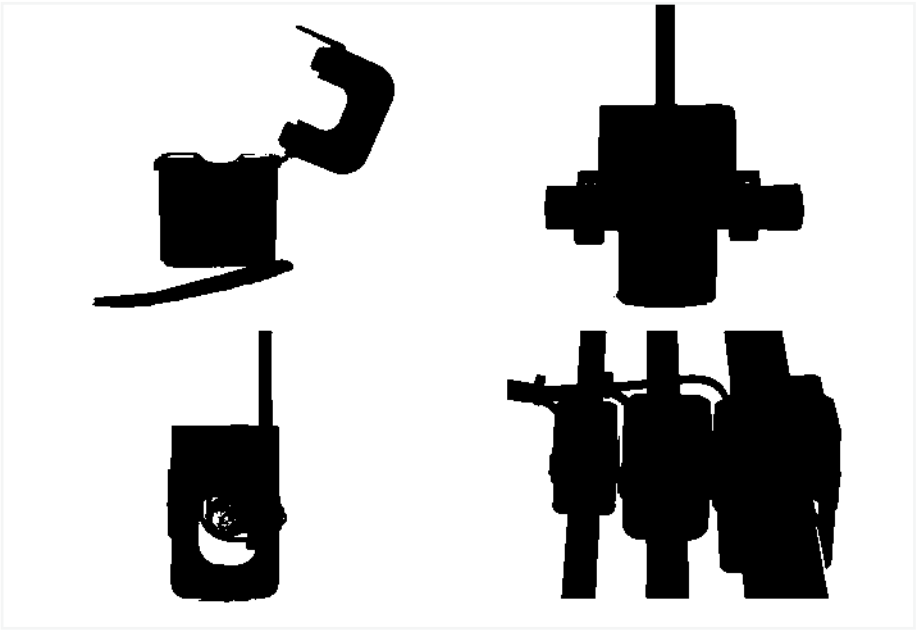
Item No.	Pack. Unit
210-719	1

Split-core current transformer
855 Series

Short description:
WAGO's compact split-core current transformers are ideal for retrofitting existing systems. They are perfect for applications in which the current path must not be disrupted. The transformer's accuracy permits extremely precise current measurements. The split-core current transformers are capable of supplying the specified rated power at the end of the secondary cable. All transformers are supplied with color-coded cables. Two UV-resistant cable ties are also included for secure and easy mounting.

Features:
- Current ratios from 60 A (primary side) and 1 A (secondary side)
- No primary cable interruption
- Ideal for use in very confined spaces
- Rapid mounting
- For use around insulated conductors (18 mm Ø)
- Compact and hinged
- Color-coded connection cable (3 m)

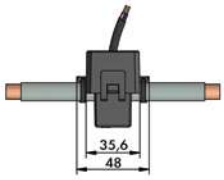
Input current transformers	
Rated continuous thermal current I_{cth}	100 %
Rated short-time thermal current I_{th}	60 x IN / 1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Mechanical data	
Mounting type	Split-core current transformer (suspended)
Material data	
Flammability class per UL94	V2
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2

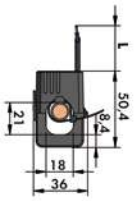


Split-core current transformer
855 Series

Feedthrough for measurement conductor: 18 mm Ø

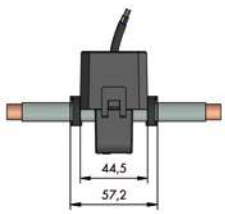
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy Class	Cable Length	Conductor Cross Section	Item No.	PU
60 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/060-003	1
75 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/075-003	1
100 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/100-003	1
125 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/125-003	1
150 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/150-003	1
200 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-3001/200-001	1
250 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-3001/250-001	1

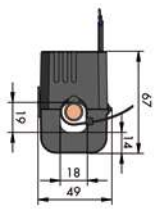




Feedthrough for measurement conductor: 18 mm Ø

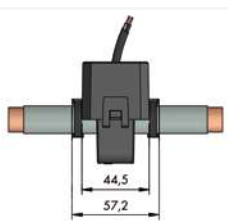
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	PU
100 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4001/100-001	1
125 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4001/125-001	1
150 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4001/150-001	1
150 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4005/150-101	1
200 A	1 A	0.2 VA	0.5	3 m	0.5 mm²	855-4001/200-001	1
200 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4005/200-101	1
250 A	1 A	0.2 VA	0.5	3 m	0.5 mm²	855-4001/250-000	1
250 A	5 A	1 VA	0.5	0.5 m	1.5 mm²	855-4005/250-100	1

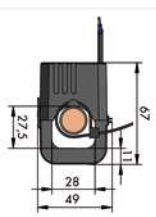




Feedthrough for measurement conductor: 28 mm Ø

Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy Class	Cable Length	Conductor Cross Section	Item No.	PU
200 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/200-001	1
250 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/250-001	1
250 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/250-101	1
300 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/300-001	1
300 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/300-101	1
400 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/400-001	1
400 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/400-101	1
500 A	1 A	0.2 VA	0.5	3 m	0.5 mm²	855-4101/500-000	1
500 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/500-101	1

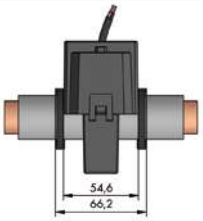


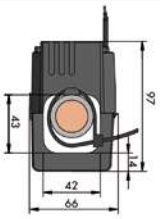


Split-core current transformer
855 Series

Feedthrough for measurement conductor: 42 mm Ø

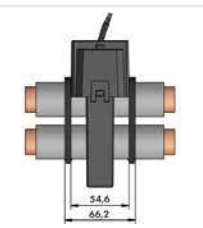
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy Class	Cable Length	Conductor Cross Section	Item No.	PU
250 A	1 A	0.5 VA	1	5 m	0.5 mm²	855-5001/250-001	1
300 A	1 A	0.5 VA	1	5 m	0.5 mm²	855-5001/300-001	1
300 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5005/300-001	1
400 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/400-000	1
400 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5005/400-001	1
500 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/500-000	1
500 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5005/500-001	1
600 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/600-000	1
600 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5005/600-000	1
750 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/750-000	1
750 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5005/750-000	1
800 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/800-000	1
800 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5005/800-000	1
1000 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5001/1000-000	1
1000 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5005/1000-000	1

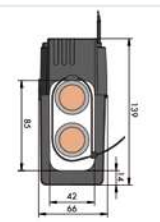




Feedthrough for measurement conductor: 42 mm Ø

Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy Class	Cable Length	Conductor Cross Section	Item No.	PU
250 A	1 A	0.5 VA	1	5 m	0.5 mm²	855-5101/250-001	1
300 A	1 A	0.5 VA	1	5 m	0.5 mm²	855-5101/300-001	1
300 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5105/300-001	1
400 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/400-000	1
400 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5105/400-001	1
500 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/500-000	1
500 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5105/500-001	1
600 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/600-000	1
600 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5105/600-000	1
750 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/750-000	1
750 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5105/750-000	1
800 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/800-000	1
800 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5105/800-000	1
1000 A	1 A	0.5 VA	0.5	5 m	0.5 mm²	855-5101/1000-000	1
1000 A	5 A	0.5 VA	0.5	3 m	1.5 mm²	855-5105/1000-000	1





Rogowski coil; RC 70, RC 125 and RC 175
855 Series

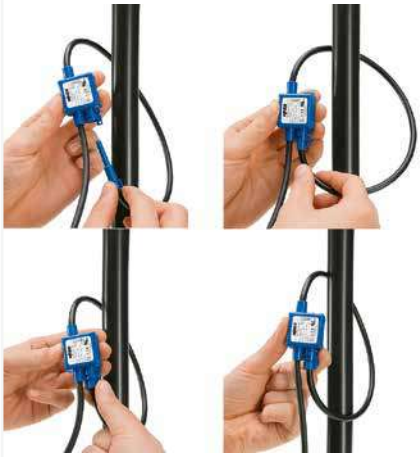
Short description:
WAGO's Rogowski coils are closed-air coils featuring a non-magnetic split core that can be connected to WAGO products (857-552; 750-495/000-002; 2857-570/024-000).

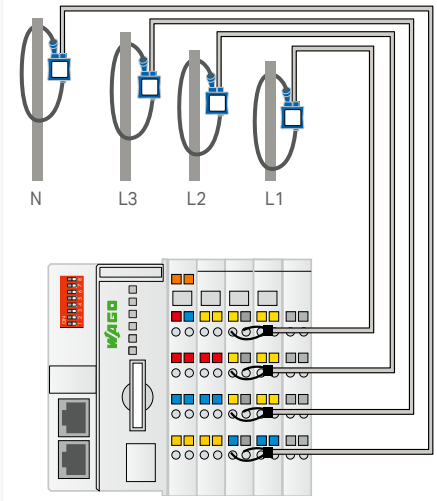
Easy mounting of the Rogowski coils allows existing systems to be retrofitted without time-consuming installation or process interruption.

Features:
- Rated insulation voltage: 1000 V Cat. III/600 V Cat. IV
- Accuracy class: 0.5 (per EN 61869-2)
- Degree of protection: IP67
- Measurement coil diameter: 70, 125 or 175 mm
- Length of signal lines: 1.5 m or 4.5 m
- Surrounding air temperature: –40 … +80°C
- Sealable bayonet connector
- Anchor points for cable ties

Note:
The specifications for the primary rated current refer to a combination with the WAGO Modules (857-552 and 750-495/000-002). Rogowski technology allows the coils to measure a wide primary current range of up to 10,000 A without loss of accuracy, because there are no saturation effects.
The requirements for standards EN 61869-1, EN 61869-2, EN 61869-6 and EN 61869-10 are only partially met, as there are fundamental differences with current transformers for a Rogowski coil.

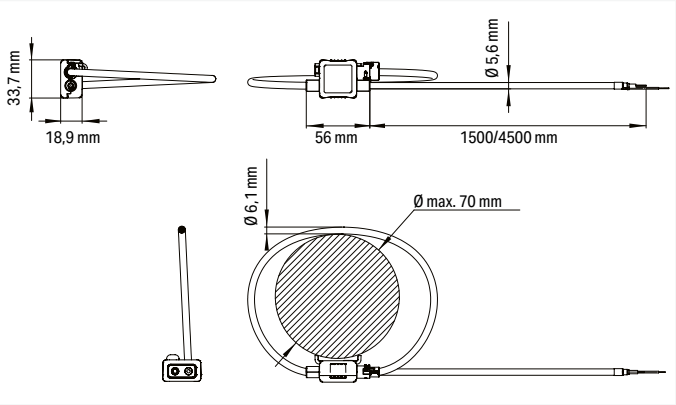
Input	
Measurement range	10 A … 10000 A (up to 4000 A in combination with the recommended WAGO products)
Input current transformers	
Rated short-time thermal current I_{th}	300 kA at 50 Hz
Rated frequency	50 … 60 Hz
Output – analog	
Sensitivity	22.5 mV/kA at 50 Hz
Output signal (max.)	30 V
Measurement error	
Translation errors (all positions)	0.75 %
Translation errors (note)	Assuming that a primary conductor with a minimum diameter of 15 mm is used that is routed perpendicular to and in contact with the coil.
Safety and protection	
Rated voltage	1000 VAC_{rms} (Cat. III); 600 VAC_{rms} (Cat. IV)
Impulse withstand voltage (1.2/50 µs)	12.8 kV
Protection type	IP57
Voltage for isolation test	AC 7.4 kV; 50 Hz; 1 min
Mechanical data	
Mounting type	Split-core current transformer (suspended)
Material data	
Weight	130 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Ambient temperature (storage)	-40 … +80 °C
Relative humidity	90% (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61010-1; EN 61010-2-32; EN 61869-1; EN 61869-2; EN 61869-6; EN 61869-10; UL 61010-1





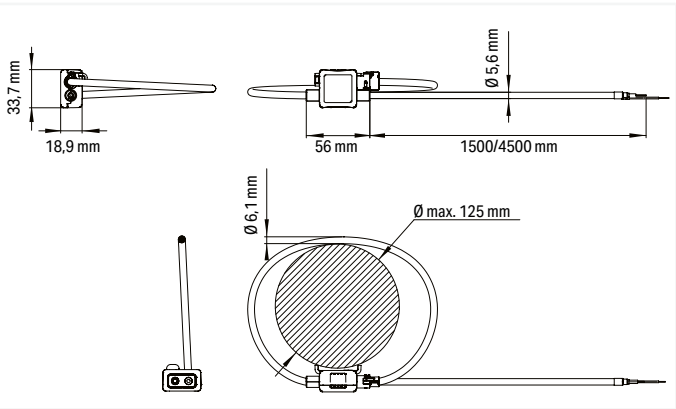
Direct connection of Rogowski coils to the three-phase power measurement module (750-495/000-002)

Rogowski coil; RC 70, RC 125 and RC 175
855 Series



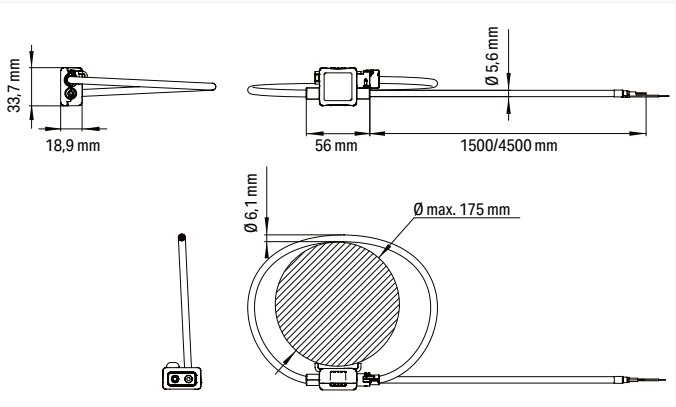
Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 70 mm Ø

Mutual Inductance M	Cable Length	Item No.	PU
71.98 mH	1.5 m	**855-9150/2000-701**	1
71.98 mH	4.5 m	**855-9450/2000-701**	1



Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 125 mm Ø

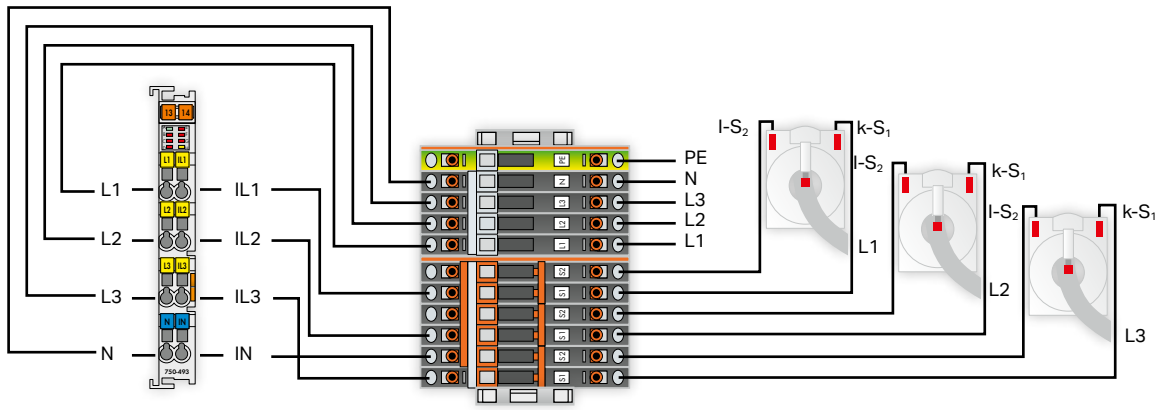
Mutual Inductance M	Cable Length	Item No.	PU
72.14 mH	1.5 m	**855-9150/2000-1251**	1
72.14 mH	4.5 m	**855-9450/2000-1251**	1



Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 175 mm Ø

Mutual Inductance M	Cable Length	Item No.	PU
72.31 mH	1.5 m	**855-9150/2000-1751**	1
72.31 mH	4.5 m	**855-9450/2000-1751**	1

Terminal Block Assemblies for Current and Voltage Transformers
For Fast and Easy Connections

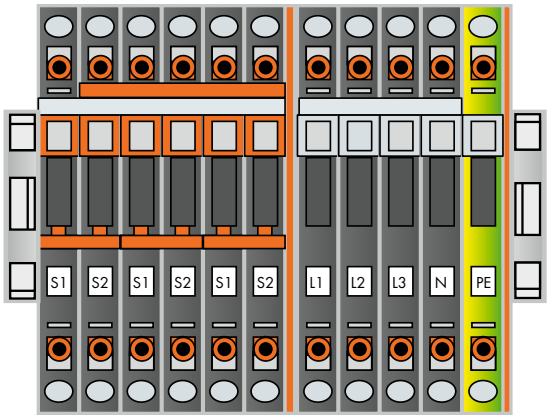


3-Phase Power Measurement Module, 750 Series

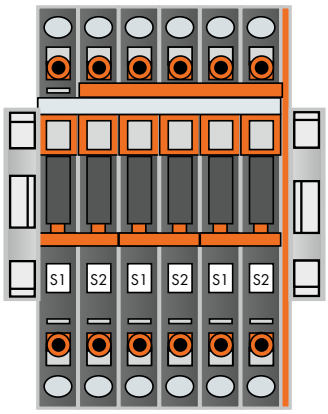
Terminal Block Assembly (2007 Series) for Current Transformers and Power Taps

Current Transformers, 855 Series

Pre-assembled terminal block assembly for easily connecting and short-circuiting current transformers, suitable for three-phase power measurement modules (750-493 and 750-494)

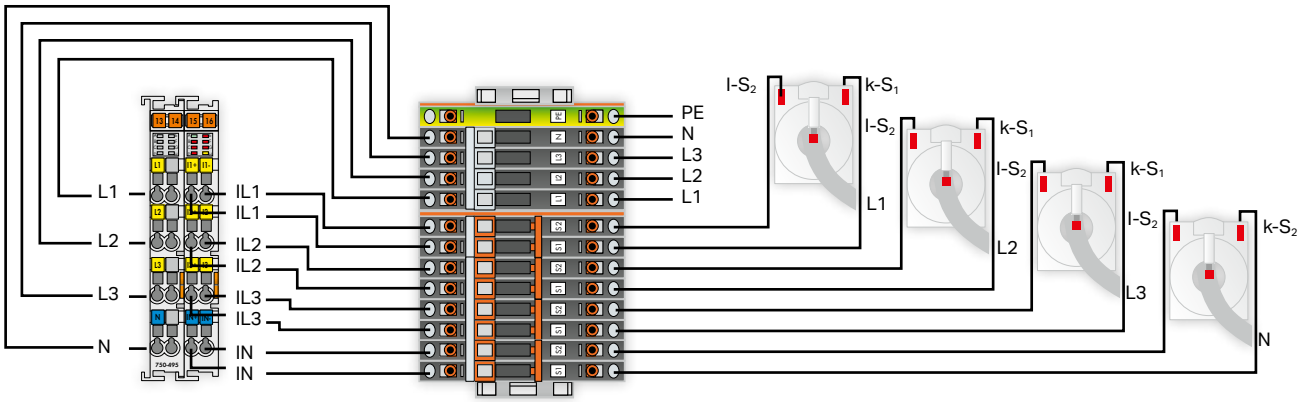


Compact terminal block for current transformer circuit, 2007-8873
Connection option for current and voltage, including 'Y' point jumper



Compact terminal block for current transformer circuit, 2007-8875
Connection option for current and voltage, including 'Y' point jumper

ADVANTAGES:
- 'Y' point jumper
- Easy and clear wiring
- Short-circuiting of current transformers
- Test sockets for control measurements
- Visible current and voltage path separation



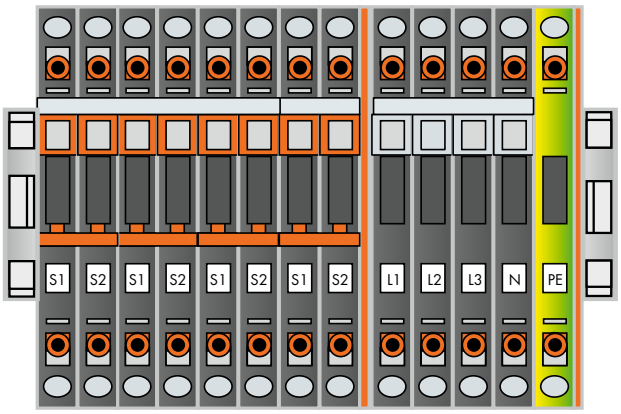
3-Phase Power Measurement Module, 750 Series

Terminal Block Assembly (2007 Series) for Current Transformers and Power Taps

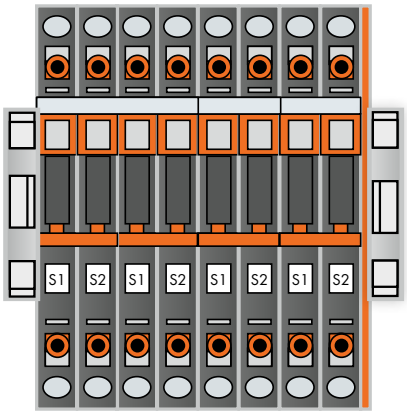
Current Transformers, 855 Series

4

Pre-assembled terminal block assembly for easily connecting and short circuiting current transformers, suitable for three-phase power measurement modules (750-495)



Compact terminal block for current transformer circuit, 2007-8874
Connection option for current and voltage



Compact terminal block for current transformer circuit, 2007-8877
Connection option for current

Current signal conditioner; Current input signal: 80 ADC; Modbus RTU; Supply voltage: 24 VDC
789 Series

	Item No.	PU
	789-620	1

Short description:
WAGO's intelligent current sensor monitors solar plants or inverters for DC measurements within a large current measurement range. The sensor is mounted on DIN-35 rail.

4

Input	
Input signal type	Current
Input signal (current)	DC 0 … 80 A
Resolution [bit]	15 bits
Output – MODBUS	
Number of devices (max.)	32
Connector	RJ-45
Bus length (max.)	1200 m
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Communication	
Communication	Modbus® RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of devices (max.)	32
Baud rate	19.2 kBd
Parity	Even
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Measurement error	
Transmission error (typ.)	≤ 0.5 % of upper-range value (at room temperature)
Temperature coefficient	≤ 0.01 %/K
Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	12 … 34 VDC
Current consumption at nominal supply voltage	≤ 8 mA
Safety and protection	
Protection type	IP20
Connection data	
Feedthrough for measurement conductor	15 mm
Connector	RJ-45
Physical data	
Width	35 mm / 1.378 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	80.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories

Interface Module with RJ-45 Connector

Item No.	PU
289-965	1

Interface Module with RJ-45 Connector and Shield Clamping Saddle

Color	Item No.	PU
white	289-966	1

ETHERNET RJ-45 Connector

Item No.	PU
750-975	1

789-620

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n. c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus®-Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

DIP Switch Adjustability

● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® address in the OFF state.

Current signal conditioner; Current input signal: 140 ADC; Modbus RTU; Supply voltage: 24 VDC; Module width: 35 mm

789 Series

	Item No.	PU
	789-621	1

Short description:
WAGO's intelligent current sensor monitors solar plants or inverters for DC measurements within a large current measurement range. The sensor is mounted on DIN-35 rail.

4

Input	
Input signal type	Current
Input signal (current)	DC 0 … 140 A
Resolution [bit]	15 bits
Output – MODBUS	
Number of devices (max.)	32
Connector	RJ-45
Bus length (max.)	1200 m
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Communication	
Communication	Modbus® RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of devices (max.)	32
Baud rate	19.2 kBd
Parity	Even
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Measurement error	
Transmission error (typ.)	≤ 0.5 % of upper-range value (0 … 80 A; at room temperature); ≤ 1 % of upper-range value (80 … 140 A; at room temperature)
Temperature coefficient	≤ 0.05 %/K (-20 … 60 °C); ≤ 0.1 %/K (60 … 70 °C)
Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	12 … 34 VDC
Current consumption at nominal supply voltage	≤ 8 mA
Safety and protection	
Protection type	IP20
Connection data	
Feedthrough for measurement conductor	Ø 15 mm
Connector	RJ-45
Physical data	
Width	35 mm / 1.378 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	77.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories

Interface Module with RJ-45 Connector

Item No.	PU
289-965	1

Interface Module with RJ-45 Connector and Shield Clamping Saddle

Color	Item No.	PU
white	289-966	1

ETHERNET RJ-45 Connector

Item No.	PU
750-975	1

789-621

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n.c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus® Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

DIP Switch Adjustability

● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® Adress in the OFF state.

Current signal conditioner; Current input signal: 50 AAC; Modbus RTU; Supply voltage: 24 VDC; Module width: 35 mm

789 Series

	Item No.	PU
	789-622	1

Short description:
WAGO's intelligent current sensor monitors AC currents and is mounted on DIN-35 rail.

4

Input	
Input signal type	Current
Input signal (current)	0 … 50 AAC
Resolution [bit]	14 bits
Output – MODBUS	
Number of devices (max.)	32
Connector	RJ-45
Bus length (max.)	1200 m
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Communication	
Communication	Modbus® RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of devices (max.)	32
Baud rate	19.2 kBd
Parity	Even
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Measurement error	
Transmission error (typ.)	1 % (typ.); 3 % (max.) of upper-range value (at room temperature)
Temperature coefficient	≤ 0.01 %/K
Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	12 … 34 VDC
Current consumption at nominal supply voltage	≤ 8 mA
Safety and protection	
Protection type	IP20
Connection data	
Feedthrough for measurement conductor	Ø 15 mm
Connector	RJ-45
Physical data	
Width	35 mm / 1.378 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	77.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories

Interface Module with RJ-45 Connector

	Item No.	PU
	289-965	1

Interface Module with RJ-45 Connector and Shield Clamping Saddle

Color	Item No.	PU
white	289-966	1

ETHERNET RJ-45 Connector

	Item No.	PU
	750-975	1

789-622

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n.c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus® Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers:	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

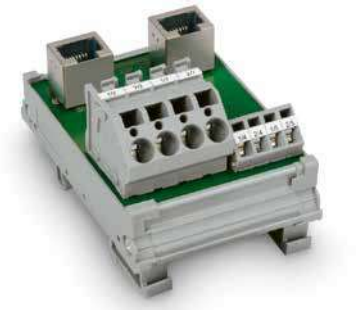
DIP Switch Adjustability

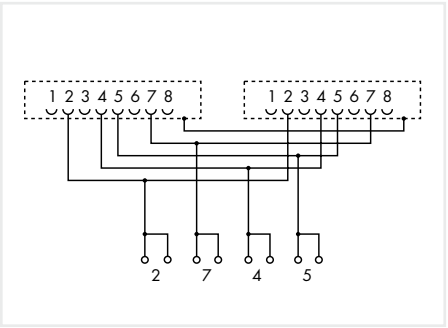
● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® address in the OFF state.

Interface module; 2xRJ-45; PCB terminal blocks, double-row; in mounting carrier
289 Series





	Item No.	PU
	289-965	1

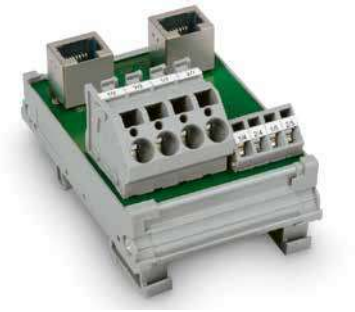
Short description:
Compatible on the field side with the 789-620, 789-621 and 789-622 Current Sensors

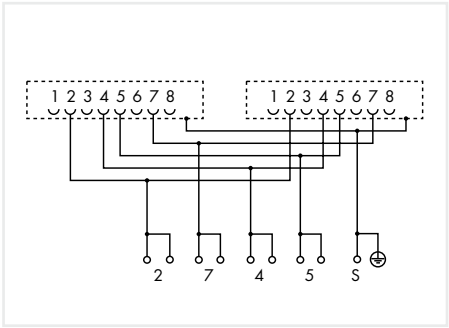
Required terminal assignment:
2: + Supply
7: - Supply
4: D+
5: D-

Electrical data	
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	0.5 kV_{rms}
Connection data	
Mating cycles	500
Connection cable	RJ-45 cable assembly (recommended: UTP)
Connection 1	
Connector	2 x RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	8
Connection type 2	Clamping units 2, 7
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Clamping units 4, 5
Connection technology 3	CAGE CLAMP®
WAGO connector 3	WAGO 745 Series
Solid conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Strip length 3	11 … 12 mm / 0.43 … 0.47 inches
Physical data	
Width	58 mm / 2.283 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	70 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +85 °C

Interface module; 2xRJ-45; PCB terminal blocks, double-row; in mounting carrier; with shield connection

289 Series





	Item No.	PU
	289-966	1

Short description:
Compatible on the field side with the 789-620, 789-621 and 789-622 Current Sensors

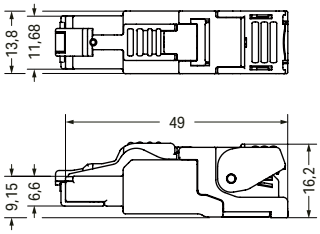
Required terminal assignment:
2: + Supply
7: - Supply
4: D+
5: D-

Direct shield connection to the DIN-rail via shield grounding foot

Electrical data	
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Specialty functions	With shield connection
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	0.5 kV_{rms}
Connection data	
Mating cycles	500
Connection cable	Shielded RJ-45 cable assembly (recommended: UTP, STP)
WAGO shield clamping saddle	27 mm wide; cable diameter up to 24 mm
Connection 1	
Connector	2 x RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	8
Connection type 2	Clamping units 2, 7
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Clamping units 4, 5
Connection technology 3	CAGE CLAMP®
WAGO connector 3	WAGO 745 Series
Solid conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Strip length 3	11 … 12 mm / 0.43 … 0.47 inches
Physical data	
Width	69 mm / 2.717 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	106.9 g
Environmental requirements	
Ambient temperature (operation at UN)	-20 … +85 °C

ETHERNET Connector ; RJ-45; Cat. 6A; straight; AWG 22
750 Series

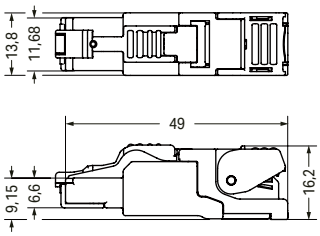
Code	Item No.	PU
TIA-568A	750-977/000-011	1
TIA-568B	750-977/000-012	1



Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	0°
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor 2	0.11 … 0.36 mm² / 27/7 … 22/7 AWG
Physical data	
Width	13.8 mm
Height	16.2 mm
Depth	49 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 9 mm
Housing material	Zinc die casting
Weight	18 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET Connector ; RJ-45; Cat. 6A; straight; AWG 24
750 Series

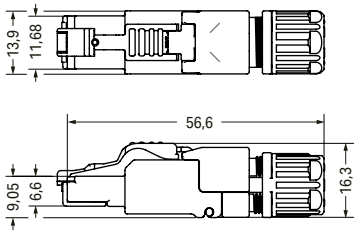
Code	Item No.	PU
TIA-568A	750-977/000-021	1
TIA-568B	750-977/000-022	1



Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	0°
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor 2	0.11 … 0.23 mm² / 27/7 … 24/7 AWG
Physical data	
Width	13.8 mm
Height	16.2 mm
Depth	49 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 9 mm
Housing material	Zinc die casting
Weight	18 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET Connector ; RJ-45; Cat. 6A; straight; AWG 22; Strain relief
750 Series

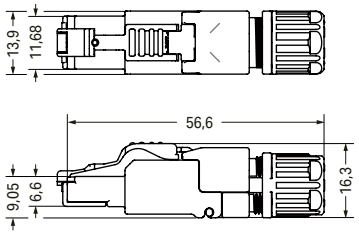
Code	Item No.	PU
TIA-568A	750-978/000-011	1
TIA-568B	750-978/000-012	1



Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	0°
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor 2	0.11 … 0.36 mm² / 27/7 … 22/7 AWG
Physical data	
Width	13.9 mm
Height	16.3 mm
Depth	56.6 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die casting
Weight	22 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET Connector ; RJ-45; Cat. 6A; straight; AWG 24; Strain relief
750 Series

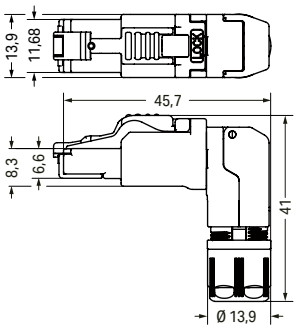
Code	Item No.	PU
TIA-568A	750-978/000-021	1
TIA-568B	750-978/000-022	1



Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	0°
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor 2	0.11 … 0.23 mm² / 27/7 … 24/7 AWG
Physical data	
Width	13.9 mm
Height	16.3 mm
Depth	56.6 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die casting
Weight	22 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET Connector ; RJ-45; Cat. 6A; angled; AWG 22; Strain relief
750 Series

Code	Item No.	PU
TIA-568A	**750-979/000-011**	1
TIA-568B	**750-979/000-012**	

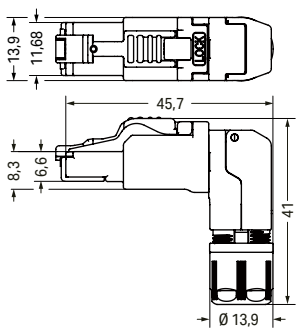


Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	90°
Cable connection direction (note)	Selectable position
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor 2	0.11 … 0.36 mm² / 27/7 … 22/7 AWG
Physical data	
Width	13.9 mm
Height	41 mm
Depth	45.7 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die casting
Weight	26 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

4

ETHERNET Connector ; RJ-45; Cat. 6A; angled; AWG 24; Strain relief
750 Series

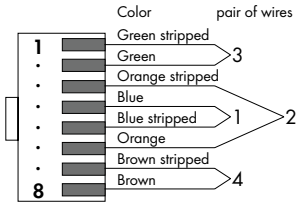
Code	Item No.	PU
TIA-568A	**750-979/000-021**	1
TIA-568B	**750-979/000-022**	



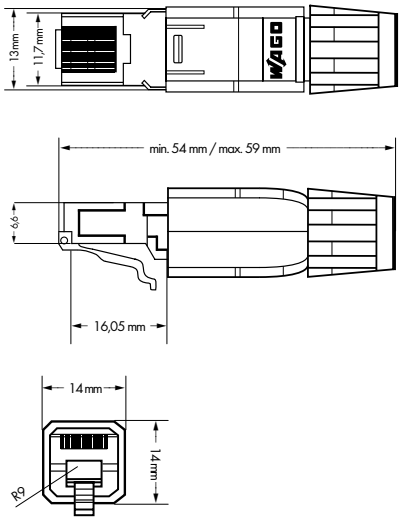
Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	90°
Cable connection direction (note)	Selectable position
Communication/fieldbus	ETHERNET
Baud rate	-
Connection data	
Connection type 1	IDC contact
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor 2	0.11 … 0.23 mm² / 27/7 … 24/7 AWG
Physical data	
Width	13.9 mm
Height	41 mm
Depth	45.7 mm
Mechanical data	
Connection requirement (permissible cable type)	Cat. 6 A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die casting
Weight	26 g
Environmental requirements	
Ambient temperature (operation)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95%
Standards/specifications	IEC60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly
750 Series

Pin assignment TIA-568A



	Item No.	PU
	750-975	1



Short description:
Versatile RJ-45 connector for industrial, office and building wiring applications.

This compact RJ-45 ETHERNET Connector uses IDC technology for easy field assembly.

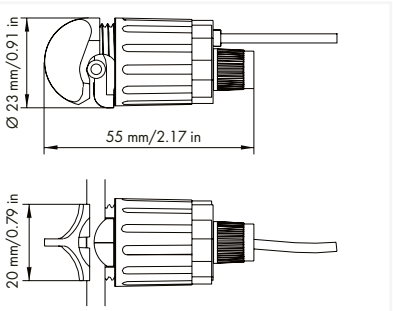
Conductor termination is performed without any tools.
The connector is compliant with all required standards.
Large conductor cross-sections can also be connected.
The connector complies with Category 5e.

Technical data	
Connection type	RJ-45 plug
Pole number	8
Cable connection direction to mating direction	0°
Communication/fieldbus	ETHERNET
Code	TIA-568A
Baud rate	-
Insulation resistance	(100 V) > 1 GΩ
Contact resistance	(Wire – IDC) < 1 mΩ; (Strand – IDC) < 5 mΩ
Connection data	
Connection type 1	IDC contact
Solid conductor	0.13 … 0.24 mm² / 26/1 … 23/1 AWG
Stranded conductor 2	0.14 … 0.36 mm² / 26/7 … 22/7 AWG
Physical data	
Width	14 mm
Height	14 mm
Depth	59 mm
Mechanical data	
Shield	Brass (CuZn); hot-dip tinned 3 µm; Shield contact: large surface >180°
Connection requirement (permissible cable type)	Cat. 5e
Connectable sheathed cable diameter	4.5 … 8 mm
Housing material	Plastic
Contact material	Bronze (CuSn6)
Contact plating	> 1.2 µm gold over 1.2 µm nickel
Mating cycles (max.)	1,000
Weight	10 g
Environmental requirements	
Ambient temperature (operation)	-20 … +70 °C
Ambient temperature (storage)	-40 … +70 °C
Protection type	IP20
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Standards/specifications	Basic standard: IEC 60603-7 RJ-45 Category 5; CD ISO/IEC 11801: 2002; EN 50173: 2002; EIA/TIA 568A: 2002

4

Power tap; with fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); Phase
855 Series

Color	Item No.	PU
black	855-8001	1



Short description;
WAGO's Power Taps (855 Series) easily and safely tap the measurement voltage.

This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

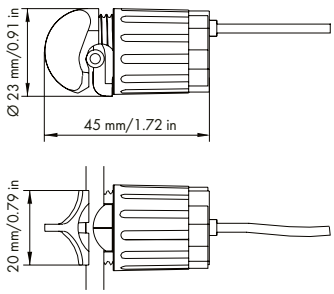
Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- Power taps (855-8001 and 855-8003) include a (5 x 25) mm 2 A fuse
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Note:
Spare fuse: WAGO 855-8020

Output – voltage tap	
Continuous current (max.)	2 A
Voltage drop at output (max.)	≤ 0.5 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Safety and protection	
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	IDC connection
Solid conductor	2.5 … 6 mm² / 14 … 10 AWG
Fine-stranded conductor	2.5 … 6 mm² / 14 … 10 AWG
Feedthrough for measurement conductor	Ø 3 … 5 mm
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule
Physical data	
Width	23 mm / 0.906 inches
Height	59 mm / 2.323 inches
Depth	23 mm / 0.906 inches
Cable length	3 m
Mechanical data	
Mounting type	Insulation displacement connection
Mounting type	Mounting on insulated round cable
Torque range	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	25.9 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-5 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Power tap; without fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); N-conductor
855 Series

Color	Item No.	PU
blue	855-8002	1



Short description;
WAGO's Power Taps (855 Series) easily and safely tap the measurement voltage.

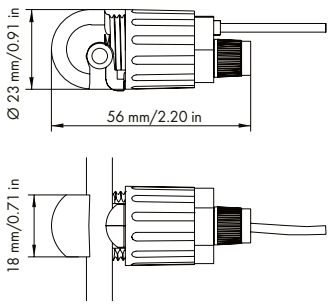
This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- Power taps (855-8001 and 855-8003) include a (5 x 25) mm 2 A fuse
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Output – voltage tap	
Continuous current (max.)	2 A
Voltage drop at output (max.)	≤ 0.5 VAC
Fuse (voltage path)	-
Safety and protection	
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	IDC connection
Solid conductor	2.5 … 6 mm² / 14 … 10 AWG
Fine-stranded conductor	2.5 … 6 mm² / 14 … 10 AWG
Feedthrough for measurement conductor	Ø 3 … 5 mm
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule
Physical data	
Width	23 mm / 0.906 inches
Height	50 mm / 1.969 inches
Depth	23 mm / 0.906 inches
Cable length	3 m
Mechanical data	
Mounting type	Insulation displacement connection
Mounting type	Mounting on insulated round cable
Torque range	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	20 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-5 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Power tap; with fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); Phase
855 Series

Color	Item No.	PU
black	855-8003	1



Short description;
WAGO's Power Taps (855 Series) easily and safely tap the measurement voltage.

This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

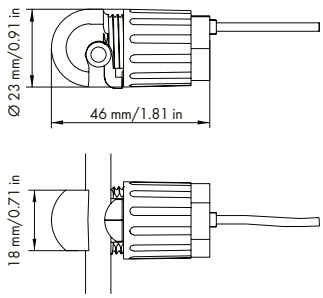
Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- Power taps (855-8001 and 855-8003) include a (5 x 25) mm 2 A fuse
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Note:
Spare fuse: WAGO 855-8020

Output – voltage tap	
Continuous current (max.)	2 A
Voltage drop at output (max.)	≤ 0.5 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Safety and protection	
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	IDC connection
Solid conductor	10 … 16 mm² / 8 … 6 AWG
Fine-stranded conductor	10 … 16 mm² / 8 … 6 AWG
Feedthrough for measurement conductor	5 … 7 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule
Physical data	
Width	23 mm / 0.906 inches
Height	59 mm / 2.323 inches
Depth	23 mm / 0.906 inches
Cable length	3 m
Mechanical data	
Mounting type	Insulation displacement connection
Mounting type	Mounting on insulated round cable
Torque range	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	72.6 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-5 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Power tap; without fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); N-conductor
855 Series

Color	Item No.	PU
blue	855-8004	1



Short description;
WAGO's Power Taps (855 Series) easily and safely tap the measurement voltage.

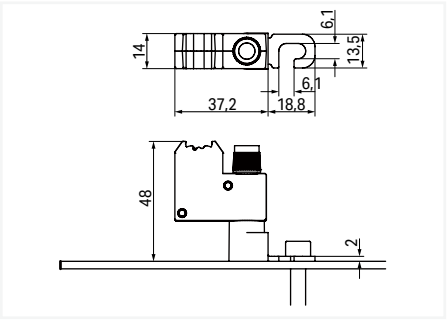
This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- Power taps (855-8001 and 855-8003) include a (5 x 25) mm 2 A fuse
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Output – voltage tap	
Continuous current (max.)	2 A
Voltage drop at output (max.)	≤ 0.5 VAC
Fuse (voltage path)	-
Safety and protection	
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection technology	IDC connection
Solid conductor	10 … 16 mm² / 8 … 6 AWG
Fine-stranded conductor	10 … 16 mm² / 8 … 6 AWG
Feedthrough for measurement conductor	5 … 7 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule
Physical data	
Width	23 mm / 0.906 inches
Height	50 mm / 1.969 inches
Depth	23 mm / 0.906 inches
Cable length	3 m
Mechanical data	
Mounting type	Insulation displacement connection
Mounting type	Mounting on insulated round cable
Torque range	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	21 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-5 … +55 °C
Ambient temperature (storage)	-20 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Power tap; for busbar; with fuse; Mounting screw M6
855 Series

	Item No.	PU
	855-8006	1



Short description;
WAGO's Power Taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The power taps can be mounted directly on the busbar. Mounting is performed via M6 screw.
The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates. This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the power taps can be labeled with two different marking options.

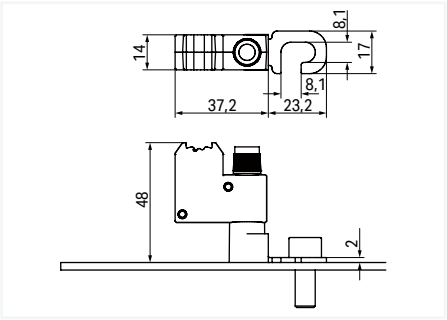
Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO push-in termination technology
- WAGO labeling options (WMB markers or marking strips)

Note:
Spare fuse: WAGO 855-8020

Output (voltage tap)	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2724 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inches
Physical data	
Width	57 mm / 2.244 inches
Height	14 mm / 0.551 inches
Depth	48 mm / 1.89 inches
Mechanical data	
Mounting type	M6 mount
Mounting type	Installation on busbar
Material data	
Weight	30 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Standards/specifications	IEC 60947-7-3

Power tap; for busbar; with fuse; Mounting screw M8
855 Series

	Item No.	PU
	855-8008	1



Short description;
WAGO's Power Taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The power taps can be mounted directly on the busbar. Mounting is performed via M8 screw.
The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates. This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the power taps can be labeled with two different marking options.

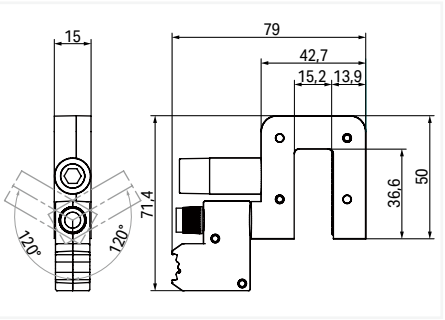
Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO push-in termination technology
- WAGO labeling options (WMB markers or marking strips))

Note:
Spare fuse: WAGO 855-8020

Output (voltage tap)	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2724 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inches
Physical data	
Width	61 mm / 2.402 inches
Height	14 mm / 0.551 inches
Depth	48 mm / 1.89 inches
Mechanical data	
Mounting type	M8 mount
Mounting type	Installation on busbar
Material data	
Weight	31 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Standards/specifications	IEC 60947-7-3

Power tap; for busbar; with fuse; Clamping connection
855 Series

Item No.	PU
855-8015	1



Short description;
WAGO's Power Taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The power taps can be mounted directly on the busbar. Clamp mount via Allen screw is performed using an insulated Allen wrench and provides an excellent contact between the busbar and the fuse. This ensures high operational safety and short-circuit protection.

The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates (±120°). This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the power taps can be labeled with two different marking options.

Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO push-in termination technology
- WAGO labeling options (WMB markers or marking strips)

Note:
Spare fuse: WAGO 855-8020

Output – voltage tap	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Connection data	
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 2724 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inches
Busbar thickness (min.)	4 mm
Busbar thickness (max.)	15 mm
Physical data	
Width	79 mm / 3.11 inches
Height	15 mm / 0.591 inches
Depth	72 mm / 2.835 inches
Mechanical data	
Mounting type	Clamp mount
Mounting type	Installation on busbar
Material data	
Weight	160 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Standards/specifications	IEC 60947-7-3

Accessories

T-wrench; with a partially insulated shaft; SW 6.0 x 100

Item No.	PU
855-8000	1

Current and voltage tap up to 50 mm²; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

855 Series

	Item No.	PU
	855-501/150-000	1

Short description:
WAGO's Current and Voltage Tap for 50 mm² (0/1 AWG) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, this solution can be quickly and easily mounted into the jumper slot of WAGO's 50 mm² (1/0 AWG) high-current through terminal block.
An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 150 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).
The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 4-pole configuration (2 x S1 and 2 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.
Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 50 mm² (1/0 AWG) high-current through terminal block
- Integrated current transformer (150 A/1 A)
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-150; 285-154)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-141; 285-144)
- Spare fuse: WAGO 855-8020

Input Current Transformers	
Primary rated current	150 A
Rated continuous thermal current I_{cth}	150 A
Rated short-time thermal current I_{th}	9 kA / 1 s
Rated surge current I_{dyn}	22.5 kA
Rated frequency	50 … 60 Hz
Output – current transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA
Output – voltage tap	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Measurement error	
Accuracy class	0.5
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inches
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inches
Feedthrough for measurement conductor	Ø ≤ 12 mm
Physical data	
Width	20 mm / 0.787 inches
Height	68 mm / 2.677 inches
Depth	57 mm / 2.244 inches
Mechanical data	
Mounting type	Via 2-conductor high-current through terminal block's jumper slot
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	66 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-25 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

Current and voltage tap up to 95 mm²; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

855 Series

	Item No.	PU
	855-951/250-000	1

Short description:
WAGO's Current and Voltage Tap for 95 mm² (4/0 AWG) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, the current and voltage tap can be quickly and easily mounted into the jumper slot of WAGO's 95 mm² (4/0 AWG) high-current through terminal block. An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 250 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).
The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 5-pole configuration (2 x S1 and 3 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.
Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 95 mm² (4/0 AWG) high-current through terminal block
- Integrated 250 A/1 A current transformer
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-195; 285-194)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-181; 285-184)
- Spare fuse: WAGO 855-8020

Input Current Transformers	
Primary rated current	250 A
Rated continuous thermal current I_{cth}	250 A
Rated short-time thermal current I_{th}	15 kA / 1 s
Rated surge current I_{dyn}	37.5 kA
Rated frequency	50 … 60 Hz
Output – current transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA
Output – voltage tap	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Measurement error	
Accuracy class	0.5
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inches
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inches
Feedthrough for measurement conductor	Ø ≤ 16 mm
Physical data	
Width	25 mm / 0.984 inches
Height	73 mm / 2.874 inches
Depth	58 mm / 2.283 inches
Mechanical data	
Mounting type	Via 2-conductor high-current through terminal block's jumper slot
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	98 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-25 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

Current and voltage tap up to 185 mm²; Primary rated current: 350 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

855 Series

	Item No.	PU
	855-1851/350-000	1

Short description:
WAGO's Current and Voltage Tap for 185 mm² (350 kcmil) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, the current and voltage tap can be quickly and easily mounted into the jumper slot of WAGO's 185 mm² (350 kcmil) high-current through terminal block. An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 350 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).
The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 5-pole configuration (2 x S1 and 3 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.
Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 185 mm² (350 kcmil) high-current through terminal block
- Integrated current transformer (350 A/1 A)
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-1185; 285-1184)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-1161; 285-1164)
- Spare fuse: WAGO 855-8020

Input Current Transformers	
Primary rated current	350 A
Rated continuous thermal current I_{cth}	350 A
Rated short-time thermal current I_{th}	21 kA / 1 s
Rated surge current I_{dyn}	52.5 kA
Rated frequency	50 … 60 Hz
Output – current transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA
Output – voltage tap	
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm (WAGO 855-8020)
Measurement error	
Accuracy class	0.5
Safety and protection	
Highest voltage for equipment U_m	AC 720 V_{rms}
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Test voltage	AC 3 kV; 50 Hz; 1 min
Connection data	
Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inches
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inches
Feedthrough for measurement conductor	Ø ≤ 21.5 mm
Physical data	
Width	32 mm / 1.256 inches
Height	84 mm / 3.307 inches
Depth	60 mm / 2.362 inches
Mechanical data	
Mounting type	Via 2-conductor high-current through terminal block's jumper slot
Material data	
Flammability class per UL94	V2
Housing material	PA 66
Weight	144 g
Environmental requirements	
Pollution degree	2
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-25 … +70 °C
Relative humidity	5 … 85 % (without condensation)
Operating altitude (max.)	2000 m
Vibration resistance	10g (industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (ship; 5 … 150 Hz; per IEC 60068-2-6)
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

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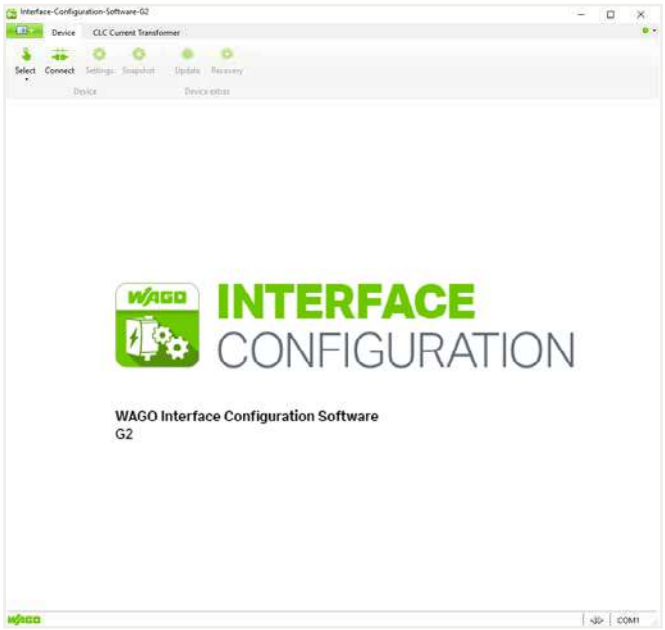
Line Length Calculation for Current Transformers

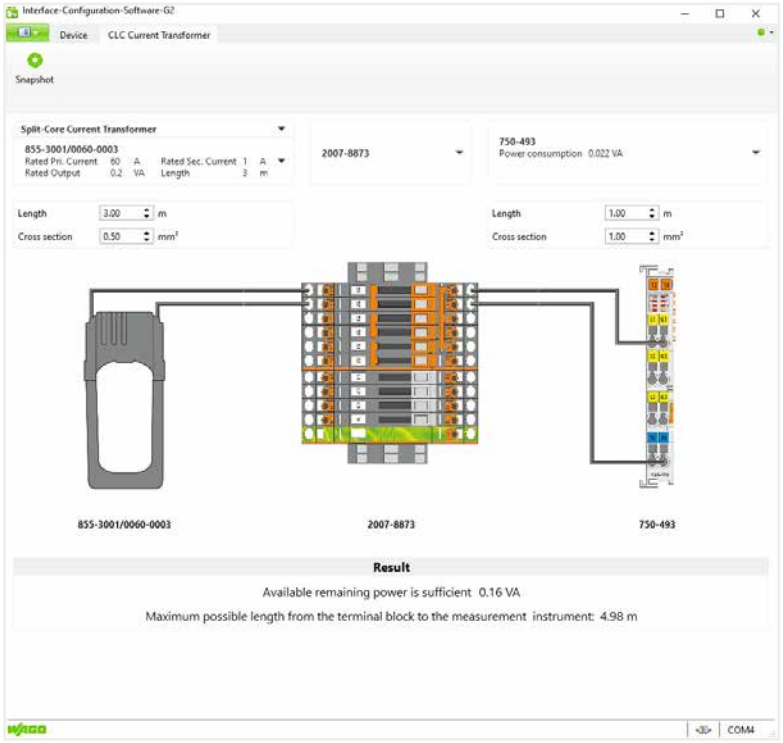
Refined Solution for Your System Planning

To determine actual power requirements, both the power requirements of the connected measurement devices and the power losses from the measurement lines connected to a transformer's secondary circuit must be taken into account.

The interface configuration software's new feature quickly and easily calculates cable length and provides the results for your system documentation.



WAGO Interface Configuration Software Start Screen



Cable length calculation using the interface configuration software

	11.05.2020 07:32 WAGO Kontakttechnik GmbH & Co. KG
	Interface Configuration Software(1.0.4.1)
Current Transformer	
Order number	855-3001/0060-0003
Rated Pri. Current	60 A
Rated Sec. Current	1 A
Rated Output	0.414 VA
Measurement instrument	
Order number	750-493
Power consumption	0.022 VA
Cabel from transducer to terminal block	
Length	3 m
Cross section	0.5 mm²
Power loss	0.214 VA
Cabel from transducer to measurment instrument	
Length	1 m
Cross section	1 mm²
Power loss	0.036 VA
Result	
Available power	0.414 VA
Total power loss	0.250 VA
Remaining power	0.164 VA
Required power	0.022 VA
Result	Available remaining power is sufficient

Simply documented!

Power calculation of copper cables between measurement device and current transformer:

$$P_V = \frac{I_S^2 \times 2 \times l}{A_{CU} \times 56} \text{ VA}$$

I_S = Secondary rated measuring current strength [A]
l = Simple cable length in m
A_{CU} = Cable cross section in mm²
P_V = Power loss of connection cables

Note: When using a common three-phase return line, the values for P_V are halved.

Example:
A 1 amp or 5 amp current transformer is used, with an ammeter on the secondary circuit, at a distance of 10 m between the transformer and the measurement device.

Current transformer 5 A

$$P_V = \frac{5^2 \times 2 \times 10}{1.5 \times 56} \text{ VA} = 5.96 \text{ VA}$$

Current transformer 1 A

$$P_V = \frac{1^2 \times 2 \times 10}{1.5 \times 56} \text{ VA} = 0.24 \text{ VA}$$

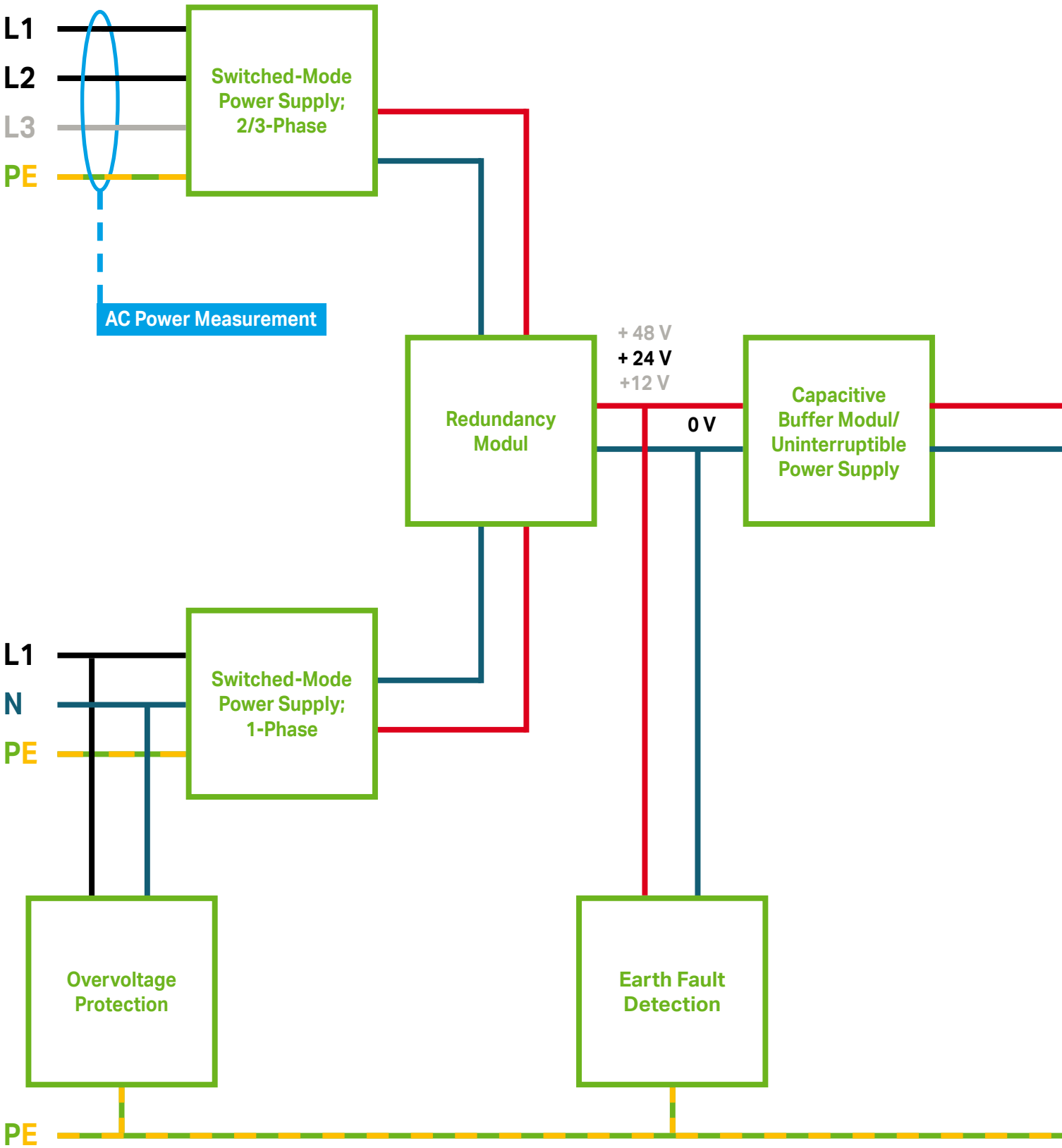
Free software download at:
www.wago.com/configuration-software

WAGO Power Supply Systems

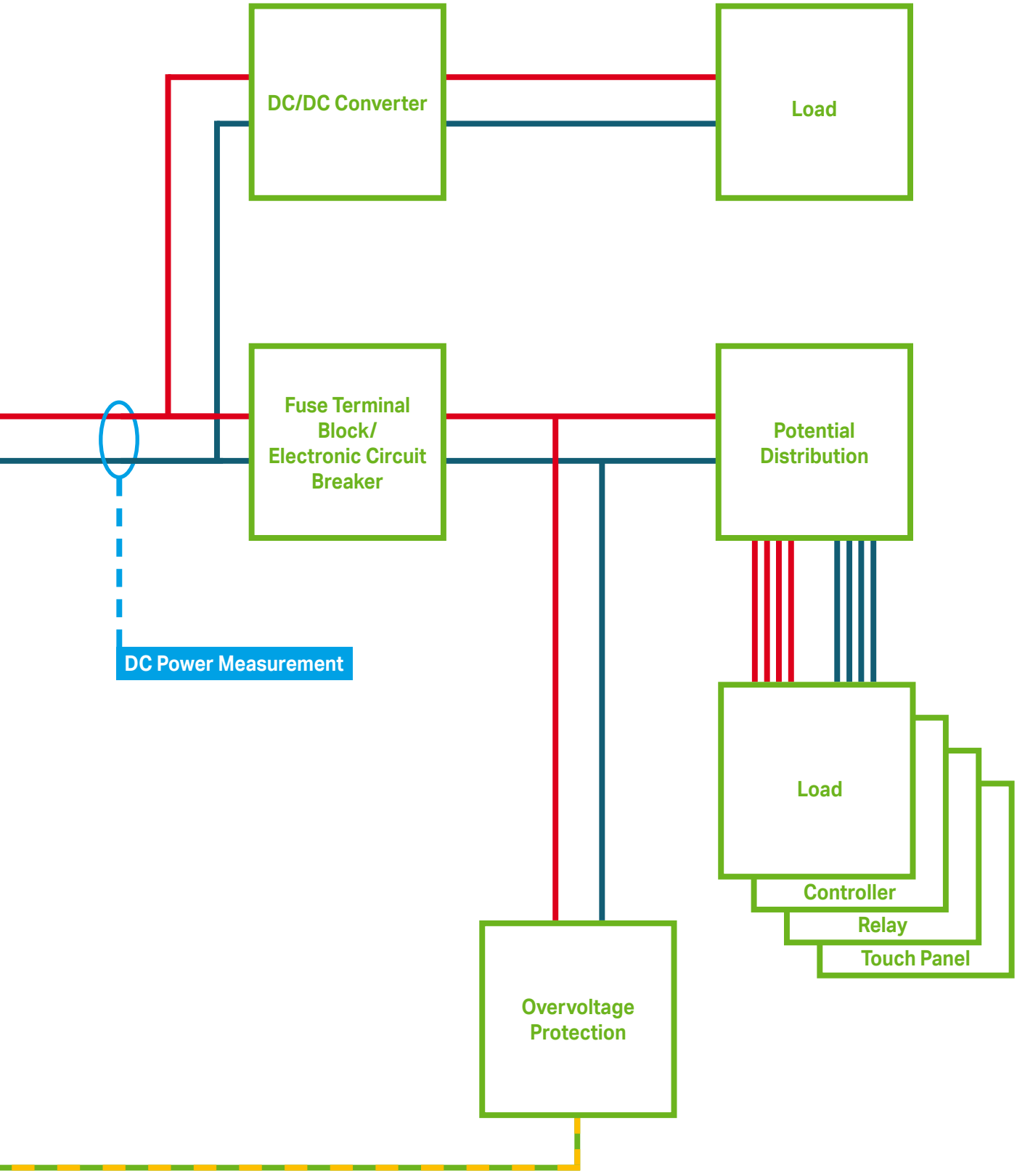
WAGO Power Supply Systems

For more Informationen about WAGO Power Supplies please consult the catalog WAGO Power supplies 2023/2024 or via www.wago.com!

WAGO Power Supply Systems
System Overview



WAGO Power Supply Systems
System Overview



WAGO Power Supply Systems

WAGO Power Supplies Pro 2

New Generation of Professional Power Supplies for Applications Requiring High Performance, Efficiency and Reliability

WAGO's Pro 2 Power Supplies offer tremendous added value thanks to flexible configuration and comprehensive monitoring via optional communication interface (WAGO USB Communication Cable and IO-Link Communication Module).

Advantages:
- TopBoost function: Up to 600% output current for 15 ms
- PowerBoost function: 150% output power for 5 s
- High efficiency thanks to a CCFL inverter topology
- Single- and three-phase power supplies with output voltages of 24 VDC and nominal output currents from 5 to 40 A
- Communication interface for configuring threshold values, overload and DI/DO behavior, as well as monitoring output variables, warning and error messages
- Permanent communication via IO-Link through an optional pluggable communication module

5

WAGO Power Supplies Pro

Applications with high output requirements call for professional power supplies capable of reliably handling power peaks. WAGO's Pro Power Supplies are ideally suited for such applications.

- TopBoost function: Multiplies the nominal current for up to 50 ms
- PowerBoost function: Provides 200% of output power for four seconds
- Single- and three-phase power supplies with output voltages of 12/24/48 VDC and nominal output currents from 5 to 40 A for nearly every application
- LineMonitor (option): Easy parameter setting and input/output monitoring
- Potential-free contact/stand-by input: Switch off output with no wear and minimize power consumption
- Serial RS-232 interface (option): Communicate with PC or PLC

WAGO Power Supplies Classic

Classic is the robust power supply with optional TopBoost integration. A wide input range and extensive list of international approvals open up WAGO's Classic Power Supplies to a wide variety of applications.

- TopBoost: cost-effective, secondary-side fusing via standard circuit breakers (≥ 120 W)
- Nominal output voltage: 12, 24, 30.5 and 48 VDC
- DC OK signal/contact for easy remote monitoring
- Wide input voltage range and UL/GL approvals for worldwide applications
- CAGE CLAMP® Connection Technology: maintenance-free and time-saving
- Slim, compact design saves valuable cabinet space

WAGO Power Supply Systems

WAGO Power Supplies Eco 2

The Eco line of power supplies now includes WAGO Eco 2 Power Supplies with push-in technology and integrated WAGO levers. The new devices' compelling features include fast, reliable and tool-free lever connections, as well as an excellent price/performance ratio. At 25 mm and 38 mm wide, the power supplies are slim and compact. The devices are also extremely durable and reliable with their high efficiency of ≥ 88% (2687-2142) and lower thermal generation.

- Power supplies with a wide input voltage range of 90 … 264 VAC (100 … 373 VDC)Output voltage: 24 VDC, adjustable; Output power: 30 W (2687-2142) and 120 W (2687-2144)
- Integrated, tool-free lever-actuated push-in connection technology
- Slim design, high efficiency, good price/performance ratio
- Reliability, long service life (high MTBF)
- Quick, easy, maintenance- and tool-free connection technology

WAGO Power Supplies Eco

Many applications only require 24 VDC. Here, WAGO's ECO Power Supplies are the economical solution.

- Output current: 1.25 … 40 A
- Wide input voltage range for use internationally: 90 … 264 VAC
- Economically supports basic applications
- CAGE CLAMP® Connection Technology: maintenance-free and time-saving
- LED status indication: output voltage availability (green), overcurrent/short circuit (red)
- Flexible mounting on DIN-rail and variable installation via screwmount clips – perfect for every application
- Flat, rugged metal housing: compact and stable design

WAGO Power Supplies Compact

WAGO's compact, high-performance Compact Power Supplies in DIN-rail-mount housings are available with output voltages of 5, 12, 18 and 24 VDC, as well as nominal output currents up to 6.5 A.

- Wide input voltage range for use internationally: 85 … 264 VAC
- Flexible mounting on DIN-rail and variable installation via screwmount clips
- Push-in CAGE CLAMP® Connection Technology (option): maintenance-free and time-saving
- Improved cooling due to a removable front plate: ideal for alternative mounting positions
- Dimensions per DIN 43880: suitable for installation in distribution and meter boards

WAGO Power Supply Systems

Uninterruptible Power Supply (UPS)

Consisting of a 24 V UPS charger and controller with one or more connected batteries, WAGO's Uninterruptible Power Supply reliably powers an application for several hours. Trouble-free machine or system operation is guaranteed – even in the event of brief power supply failures.

- Slim charging and control units save control cabinet space
- Integrated display and RS-232 interface (option) simplify visualization and configuration
- Pluggable CAGE CLAMP® Connection Technology: maintenance-free and time-saving
- Battery control technology for predictive maintenance that extends battery life

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Capacitive Buffer Modules

In addition to reliably ensuring trouble-free machine and system operation – even through brief power failures – WAGO's Capacitive Buffer Modules offer power reserves that may be required when starting heavy motors or triggering a fuse.
Decoupled output: integrated diodes for decoupling buffered loads from unbuffered loads

- Maintenance-free and time-saving connections via pluggable connectors equipped with CAGE CLAMP® Connection Technology
- Unlimited parallel connections possible
- Adjustable switching threshold
- Maintenance-free, high-energy gold caps

Redundancy Modules

WAGO's redundancy modules are ideal for reliably increasing power supply availability. These modules decouple two parallel-connected power supplies and are ideal for applications where an electrical load must be reliably supplied – even in the event of a power supply failure.

- Integrated power diodes with overload capability: suitable for Top-Boost or PowerBoost
- Potential-free contact (option) for input voltage monitoring
- Reliable connection via pluggable connectors equipped with CAGE CLAMP® or terminal strips with integrated operating levers: maintenance-free and time-saving
- Solutions for 12, 24 and 48 VDC supply, up to 76 A supply: suitable for nearly every application

WAGO Power Supply Systems

Electronic Circuit Breakers (ECBs)

WAGO's ECBs are the space-saving and precision solution for fusing DC voltage circuits.

- 1-, 2-, 4- and 8-channel ECBs with fixed or adjustable currents ranging from 0.5 to 12 A
- High switch-on capacity: >50,000 µF
- Communication capability: remote monitoring and reset
- Pluggable CAGE CLAMP® Connection Technology (option): maintenance-free and time-saving
- Comprehensive range of approvals: many applications

DC/DC Converters

Instead of using an additional power supply, WAGO's DC/DC Converters are ideal for specialty voltages, allowing sensors and actuators to be reliably supplied.
DC/DC converters can be used instead of an additional power supply for applications with specialty voltages.

- Slim design: "True" 6.0 mm (0.23 inch) width maximizes panel space
- Wide operating temperature range
- Ready for worldwide use in many industries, thanks to UL listing
- Common profile with 857 and 2857 Series Signal Conditioners and Relays: Enables full commoning of the supply voltage

WAGO Power Supply Systems
Selection Guide

Switched-Mode Power Supplies 1-Phase

Nominal voltage (output)	Nominal current (output) [ADC]	Input, 1-phase	Input, 2-phase	Approvals							DC OK signal/ contact	RS-232 interface	TopBoost [1]	PowerBoost	Efficiency typ. [%]	Surrounding air temperature [°C] [4]	Item No.	Page
				EN 60335	cURus 60950	cULus 508	cULus 61010	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex								
5 VDC	5.5	■			■	■									75.0	−25 … +60	787-1020	71
12 VDC	2.0	■		■	■	■		■			■				82.0	−25 … +70	787-1601 [2]	30
	2.0	■		■											80.0	−25 … +60	787-1701	49
	2.0	■			■	■		■							80.0	−25 … +60	787-1001	72
	2.5	■		■		■					■				88.0	−25 … +70	787-1201	61
	4.0	■		■	■	■		■			■				86.0	−25 … +70	787-1611 [2]	31
	4.0	■		■											81.0	−25 … +60	787-1711	50
	4.0	■			■	■		■							85.0	−25 … +60	787-1011	73
	5.0	■		■	■	■									89.5	−25 … +70	787-1211	62
	6.0	■			■	■		■							87.0	−25 … +60	787-1021	74
	7.0	■		■	■	■		■			■				86.0	−25 … +70	787-1621	32
	8.0	■		■											84.0	−25 … +60	787-1721	51
	8.0	■		■		■					■				91.5	−25 … +70	787-1221	63
	10.0	■					■				■		■	■	93.8	−25 … +70	2787-2134	12
	15.0						■				■		■	■	95.3	−25 … +70	2787-2135	13
	15.0	■			■	■		■			■		■		90.0	−25 … +70	787-1631	33
18 VDC	2.4	■			■	■		□							83.0	−25 … +60	787-1017	75
	1.25	■					■				■				88.0	−25 … +70	787-2857	69
24 VDC	0.5	■		■		■									83.0	−25 … +70	787-1200	64
	1.0	■		■	■	■		■			■				86.0	−25 … +70	787-1602 [2]	34
	1.25	■		■	■	■									80.0	−20 … +60	787-1702	52
	1.25	■					■								88.0	−25 … +70	2687-2142	46
	1.25	■				■		■							88.0	−20 … +70	787-2850	70
	1.3	■			■	■		■							82.0	−25 … +60	787-1002	76
	1.3	■		■	■	■									87.0	−25 … +70	787-1202	65
	2.0	■		■	■	■		■			■				89.0	−25 … +70	787-1606 [2]	35
	2.5	■			■	■			■	■					86.0	−10 … +70	787-712	55
	2.5	■		■	■	■									81.0	−20 … +60	787-1712	53
	2.5	■			■	■		■							88.0	−25 … +60	787-1012	77
	2.5	■		■	■	■									89.0	−25 … +70	787-1212	66
	3.0	■			■	■					■		■	■	87.8	−25 … +70	787-818	24
	3.8	■		■	■	■		■			■				87.0	−25 … +70	787-1616/000-1000 [2]	36
	4.0	■		■	■	■		■			■				89.0	−25 … +70	787-1616	37
	4.0	■			■	■		■							88.0	−25 … +60	787-1022	78
	4.2	■		■	■	■									90.0	−25 … +70	787-1216	67
	5.0	■					■				■		■	■	91.5	−25 … +70	2787-2144	14
	5.0	■			■	■					■		■	■	87.8	−25 … +70	787-822	25
	5.0	■		■	■	■		■			■		■		89.0	−25 … +70	787-1622	38
	5.0	■	■		■	■		■			■		■		89.0	−25 … +70	787-1628	44
	5.0	■			■	■			■	■					86.0	−10 … +60	787-722	56
	5.0	■		■	■	■									84.0	−20 … +60	787-1722	57
	5.0	■					■								90.0	−25 … +70	2687-2144	47
	6.0	■		■	■	■									90.0	−25 … +70	787-1226	68
	10.0	■					■								93.0	−25 … +70	2687-2146	48
	10.0	■					■				■		■	■	92.8	−25 … +70	2787-2146	15
	10.0	■			■	■					■		■	■	90.0	−25 … +70	787-832	25
	10.0	■			■	■		■			■		■		91.0	−25 … +70	787-1632 [5]	39
	10.0	■	■		■	■		■			■		■		90.0	−25 … +70	787-1638	45
	10.0	■			■	■			■	■					86.0	−10 … +70	787-732	59
	10.0	■		■	■	■									84.0	−20 … +60	787-1732	58
	20.0	■					■				■		■	■	94.0	−25 … +70	2787-2147	16
	20.0	■			■	■					■		■	■	91.0	−25 … +70	787-834	27
	20.0	■			■	■		■			■		■		92.0	−25 … +70	787-1634	40
	20.0	■			■	■					■				90.0	−25 … +70	787-734	60
	40.0	■					■				■		■	■	95.0	−25 … +70	2787-2448	17
	40.0	■			■	■					■				90.0	−25 … +70	787-736	54

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WAGO Power Supply Systems
Selection Guide

Switched-Mode Power Supplies 1-Phase

Nominal voltage (output)	Nominal current (output) [ADC]	Input, 1-phase	Input, 2-phase	Approvals							DC OK signal/ contact	RS-232 interface	TopBoost [1]	PowerBoost	Efficiency typ. [%]	Surrounding air temperature [°C] [4]	Item No.	Page
				EN 60335	cURus 60950	cULus 508	cULus 61010	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex								
48 VDC	2.0	■		■	■	■		■			■				86.0	–25 … +70	787-1623	41
	5.0	■					■				■		■	■	95.3	–25 … +70	2787-2154	18
	5.0	■			■	■					■		■	■	91.0	–25 … +70	787-833	28
	5.0	■			■	■		■			■		■		92.0	–25 … +70	787-1633	42
	10.0	■					■				■		■	■	95.3	–25 … +70	2787-2157	19
	10.0	■			■	■					■		■	■	91.0	–25 … +70	787-835	29
	10.0	■			■	■		■			■		■		93.0	–25 … +70	787-1635 [5]	43

Switched-Mode Power Supplies 3-Phase

Nominal voltage (output)	Nominal current (output) [ADC]	Approvals							DC OK signal/ contact	RS-232 interface	TopBoost [1]	PowerBoost	Efficiency typ. [%]	Surrounding air temperature [°C] [4]	Item No.	Page
		EN 60335	cURus 60950	cULus 508	cULus 61010	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex								
24 VDC	5.00				■						■	■	92.5	–25 … +70	2787-2344	84
	6.25		■	■					■				87.0	–25 … +70	787-738	105
	10.0				■						■	■	93.0	–25 … +70	2787-2346	85
	10.0				■						■	■	95.0	–25 … +70	2787-2357	88
	10.0		■	■					■		■		91.7	–25 … +70	787-840	94
	10.0		■	■					■	■	■	■	91.7	–25 … +70	787-850	97
	10.0		■	■		■			■		■		90.0	–25 … +70	787-1640	102
	10.0		■	■					■				89.0	–25 … +70	787-740	106
	20.0				■				■		■	■	94.8	–25 … +70	2787-2347	86
	20.0				■						■	■	96.0	–25 … +70	2787-2358	89
	20.0		■	■					■		■	■	92.9	–25 … +70	787-842	95
	20.0		■	■					■	■	■	■	92.9	–25 … +70	787-852	98
	20.0		■	■		■			■		■		92.0	–25 … +70	787-1642	103
	20.0		■	■					■				90.0	–25 … +70	787-742	107
	20.0		■	■					■				90.5	–20 … +70	787-2742	108
	40.0				■				■		■	■	95.0	–20 … +70	2787-2348	87
	40.0		■	■					■		■	■	93.6	–25 … +55	787-844	96
	40.0		■	■					■	■	■	■	93.6	–25 … +55	787-854	99
	40.0		■	■		■			■		■		92.0	–25 … +70	787-1644	104
	40.0		■	■									91.5	–20 … +70	787-2744	109
48 VDC	10.0		■	■					■		■	■	93.0	–25 … +70	787-845	100
	20.0		■	■					■		■	■	94.4	–25 … +70	787-847	101

Other

Description	Approvals					Surrounding air temperature [°C]	Item No.
	EN 60950	UL 60950	EN 61204-3	EN 61000-6-3	DIN EN 60939-2		
Power supply for fan control	■	■	■	■		–20 … +60	787-914
Radio interference suppression filter; 1-phase					■	–25 … +70	787-980

■ Yes ☐ Pending

[1] TopBoost enables magnetic tripping of circuit breakers in the output circuit.
[2] NEC Class 2 Power Unit per cURus 1310 or cURus 60950
[3] With uninterruptible power supply (UPS)
[4] Device starts at –40°C, type-tested for 787-8xx, -10xx, -16xx, 2787-2xxx
[5] .../000-070 is optionally available with protective coating

WAGO Power Supply Systems
Selection Guide

Uninterruptible Power Supplies (UPS)

Input		Output		Approvals						Dimensions and Environmental Conditions				Item No.
Nominal voltage [VAC]	Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	UL 60950	UL 508	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	
–	24	24	10.0		■	■				40.0	163.0	163.0	–10 … +60	787-870
–	24	24	20.0		■	■				57.0	163.0	171.0	–10 … +60	787-875
	24	24	40.0							68.0	181.0	162.0	0 … +55	787-915
100 … 240	110 … 370	24	5.0		■	■	■			60.0	135.5	127.0	–25 … +70	787-1675

Battery Modules

Input	Output		Approvals							Dimensions and Environmental Conditions				Item No.
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal capacity [Ah]	EN 60335	UL 60950	UL 508	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex	Akku VDS-geprüft	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	
24	24	0.8			□				■	72.0	124.5	97.0	–15 … +40	787-1671
24	24	1.2			■				■	55.0	136.5	153.0	–15 … +40	787-876
24	24	3.2			■				■	76.2	175.5	168.0	–15 … +40	787-871
24	24	7.0			■				■	86.0	217.5	236.0	–15 … +40	787-872
24	24	12.0			■				■	120.5	217.5	236.0	–15 … +40	787-873
24	24	20.0								86.0	186.0	160.0	–40 … +60	787-878/000-2500
24	24	40.0											–40 … +60	787-878/001-3000

Capacitive Buffer Modules

Input/Output, Buffer			Approvals						Dimensions and Environmental Conditions				Item No.
Nominal input/ output voltage [VDC]	Nominal current (output) [ADC]	Buffer time [s]	EN 60335	UL 60950	UL 508	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	
24	10.0	0.06 … 7.2		■	■				57.0	179.0	163.0	–10 … +50	787-880
24	20.0	0.17 … 16.5		■	■				57.0	179.0	181.0	–10 … +50	787-881
24	40.0	0.35 … 6.6							68.0	181.0	162.0	–10 … +50	787-916

Redundancy Modules

Input	Output		Approvals						Dimensions and Environmental Conditions				Item No.
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	UL 60950	UL 508	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	
12 … 48	12 … 48	12.5			■				50.0	92.0	130.0	–25 … +70	787-783
12 … 48	12 … 48	12.5			■		■	■	50.0	92.0	130.0	–25 … +70	787-783/000-040
24	24	20.0		■	■				40.0	163.0	181.0	–10 … +60	787-885
24	24	40.0		■	■	■			42.0	139.5	127.0	–40 … +70	787-1685[2]
12 … 48	12 … 48	40.0			■				83.0	153.0	130.0	–25 … +70	787-785
12 … 48	12 … 48	40.0			■		■	■	83.0	153.0	130.0	–25 … +70	787-785/000-040
48	48	20.0							40.0	163.0	163.0	–10 … +60	787-886

■ Yes □ Pending
[1] NEC Class 2
[2] .../000-070 is optionally available with protective coating
[3] Available upon request

WAGO Power Supply Systems
Selection Guide

DC/DC Converters

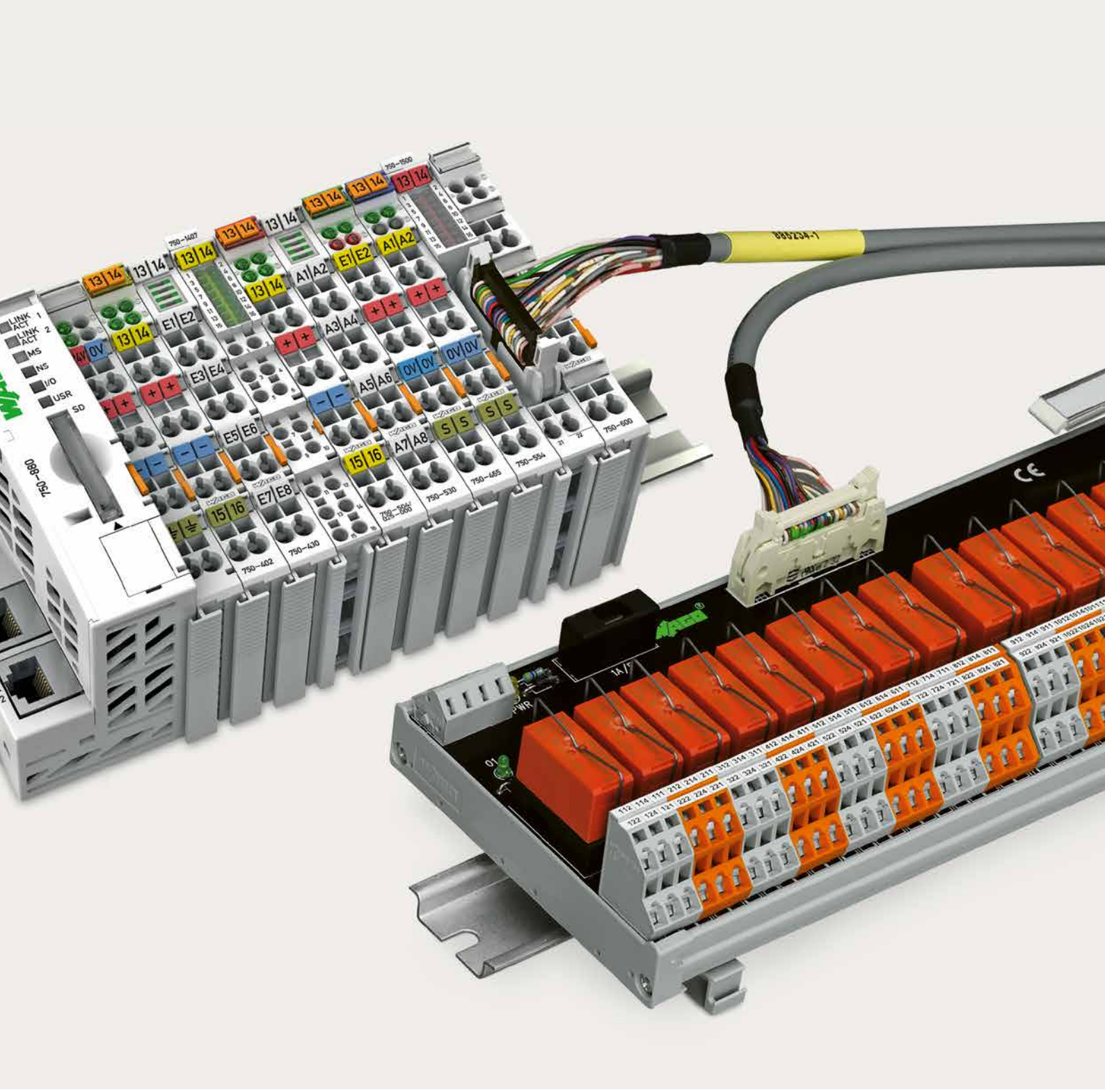
Nominal voltage (input) [VDC]	Nominal voltage (output) [VDC]	Nominal current (output) [A]	Approvals						DC OK signal/ contact	Efficiency typ. [%]	Surrounding air temperature [°C]	Item No.
			EN 50155	EN 60335	UL 61010-2-201	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex				
24.0	5.0	0.5			■				■	82.5	−25 … +70	**787-2801**
24.0	10.0	0.5			■				■	89.0	−25 … +70	**787-2802**
48.0	24.0	0.5			■				■	91.0	−25 … +70	**787-2803**
24.0	12.0	0.5			■				■	90.0	−25 … +70	**787-2805**
24.0	5/10/12	0.5			■				■	82.5	−25 … +70	**787-2810**
24.0	12.0	0.4			■					84.0	−25 … +70	**787-1650**
110.0	24.0	2.0	■		■					85.0	−40 … +70	**787-1014**
72.0	24.0	2.0	■		■					86.0	−40 … +70	**787-1014/072-000**
72.0	12.0	4.0	■		■	■				86.0	−40 … +70	**787-1015/072-000**

■ Yes ☐ Pending

Safety Transformers

Nominal voltage (output) [VAC]	Nominal power (output) [VA]	Nominal voltage (input) [VAC]	Approvals							Surrounding air temperature [°C]	Item No.
			EN 5085	EN 61558-2-6	UL 60601	UL 508	DNV	ANSI/ISA 12.12.1	ATEX/IEC Ex		
12/24	40	110/230	☐	☐	☐					−25 … +55	**787-974**
12/24	63	110/230	☐	☐	☐					−25 … +55	**787-976**

5



WAGO System Wiring

WAGO System Wiring

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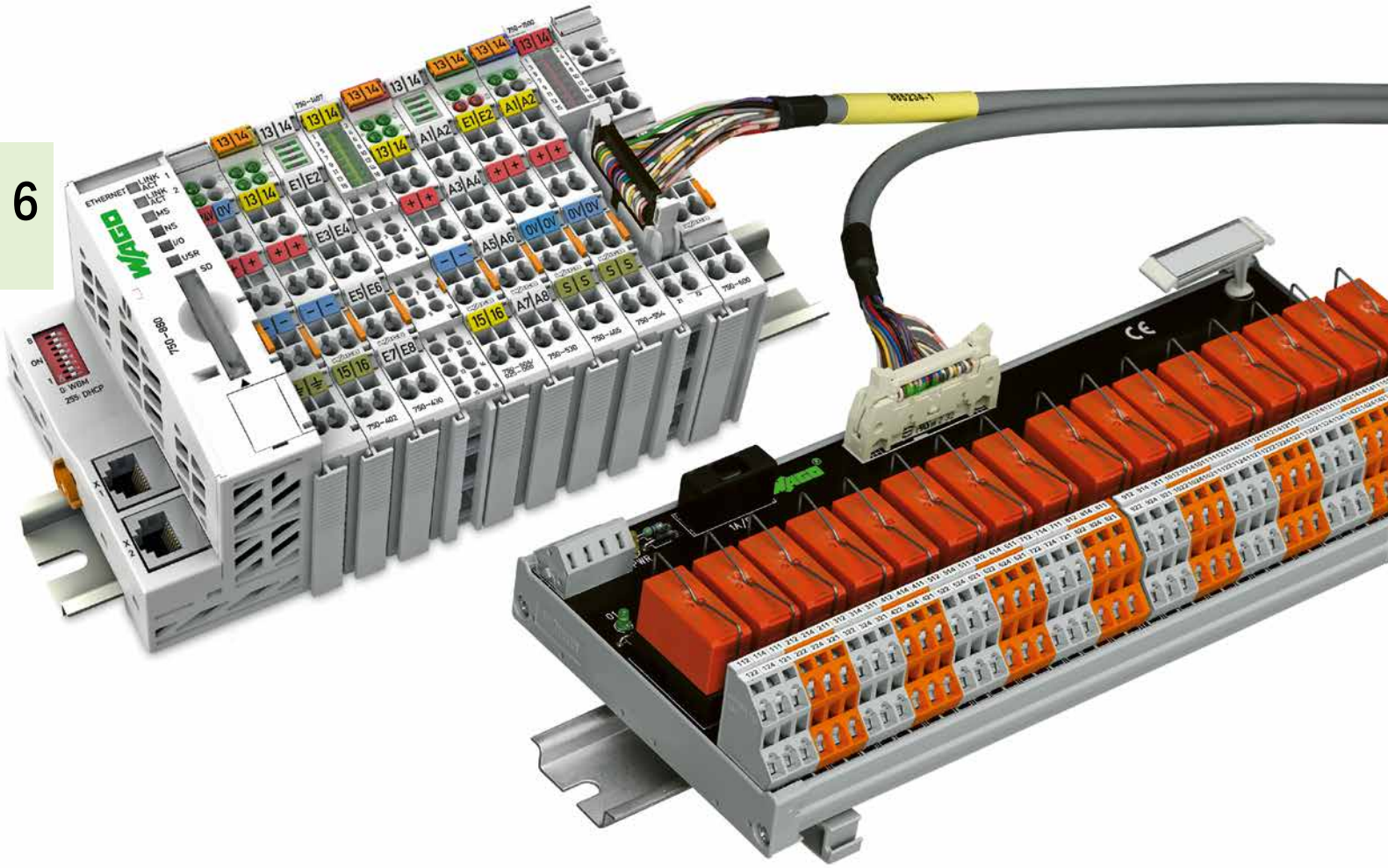
WAGO System Wiring
Overview and Application Examples

16-Channel I/O Module with Interface Module

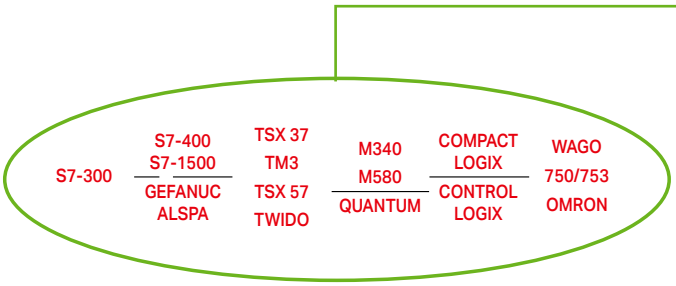
The 750-14xx and 750-15xx I/O Modules with a pluggable connector per DIN 41651 offer 16 digital channels in a module less than 1⁄2 inch (12 mm) wide. Offering quick connections and a space-efficient design, the DIN-rail-mount interface modules simplify installation in confined areas and conveniently relocate the termination point. When combined with WAGO's interface modules (e.g., Item No. 289-614, 289-611), a control cabinet can be pre-wired before installation to minimize wiring time and errors. This is beneficial as wiring can be performed independently of construction.

The programmed controller can be installed right before start-up, saving valuable time during final stages of project completion. The I/O modules are also ideal for connecting series machines or relay modules tasked with the higher loads common to buildings and industrial applications. The interface modules also combine the advantages of relays (e.g., manual operation or rapid replacement with socket-mounted versions) with the benefits of a modern I/O system. Another ideal application would be the integration of pneumatic controllers into a fieldbus network.

Most pneumatic modules have an appropriate connector and can be controlled by the WAGO I/O SYSTEM. Six variants are available: two 16-channel input or output modules (one high-side and one low-side switching variant), as well as two versions combining 8 inputs and 8 outputs.



HOW TO USE THE PRODUCT SELECTOR



STEP 1

Use the tabs to select your PLC.

Ex.:
• PLC Siemens S7 - 300

	PLC			FRONT CABLES	
	PLC I/O Card			Item No.	Qty
CPU	6ES7 313-5BE01-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
		8	DI	706-2300/701-XXXX	1
		5	AI/2 AO		
	6ES7 313-5BG04-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
		8	DI	706-2300/701-XXXX	1
		5	AI/2 AO		
	6ES7 313-6BE01-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
	6ES7 313-6BF03-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
	6ES7 313-6CE01-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
	6ES7 313-6CF03-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
	6ES7 314-6BF01-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
	6ES7 313-5BG04-0AB0	16	DI	706-2300/301-XXXX	1
		16	DO		
		8	DI	706-2300/701-XXXX	1
		5	AI/2 AO		

STEP 2

Select a PLC I/O card.

Ex.:
• 6ES7 313-6CF03-0AB0

STEP 3

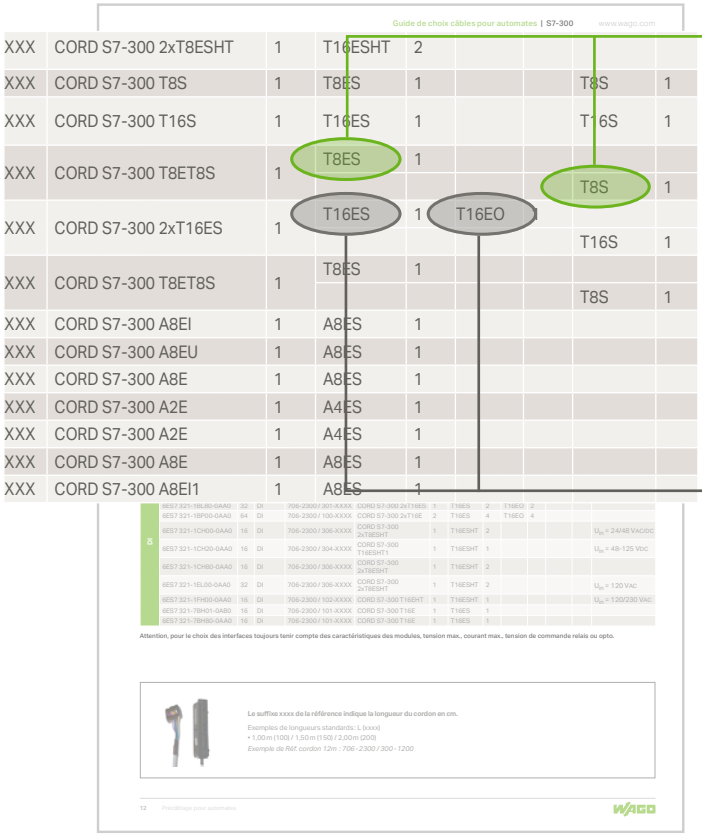
Read the item no. and quantity of the front cable to be used.

Ex.:
• 706 - 2300/301 - XXXX* Qty : 1

In some cases, TWO different cables are necessary.

Ex.:
• **Card**: 6ES7 313 - 5BG04- 0AB0
• **Cable**s:
706 - 2300/301- XXXX* **Qty**: 1
AND
706 - 2300/701- XXXX* **Qty**: 1

*The item number suffix «xxx» indicates the length of cable in cm.



XXX	CORD S7-300 2xT8ESHT	1	T16ESHT	2				
XXX	CORD S7-300 T8S	1	T8ES	1			T8S	1
XXX	CORD S7-300 T16S	1	T16ES	1			T16S	1
XXX	CORD S7-300 T8ET8S	1	T8ES	1			T8S	1
XXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1	T16S	1
XXX	CORD S7-300 T8ET8S	1	T8ES	1			T8S	1
XXX	CORD S7-300 A8EI	1	A8ES	1				
XXX	CORD S7-300 A8EU	1	A8ES	1				
XXX	CORD S7-300 A8E	1	A8ES	1				
XXX	CORD S7-300 A2E	1	A4ES	1				
XXX	CORD S7-300 A2E	1	A4ES	1				
XXX	CORD S7-300 A8E	1	A8ES	1				
XXX	CORD S7-300 A8EI1	1	A8ES	1				

STEP 4

Select the compatible type of interfaces.

Ex.:
- **Card**: 6ES7 323-1BH01-0AA0
- Type of interfaces:
  T8ES **Qty**: 1 **AND** T8S **Qty**: 1

In some cases you have the choice between TWO different types of interface.

Ex.:
- **Card**: 6ES7 323 - 1BL00 - 0AA0
- Types **of interfaces**:

T16ES **Qty**: 1 **OR** T16EO **Qty**: 1
AND T16S **Qty**: 1

6

WAGO Interface Modules			
Type		**Description**	**Item No.**
DI/DO	T8ES	10-pole; without supply	289-611
		10-pole; with LED; 3-wire	704-2003
	T8ESHT	12-pole (*MCS*); without LED; 2 conductors; 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

STEP 5

Select the compatible interfaces.

Ex.:
- 704-2003
- 704-5013

In most cases you have the choice between different products.

Ex.:
- Type of interfaces: T8S
- Products: 704-5003 or 704-5013

On the basis of the short description in the table or the more extensive technical data in the eShop the required interface module can be selected.

PLC SIEMENS S7-300

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
CPU	6ES7 313-5BE01-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7	1	T8ES	1					
		5	AI/2 AO				A8TSX	1					
	6ES7 313-5BG04-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7	1	T8ES	1					
		5	AI/2 AO				A8TSX	1					
	6ES7 313-6BE01-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
	6ES7 313-6BF03-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
	6ES7 313-6CE01-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
	6ES7 313-6CF03-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
	6ES7 314-6BF01-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7ES	1	T8ES	1					
		5	AI/2 AO				A8TSX	1					
	6ES7 314-6BG03-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7	1	T8ES	1					
		5	AI/2 AO				A8TSX	1					
	6ES7 314-6CF01-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7	1	T8ES	1					
		5	AI/2AO				A8TSX	1					
	6ES7 314-6CG03-0AB0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		8	DI	706-2300/701-XXXX	CORD S7-300 T8EA7	1	T8ES	1					
		5	AI/2 AO				A8TSX	1					
DI	6ES7 321-1BH02-0AA0	16	DI	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1	T16EO	1			
	6ES7 321-1BH10-0AA0	16	DI	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1	T16EO	1			
	6ES7 321-1BH80-0AA0	16	DI	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1	T16EO	1			
	6ES7 321-1BL00-0AA0	32	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	2	T16EO	2			
	6ES7 321-1BL80-0AA0	32	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	2	T16EO	2			
	6ES7 321-1BP00-0AA0	64	DI	706-2300/100-XXXX	CORD S7-300 2xT16E	2	T16ES	4	T16EO	4			
	6ES7 321-1CH00-0AA0	16	DI	706-2300/306-XXXX	CORD S7-300 2xT8ESHT	1	T16ESHT	2					U_{in} = 24/48 VAC/DC
	6ES7 321-1CH20-0AA0	16	DI	706-2300/304-XXXX	CORD S7-300 T16ESHT1	1	T16ESHT	1					U_{in} = 48 ... 125 VDC
	6ES7 321-1CH80-0AA0	16	DI	706-2300/304-XXXX	CORD S7-300 T16ESHT1	1	T16ESHT	1					U_{in} = 48 ... 125 VDC
	6ES7 321-1EL00-0AA0	32	DI	706-2300/306-XXXX	CORD S7-300 2xT8ESHT	1	T16ESHT	2					U_{in} = 120 VAC
	6ES7 321-1FH00-0AA0	16	DI	706-2300/102-XXXX	CORD S7-300 T16EHT	1	T16ESHT	1					U_{in} = 120/230 VAC
	6ES7 321-7BH01-0AB0	16	DI	706-2300/101-XXXX	CORD S7-300 T16E	1	T16ES	1					
	6ES7 321-7BH80-0AA0	16	DI	706-2300/101-XXXX	CORD S7-300 T16E	1	T16ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
- 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-2300/300-200

PLC SIEMENS S7-300

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DO	6ES7 322-1BF01-0AA0	8	DO	706-2300/201-XXXX	CORD S7-300 T8S	1	T8ES	1			T8S	1	U_{out} = 24 VDC
	6ES7 322-1BH01-0AA0	16	DO	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1			T16S	1	
	6ES7 322-1BH10-0AA0	16	DO	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1			T16S	1	
	6ES7 322-1BH80-0AA0	16	DO	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1			T16S	1	
	6ES7 322-1BL00-0AA0	32	DO	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	2			T16S	2	
	6ES7 322-1BP00-0AA0	64	DO	706-2300/200-XXXX	CORD S7-300 2xT16S	2	T16ES	4			T16S	4	
	6ES7 322-1EH01-0AA0	16	D0	706-2300/300-XXXX	CORD S7-300 T16ES	1	T16ES	1			T16S	1	
	6ES7 322-1FL00-0AA0	32	DO	706-2300/304-XXXX	CORD S7-300 T16ESHT1	2	T16ESHT	2					U_{out} = 120/230 VAC
	6ES7 322-1FH00-0AA0	16	DO	706-2300/304-XXXX	CORD S7-300 T16ESHT1	1	T16ESHT	1					U_{out} = 120/230 VAC
	6ES7 322-1HF10-0AA0	8	DO	706-2300/205-XXXX	CORD S7-300 T8SHT2	1	T16ESHT	1					U_{out} = 230 VAC
	6ES7 322-1HH01-0AA0	16	DO	706-2300/202-XXXX	CORD S7-300 T16SHT	1	T16ESHT	1					U_{out} = 120/230 VAC
	6ES7 322-5GH00-0AB0	16	DO	706-2300/306-XXXX	CORD S7-300 2xT8ESHT	1	T16ESHT	2					U_{out} = 24/48 VAC/DC
	6ES7 322-8BF00-0AB0	8	DO	706-2300/201-XXXX	CORD S7-300 T8S	1	T8ES	1			T8S	1	
	6ES7 322-8BH01/8BH10-0AB0	16	DO	706-2300/209-XXXX	CORD S7-300 T16S	1	T16ES	1			T16S	1	
DI/DO	6ES7 323-1BH01-0AA0	8	DI	706-2300/302-XXXX	CORD S7-300 T8ET8S	1	T8ES	1					
		8	DO								T8S	1	
	6ES7 323-1BL00-0AA0	16	DI	706-2300/301-XXXX	CORD S7-300 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
	6ES7 327-1BH00-0AB0	8	DI	706-2300/302-XXXX	CORD S7-300 T8ET8S	1	T8ES	1					
		8	DO								T8S	1	
AI	6ES7 331-1KF02-0AB0	8	AI	706-2300/402-XXXX	CORD S7-300 A8EI	1	A8ES	1					Current
	6ES7 331-1KF02-0AB0	8	AI	706-2300/403-XXXX	CORD S7-300 A8EU	1	A8ES	1					Voltage
	6ES7 331-7HF01-0AB0	8	AI	706-2300/400-XXXX	CORD S7-300 A8E	1	A8ES	1					
	6ES7 331-7KB02-0AB0	2	AI	706-2300/401-XXXX	CORD S7-300 A2E	1	A4ES	1					
	6ES7 331-7KB81-0AB0	2	AI	706-2300/401-XXXX	CORD S7-300 A2E	1	A4ES	1					
	6ES7 331-7KF02-0AB0	8	AI	706-2300/400-XXXX	CORD S7-300 A8E	1	A8ES	1					
	6ES7 331-7NF00-0AB0	8	AI	706-2300/404-XXXX	CORD S7-300 A8EI1	1	A8ES	1					Current
	6ES7 331-7NF00-0AB0	8	AI	706-2300/405-XXXX	CORD S7-300 A8EU1	1	A8ES	1					Voltage
	6ES7 331-7NF10-0AB0	8	AI	706-2300/406-XXXX	CORD S7-300 A8EI2	1	A8ES	1					Current
	6ES7 331-7NF10-0AB0	8	AI	706-2300/407-XXXX	CORD S7-300 A8EU2	1	A8ES	1					Voltage
	6ES7 331-7PF01-0AB0	8	AI	706-2300/408-XXXX	CORD S7-300 2xA4E	1	A8ES	2					
	6ES7 331-7RD00-0AB0	4	AI	706-2300/409-XXXX	CORD S7-300 A4EP	1	A4ES	1					Passive sensor
	6ES7 331-7RD00-0AB0	4	AI	706-2300/410-XXXX	CORD S7-300 A4EA	1	A4ES	1					Active sensor
	6ES7 331-7SF00-0AB0	8	AI	706-2300/400-XXXX	CORD S7-300 A8E	1	A8ES	1					No thermocouple
	6ES7 331-7TF00-0AB0	8	AI	706-2300/400-XXXX	CORD S7-300 A8E	1	A8ES	1					
AO	6ES7 332-5HB01-0AB0	2	AO	706-2300/500-XXXX	CORD S7-300 A4SI	1	A4ES	1					Current
	6ES7 332-5HB01-0AB0	2	AO	706-2300/501-XXXX	CORD S7-300 A4SU	1	A4ES	1					Voltage
	6ES7 332-5HB81-0AB0	2	AO	706-2300/500-XXXX	CORD S7-300 A4SI	1	A4ES	1					Current
	6ES7 332-5HB81-0AB0	2	AO	706-2300/501-XXXX	CORD S7-300 A4SU	1	A4ES	1					Voltage
	6ES7 332-5HD01-0AB0	4	AO	706-2300/500-XXXX	CORD S7-300 A4SI	1	A4ES	1					Current
	6ES7 332-5HD01-0AB0	4	AO	706-2300/501-XXXX	CORD S7-300 A4SU	1	A4ES	1					Voltage
	6ES7 332-5HF00-0AB0	8	AO	706-2300/502-XXXX	CORD S7-300 A8SI	1	A8ES	1					Current
	6ES7 332-5HF00-0AB0	8	AO	706-2300/503-XXXX	CORD S7-300 A8SU	1	A8ES	1					Voltage
	6ES7 332-7ND02-0AB0	4	AO	706-2300/500-XXXX	CORD S7-300 A4SI	1	A4ES	1					Current
	6ES7 332-7ND02-0AB0	4	AO	706-2300/501-XXXX	CORD S7-300 A4SU	1	A4ES	1					Voltage
	6ES7 332-8TF01-0AB0	8	AO	706-2300/400-XXXX	CORD S7-300 A8E	1	A8ES	1					
AI/AO	6ES7 334-0CE01-0AA0	4	AI+ 2AO	706-2300/601-XXXX	CORD S7-300 A6ESI	1	A8ES	1					Current
	6ES7 334-0CE01-0AA0	4	AI+ 2AO	706-2300/602-XXXX	CORD S7-300 A6ESU	1	A8ES	1					Voltage
SAFETY	6ES7 326-2BF01-0AB0	10	DO	706-2300/207-XXXX	CORD S7-300 2xT5S	1	T8ES	2			T8S	2	
	6ES7 326-2BF10-0AB0	10	DO	706-2300/207-XXXX	CORD S7-300 2xT5S	1	T8ES	2			T8S	2	
	6ES7 326-1BK01-0AB0	24	DI	706-2300/104-XXXX	CORD S7-300 2xT12E	1	T16ES	2					
	6ES7 326-1RF00-0AB0	8	DI	706-2300/105-XXXX	CORD S7-300 T8E	1	T16ES	1					
	6ES7 336-4GE01-0AB0	6	AI	706-2300/411-XXXX	CORD S7-300 A6E	1	A8ES	1					Active sensor
	6ES7 336-4GE01-0AB0	6	AI	706-2300/413-XXXX	CORD S7-300 A6EP	1	A8ES	1					Passive sensor

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

S7-400
S7-1500
GEFANUC
ALSPA

PLC SIEMENS S7-400

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	6ES7 421-1BL01-0AA0	32	DI	706-2400/300-XXXX	CORD S7-400 2xT16ES	1	T16ES	2	T16EO	2			
	6ES7 421-7BH01-0AB0	16	DI	706-2400/100-XXXX	CORD S7-400 2xT8E	1	T16ES	2					
DO	6ES7 422-1BL00-0AA0	32	DO	706-2400/300-XXXX	CORD S7-400 2xT16ES	1	T16ES	2			T16S	2	
	6ES7 422-1FF00-0AA0	8	DO	706-2400/201-XXXX	CORD S7-400 T8SHT	1	T8ESHT	1					U_{out} = 120/230 VAC
	6ES7 422-1HH00-0AA0	16	DO	706-2400/202-XXXX	CORD S7-400 2xT8SHT	1	T16ESHT	2					U_{out} = 30/230 VAC/DC
	6ES7 422-7BL00-0AB0	32	DO	706-2400/300-XXXX	CORD S7-400 2xT16ES	1	T16ES	2					
AI	6ES7 431-1KF00-0AB0	8I	AI	706-2400/404-XXXX	CORD S7-400 A8EI	1	A8ES	1					Current
	6ES7 431-1KF00-0AB0	8	AI	706-2400/405-XXXX	CORD S7-400 A8EU	1	A8ES	1					Voltage
	6ES7 431-1KF10-0AB0	8	AI	706-2400/401-XXXX	CORD S7-400 A8E	1	A8ES	1					
	6ES7 431-1KF20-0AB0	8	AI	706-2400/401-XXXX	CORD S7-400 A8E	1	A8ES	1					
	6ES7 431-7KF00-0AB0	8	AI	706-2400/402-XXXX	CORD S7-400 A8EI1	1	A8ES	1					Current
	6ES7 431-7KF00-0AB0	8	AI	706-2400/403-XXXX	CORD S7-400 A8EU1	1	A8ES	1					Voltage
AO	6ES7 432-1HF00-0AB0	8	AO	706-2400/500-XXXX	CORD S7-400 A8SI	1	A8ES	1					Current
	6ES7 432-1HF00-0AB0	8	AO	706-2400/501-XXXX	CORD S7-400 A8SU	1	A8ES	1					Voltage

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC SIEMENS S7-1500

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
CPU	6ES7 511-1CK00-0AB0	16	DI	706-2500/305-XXXX	CORD S7-1500 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
		5	AI/2 AO	706-2500/600-XXXX	CORD S7-1500 A7UI	1	A8TSX	1					
	6ES7 512-1CK00-0AB0	32	DI	706-2500/305-XXXX	CORD S7-1500 2xT16ES	1	T16ES	2	T16EO	2			
		32	DO	706-2500/305-XXXX	CORD S7-1500 2xT16ES	1					T16S	2	
		5	AI/2 AO	706-2500/600-XXXX	CORD S7-1500 A7UI	1	A8TSX	1					
DI	6ES7 521-1BH00-0AA0	16	DI	706-2500/300-XXXX	CORD S7-1500 T16ES	1	T16ES	1	T16EO	1			
	6ES7 521-1BH10-0AA0	16	DI	706-2500/304-XXXX	CORD S7-1500 T16ES	1	T16ES	1	T16EO	1			
	6ES7 521-1BH50-0AA0	16	DI	706-2500/300-XXXX	CORD S7-1500 T16ES	1	704-2224	1					Negative log.
	6ES7 521-1BL00-0AB0	32	DI	706-2500/301-XXXX	CORD S7-1500 2xT16ES	1	T16ES	2	T16EO	2			
	6ES7 521-1BL10-0AA0	32	DI	706-2500/303-XXXX	CORD-S7-1500 2xT16ES	1	T16ES	2	T16EO	2			
	6ES7 521-1FH00-0AA0	16	DI	706-2500/102-XXXX	CORD S7-1500 T16ESHT	1	T16ESHT	1					U_{in} = 120/230 VAC
	6ES7 521-7EH00-0AB0	16	DI	706-2500/302-XXXX	CORD S7-1500 T16ESHT	1	T16ESHT	1					U_{in} = 24/125 VAC
DO	6ES7 522-1BF00-0AB0	8	DO	706-2500/201-XXXX	CORD S7-1500 T8S	1	T8ES	1			T8S	1	
	6ES7 522-1BH00-0AB0	16	DO	706-2500/300-XXXX	CORD S7-1500 T16ES	1	T16ES	1			T16S	1	
	6ES7 522-1BH01-0AB0	16	DO	706-2500/300-XXXX	CORD S7-1500 T16ES	1	T16ES	1			T16S	1	
	6ES7 522-1BH10-0AA0	16	DO	706-2500/304-XXXX	CORD S7-1500 T16ES	1	T16ES	1			T16S	1	
	6ES7 522-1BL00-0AB0	32	DO	706-2500/301-XXXX	CORD S7-1500 2xT16ES	1	T16ES	2			T16S	2	
	6ES7 522-1BL01-0AB0	32	DO	706-2500/301-XXXX	CORD S7 1500 2xT16ES	1	T16ES	2			T16S	2	
	6ES7 522-1BL10-0AA0	32	DO	706-2500/303-XXXX	CORD S7-1500 2xT16ES	1	T16ES	2			T16S	2	
	6ES7 522-5EH00-0AB0	16	DO	706-2500/302-XXXX	CORD S7-1500 T16ESHT	1	T16ESHT	1					U_{out} = 24/125 VDC or 24/48 VAC
	6ES7 522-5FF00-0AB0	8	DO	706-2500/204-XXXX	CORD S7-1500 T8SHT	1	T16ESHT	1					U_{out} = 120/230 VAC
	6ES7 522-5FH00-0AB0	16	DO	706-2500/202-XXXX	CORD S7-1500 T16SHT	1	T16ESHT	1					U_{out} = 230 VAC
	6ES7 522-5HF00-0AB0	8	DO	706-2500/204-XXXX	CORD S7-1500 T8SHT	1	T16ESHT	1					I_{max}/ch. = 3A and I_{max} api = 8A
	6ES7 522-5HH00-0AB0	16	DO	706-2500/202-XXXX	CORD S7-1500 2xT16SHT	1	T16ESHT	1					U_{out} = 230 VAC
DI/DO	6ES7 523-1BL00-0AA0	16	DI	706-2500/303-XXXX	CORD S7-1500 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
AI	6ES7 531-7NF10-0AB0	8	AI	706-2500/400-XXXX	CORD S7-1500 A8EI	1	A8ES	1					Current
	6ES7 531-7NF10-0AB0	8	AI	706-2500/401-XXXX	CORD S7-1500 A8EU	1	A8ES	1					Voltage
	6ES7 531-7NF00-0AB0	8	AI	706-2500/400-XXXX	CORD S7-1500 A8EI	1	A8ES	1					Current
	6ES7 531-7NF00-0AB0	8	AI	706-2500/401-XXXX	CORD S7-1500 A8EU	1	A8ES	1					Voltage
	6ES7 531-7KF00-0AB0	8	AI	706-2500/400-XXXX	CORD S7-1500 A8EI	1	A8ES	1					Current
	6ES7 531-7KF00-0AB0	8	AI	706-2500/401-XXXX	CORD S7-1500 A8EU	1	A8ES	1					Voltage
	6ES7 531-7KF00-0AB0	8	AI	706-2500/405-XXXX	CORD S7-1500 A8EIMC	1	A8ES	1					Common-mode current
	6ES7 531-7QD00-0AB0	4	AI	706-2500/402-XXXX	CORD S7-1500 A4EI	1	A4ES	1					Current
	6ES7 531-7QD00-0AB0	4	AI	706-2500/403-XXXX	CORD S7-1500 A4EU	1	A4ES	1					Voltage
AO	6ES7 532-5HD00-0AB0	4	AO	706-2500/500-XXXX	CORD S7-1500 A4SI	1	A4ES	1					Current
	6ES7 532-5HD00-0AB0	4	AO	706-2500/501-XXXX	CORD S7-1500 A4SU	1	A4ES	1					Voltage
	6ES7 532-5HF00-0AB0	8	AO	706-2500/502-XXXX	CORD S7-1500 A8SI	1	A8ES	1					Current
	6ES7 532-5HF00-0AB0	8	AO	706-2500/503-XXXX	CORD S7-1500 A8SU	1	A8ES	1					Voltage
	6ES7 532-5ND00-0AB0	4	AO	706-2500/500-XXXX	CORD S7-1500 A4SI	1	A4ES	1					Current
	6ES7 532-5ND00-0AB0	4	AO	706-2500/501-XXXX	CORD S7-1500 A4SU	1	A4ES	1					Voltage
AI/AO	6ES7 534-7QE00-0AB0	4 AI + 2 AO		706-2500/601-XXXX	CORD S7-1500 A6UI1	1	A8ES	1					Current (2 wires)
	6ES7 534-7QE00-0AB0	4 AI + 2 AO		706-2500/602-XXXX	CORD S7-1500 A6UI2	1	A8ES	1					Current (4 wires)
	6ES7 534-7QE00-0AB0	4 AI + 2 AO		706-2500/603-XXXX	CORD S7-1500 A6U	1	A8ES	1					Voltage
SAFETY	6ES7 526-1BH00-0AB0	16	DI	706-2500/103-XXXX	CORD S7-1500 T16E	1	T16ES	1					24 V, external ground (L+)
	6ES7 526-2BF00-0AB0	8	DO	706-2500/205-XXXX	CORD S7-1500 T8S	1	T16ES	1					0 V, external ground (M-)

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC GE FANUC 90-30 / ALSPA 80-35

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	IC693 MDL230	8	DI	706-5030/301-XXXX	CORD GEF-9030 2xT8ESHT	1	T8ESHT	2					U_{in} = 120 VAC
	IC693 MDL231	8	DI	706-5030/301-XXXX	CORD GEF-9030 2xT8ESHT	1	T8ESHT	2					U_{in} = 240 VAC
	IC693 MDL240	16	DI	706-5030/100-XXXX	CORD GEF-9030 T16EHT	1	T16ESHT	1					
	IC693 MDL241	16	DI	706-5030/101-XXXX	CORD GEF-9030 T16E	1	T16ES	1	T16EO	1			24 VDC (com -)
	IC693 MDL632	8	DI	706-5030/302-XXXX	CORD GEF-9030 T8ESHT	1	T8ESHT	1					U_{in} = 125 VDC
	IC693 MDL634	8	DI	706-5030/303-XXXX	CORD GEF-9030 T8ES	1	T8ES	1					
	IC693 MDL640	16	DI	706-5030/101-XXXX	CORD GEF-9030 T16E	1	T16ES	1	T16EO	1			24 VDC (com -)
	IC693 MDL643	16	DI	706-5030/101-XXXX	CORD GEF-9030 T16E	1	T16ES	1	T16EO	1			24 VDC (com -)
	IC693 MDL645	16	DI	706-5030/101-XXXX	CORD GEF-9030 T16E	1	T16ES	1	T16EO	1			24 VDC (com -)
	IC693 MDL646	16	DI	706-5030/101-XXXX	CORD GEF-9030 T16E	1	T16ES	1	T16EO	1			24 VDC (com -)
	IC693 MDL655	32	DI	706-5030/300-XXXX	CORD GEF-9030 T16ES	2	T16ES	2	T16EO	2			
DO	IC693 MDL310	12	DO	706-5030/200-XXXX	CORD GEF-9030 T16SHT	1	T16ESHT	1					
	IC693 MDL330	8	DO	706-5030/302-XXXX	CORD GEF-9030 T8ESHT	1	T8ESHT	1					U_{out} = 240 VAC
	IC693 MDL340	16	DO	706-5030/200-XXXX	CORD GEF-9030 T16SHT	1	T16ESHT	1					
	IC693 MDL390	5	DO	706-5030/203-XXXX	CORD GEF-9030 T5SHT	1	T16ESHT	1					
	IC693 MDL730	8	DO	706-5030/201-XXXX	CORD GEF-9030 T8S	1	T8ES	1			T8S	1	U_{out} = 24 VDC
	IC693 MDL732	8	DO	706-5030/303-XXXX	CORD GEF-9030 T8ES	1	T8ES	1			T8S	1	
	IC693 MDL734	6	DO	706-5030/204-XXXX	CORD GEF-9030 T6SHT	1	T16ESHT	1					U_{out} = 125 VDC
	IC693 MDL740	16	DO	706-5030/202-XXXX	CORD GEF-9030 T16S	1	T16ES	1			T16S	1	U_{out} = 24 VDC
	IC693 MDL742	16	DO	706-5030/202-XXXX	CORD GEF-9030 T16S	1	T16ES	1			T16S	1	U_{out} = 24 VDC
	IC693 MDL753	32	DO	706-5030/300-XXXX	CORD GEF-9030 T16ES	2	T16ES	2			T16S	2	
	IC693 MDL930	8	DO	706-5030/301-XXXX	CORD GEF-9030 2xT8ESHT	1	T8ESHT	2					
DI/DO	IC693 MAR590	8	DI	706-5030/301-XXXX	CORD GEF-9030 2xT8ESHT	1	T8ESHT	1					U_{out} = 120 VAC
		8	DO				T8ESHT	1					
	IC693 MDR390	8	DI	706-5030/301-XXXX	CORD GEF-9030 2xT8ESHT	1	T8ESHT	1					
		8	DO				T8ESHT	1					
AI	IC693 ALG220	4	AI	706-5030/400-XXXX	CORD GEF-9030 A4E	1	A4ES	1					
	IC693 ALG221	4	AI	706-5030/400-XXXX	CORD GEF-9030 A4E	1	A4ES	1					
	IC693 ALG222	16	AI	706-5030/402-XXXX	CORD GEF-9030 2xA8E	1	A8ES	2					
	IC693 ALG223	16	AI	706-5030/402-XXXX	CORD GEF-9030 2xA8E	1	A8ES	2					
AO	IC693 ALG392	8	AO	706-5030/500-XXXX	CORD GEF-9030 A8SI	1	A8ES	1					Current
	IC693 ALG392	8	AO	706-5030/501-XXXX	CORD GEF-9030 A8SU	1	A8ES	1					Voltage

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC GE FANUC RX3i

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	IC694 MDL655	32	DI	706-5030/300-XXXX	CORD GEF-9030 T16ES	2	T16ES	2					
DO	IC694 MDL753	32	DO	706-5030/300-XXXX	CORD GEF-9030 T16ES	2	T16ES	2			T16S	2	
AI	IC694 ALG223	8	AI	706-5030/402-XXXX	CORD GEF-9030 A4E	1	A8ES	2					
AO	IC694 ALG392	8	AO	706-5030/500-XXXX	CORD GEF-9030 A8SI	1	A8ES	1					Current
	IC694 ALG392	8	AO	706-5030/501-XXXX	CORD GEF-9030 A8SU	1	A8ES	1					Voltage

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
- 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-5030/402-200

M2xx (TM3)
TSX 37
TSX 57
TWIDO

PLC SCHNEIDER MODICON M221, M241, M251 (TM3)

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	TM3 DI8A	8	DI	706-3033/102-XXXX	CORD MODICON TM3 T8EHT	1	T8ESHT	1					U_{in} = 120 VAC
	TM3 DI8(G)	8	DI	706-3033/103-XXXX	CORD MODICON TM3 T8E COM-	1	T8ES	1					Positive log. (com -)
	TM3 DI16(G)	16	DI	706-3033/104-XXXX	CORD MODICON TM3 T16E COM-	1	T16ES	1	T16EO	1			Positive log. (com -)
	TM3 DI16K	16	DI	706-3033/100-XXXX	CORD TWIDO T16E COM-	1	T16ES	1	T16EO	1			Positive log. (com -)
	TM3 DI32K	32	DI	706-3033/100-XXXX	CORD TWIDO T16E COM-	2	T16ES	2	T16EO	2			Positive log. (com -)
DO	TM3 DQ8T(G)	8	DO	706-3033/202-XXXX	CORD MODICON TM3 T8S	1	T8ES	1			T8S	1	
	TM3 DQ16T(G)	16	DO	706-3033/203-XXXX	CORD MODICON TM3 T16S	1	T16ES	1			T16S	1	
	TM3 DQ16TK	16	DO	706-3033/200-XXXX	CORD TWIDO T16S	1	T16ES	1			T16S	1	
	TM3 DQ32TK	32	DO	706-3033/200-XXXX	CORD TWIDO T16S	2	T16ES	2			T16S	2	
AI	TM3 AI2H(G)	2	AI	706-3033/400-XXXX	CORD MODICON TM3 A2E	1	A4ES	1					
	TM3 AI4(G)	4	AI	706-3033/401-XXXX	CORD MODICON TM3 A4E	1	A4ES	1					
	TM3 TI4(G)	4	AI	706-3033/401-XXXX	CORD MODICON TM3 A4E	1	A4ES	1					Voltage/current
	TM3 AI8(G)	8	AI	706-3033/402-XXXX	CORD MODICON TM3 A8E	1	A8ES	1					
	TM3 TI8T(G)	8	AI	706-3033/402-XXXX	CORD MODICON TM3 A8E	1	A8ES	1					Thermocouples and PTC/NTC
AO	TM3 AQ2(G)	2	AO	706-3033/500-XXXX	CORD MODICON TM3 A2S	1	A4ES	1					
	TM3 AQ4(G)	4	AO	706-3033/501-XXXX	CORD MODICON TM3 A4S	1	A4ES	1					
AI/ AO	TM3 AM6(G)	4 AI/2 AO		706-3033/600-XXXX	CORD MODICON TM3 A6ES	1	A8ES	1					
	TM3 TM3(G)	2 AI/1 AO		706-3033/601-XXXX	CORD MODICON TM3 A3ES	1	A4ES	1					Voltage/current

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

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PLC SCHNEIDER TSX 37 (Micro)

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	TSX DEZ 12D2K	12	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1					
	TSX DEZ 32D2	32	DI	706-3037/301-XXXX	CORD TSX37 2xT16ES	1	T16ES	2	T16EO	2			
DO	TSX DSZ 04T22	4	DO	706-3037/200-XXXX	CORD TSX37 T8S	1	T8ES	1			T8S	1	U_{out} = 24 VDC
	TSX DSZ 08T2	8	DO	706-3037/200-XXXX	CORD TSX37 T8S	1	T8ES	1			T8S	1	
	TSX DSZ 08T2K	8	DO	706-3037/202-XXXX	CORD TSX37 T8S1	1	T8ES	1			T8S	1	
	TSX DSZ 32T2	32	DO	706-3037/301-XXXX	CORD TSX37 2xT16ES	1	T16ES	2			T16S	2	
DI/DO	TSX DMZ 16DTK	8	DI	706-3037/305-XXXX	CORD TSX37 T8E8S	1	T8ES	1					
		8	DO				T8ES	1			T8S	1	
	TSX DMZ 28DT	16	DI	706-3037/304-XXXX	CORD TSX37 T16E12S	1	T16ES	1	T16EO	1			
		12	DO				T16ES	1			T16S	1	
	TSX DMZ 28DTK	16	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1	T16EO	1			
		12	DO	706-3057/200-XXX	CORD TSX T12S	1	T16ES	1			T16S	1	
	TSX DMZ 64DTK	32	DI	706-3057/300-XXXX	CORD TSX T16ES	4	T16ES	2	T16EO	2			
		32	DO				T16ES	2			T16S	2	
AI	TSX AEZ 801	8	AI	706-3037/401-XXXX	CORD TSX37 A8E	1	A8ES	1					
	TSX AEZ 802	8	AI	706-3037/401-XXXX	CORD TSX37 A8E	1	A8ES	1					
AO	TSX ASZ 200	4	AO	706-3037/500-XXXX	CORD TSX37 A4S	1	A4ES	1					
	TSX ASZ 401	4	AO	706-3037/500-XXXX	CORD TSX37 A4S	1	A4ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC SCHNEIDER TSX 57 (Premium)

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	TSX DEY 08D2	8	DI	706-3057/301-XXXX	CORD TSX57 T8ES	1	T8ES	1					
	TSX DEY 16A2	16	DI	706-3057/100-XXXX	CORD TSX57 T16EHT	1	T16ESHT	1					U_{in} = 24 VAC/DC
	TSX DEY 16A3	16	DI	706-3057/100-XXXX	CORD TSX57 T16EHT	1	T16ESHT	1					U_{in} = 48 VAC
	TSX DEY 16A4	16	DI	706-3057/100-XXXX	CORD TSX57 T16EHT	1	T16ESHT	1					U_{in} = 110 VAC
	TSX DEY 16A5	16	DI	706-3057/100-XXXX	CORD TSX57 T16E	1	T16ESHT	1					U_{in} = 220 VAC
	TSX DEY 16D2	16	DI	706-3057/302-XXXX	CORD TSX57 T16ES	1	T16ES	1					
	TSX DEY 16D3	16	DI	706-3057/100-XXXX	CORD TSX57 T16EHT	1	T16ESHT	1					U_{in} = 48 VDC
	TSX DEY 16FK	16	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1	T16EO	1			
	TSX DEY 32D2K	32	DI	706-3057/300-XXXX	CORD TSX T16ES	2	T16ES	2	T16EO	2			
	TSX DEY 64D2K	64	DI	706-3057/300-XXXX	CORD TSX T16ES	4	T16ES	4	T16EO	4			
DO	TSX DSY 08R4	8	DO	706-3057/204-XXXX	CORD TSX57 T8SHT2	1	T16ESHT	1					U_{out} = 48...120 VAC/DC
	TSX DSY 08R5	8	DO	706-3057/201-XXXX	CORD TSX57 T16SHT	1	T16ESHT	1					U_{out} = 48...240 VAC/DC
	TSX DSY 08R5A	8	DO	706-3057/204-XXXX	CORD TSX57 T8SHT2	1	T16ESHT	1					U_{out} = 48...240 VAC/DC
	TSX DSY 08S5	8	DO	706-3057/202-XXXX	CORD TSX57 T8SHT	1	T8ESHT	1					U_{out} = 48...240 VAC
	TSX DSY 08T2	8	DO	706-3057/301-XXXX	CORD TSX57 T8ES	1	T8ES	1			T8S	1	
	TSX DSY 08T22	8	DO	706-3057/203-XXXX	CORD TSX57 T8SHT1	1	T8ESHT	1					U_{out} = 24VDC
	TSX DSY 08T31	8	DO	706-3057/203-XXXX	CORD TSX57 T8SHT1	1	T8ESHT	1					U_{out} = 48VDC
	TSX DSY 16R5	16	DO	706-3057/201-XXXX	CORD TSX57 T16SHT	1	T16ESHT	1					U_{out} = 48...240 VAC/DC
	TSX DSY 16S4	16	DO	706-3057/201-XXXX	CORD TSX57 T16SHT	1	T16ESHT	1					U_{out} = 48...120 VAC
	TSX DSY 16S5	16	DO	706-3057/201-XXXX	CORD TSX57 T16SHT	1	T16ESHT	1					U_{out} = 48...240 VAC
	TSX DSY 16T2	16	DO	706-3057/302-XXXX	CORD TSX57 T16ES	1	T16ES	1			T16S	1	
	TSX DSY 32T2K	32	DO	706-3057/300-XXXX	CORD TSX T16ES	2	T16ES	2			T16S	2	
	TSX DSY 64T2K	64	DO	706-3057/300-XXXX	CORD TSX T16ES	4	T16ES	4			T16S	4	
DI/DO	TSX DMY 28FK	16	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1					
		12	DO	706-3057/200-XXXX	CORD TSX T12S	1	T16ES	1			T16S	1	
	TSX DMY 28RFK	16	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1					
		12	DO	706-3057/200-XXXX	CORD TSX T12S	1	T16ES	1			T16S	1	
AI	TSX AEY 414	4	AI	706-3057/601-XXXX	CORD TSX57 A4ES	1	A4ES	1					Analog
	TSX AEY 414	4	AI	706-3057/400-XXXX	CORD TSX57 A4ERTD	1	A8ES	1					RTD
	TSX AEY 420	4	AI	706-3057/600-XXXX	CORD TSX A8ES	1	A8TSX	1					
	TSX AEY 800	8	AI	706-3057/600-XXXX	CORD TSX A8ES	1	A8TSX	1					
	TSX AEY 810	8	AI	706-3057/600-XXXX	CORD TSX A8ES	1	A8TSX	1					
	TSX AEY 1600	16	AI	706-3057/600-XXXX	CORD TSX A8ES	2	A8TSX	2					
AO	TSX ASY 410	4	AO	706-3057/601-XXXX	CORD TSX57 A4ES	1	A4ES	1					Current
	TSX ASY 410	4	AO	706-3057/500-XXXX	CORD TSX57 A4SU	1	A4ES	1					Voltage
	TSX ASY 800	8	AO	706-3057/600-XXXX	CORD TSX A8ES	1	A8TSX	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC SCHNEIDER TWIDO

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	TM2 DDI 16DK	16	DI	706-3033/100-XXXX	CORD TWIDO T16E COM-	1	T16ES	1	T16EO	1			Positive log. (com -)
	TM2 DDI 32DK	32	DI	706-3033/100-XXXX	CORD TWIDO T16E COM-	2	T16ES	2	T16EO	2			Positive log. (com -)
DO	TM2 DDO 16TK	16	DO	706-3033/200-XXXX	CORD TWIDO T16S	1	T16ES	1			T16S	1	
	TM2 DDO 32TK	32	DO	706-3033/200-XXXX	CORD TWIDO T16S	2	T16ES	2			T16S	2	

Please note that the TM2 cards replace the TWD cards. The front cables remain the same.

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-3057/300-200

M340
M580
QUANTUM

PLC SCHNEIDER M340 ET M580

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	BMX DAI 1602	16	DI	706-3340/300-XXXX	CORD M340 T16ESHT	1	T16ESHT	1					U_{in} = 24 VAC
	BMX DAI 1603	16	DI	706-3340/300-XXXX	CORD M340 T16ESHT	1	T16ESHT	1					U_{in} = 48 VAC
	BMX DAI 1604	16	DI	706-3340/300-XXXX	CORD M340 T16ESHT	1	T16ESHT	1					U_{in} = 100/120 VAC
	BMX DDI 1602	16	DI	706-3340/301-XXXX	CORD M340 T16ES	1	T16ES	1	T16EO	1			
	BMX DDI 1603	16	DI	706-3340/300-XXXX	CORD M340 T16ESHT	1	T16ESHT	1					U_{in} = 48 VDC
	BMX DDI 3202K	32	DI	706-3340/302-XXXX	CORD M340 2xT16ES	1	T16ES	2	T16EO	2			
	BMX DDI 6402K	64	DI	706-3340/302-XXXX	CORD M340 2xT16ES	2	T16ES	4	T16EO	4			
DO	BMX DAO 1605	16	DO	706-3340/200-XXXX	CORD M340 T16SHT	1	T16ESHT	1					U_{out} = 120/240 VAC
	BMX DDO 1602	16	DO	706-3340/301-XXXX	CORD M340 T16ES	1	T16ES	1			T16S	1	
	BMX DDO 3202K	32	DO	706-3340/302-XXXX	CORD M340 2xT16ES	1	T16ES	2			T16S	2	
	BMX DDO 6402K	64	DO	706-3340/302-XXXX	CORD M340 2xT16ES	2	T16ES	4			T16S	4	
	BMX DRA 0805	8	DO	706-3340/300-XXXX	CORD M340 T16ESHT	1	T16ESHT	1					U_{out} = 48 ... 240 VAC/DC
	BMX DRA 1605	16	DO	706-3340/201-XXXX	CORD M340 T16SHT1	1	T16ESHT	1					U_{out} = 12 ... 24 VAC
DI/DO	BMX DDM 16022	8	DI	706-3340/303-XXXX	CORD M340 2xT8ES	1	T8ES	1					
		8	DO								T8S	1	
	BMX DDM 16025	8	DI	706-3340/304-XXXX	CORD M340T8E/T8SHT	1	T8ES	1					
		8	DO				T8ESHT	1					U_{out} = 48 ... 240 VAC/DC
	BMX DDM 3202K	16	DI	706-3340/302-XXXX	CORD M340 2xT16ES	1	T16ES	1	T16EO	1			
		16	DO								T16S	1	
AI	BMX AMI 0410	4	AI	706-3340/400-XXXX	CORD M340 A4EI	1	A4ES	1					Current
	BMX AMI 0410	4	AI	706-3340/401-XXXX	CORD M340 A4EU	1	A4ES	1					Voltage
	BMX ART 0414	4	AI	706-3340/402-XXXX	CORD M340 A4ERTD	1	A8ES	1					RTD
	BMX ART 0814	8	AI	706-3340/402-XXXX	CORD M340 A4ERTD	2	A8ES	2					RTD
	BMX AMI 0800	8	AI	706-3340/403-XXXX	CORD M340 A8EU	1	A8ES	1					Voltage
	BMX AMI 0800	8	AI	706-3340/404-XXXX	CORD M340 A8EI	1	A8ES	1					Current
	BMX AMI 0810	8	AI	706-3340/403-XXXX	CORD M340 A8EU	1	A8ES	1					Voltage
	BMX AMI 0810	8	AI	706-3340/404-XXXX	CORD M340 A8EI	1	A8ES	1					Current
AO	BMX AMM 0600	4	AI+2 AO	706-3340/500-XXXX	CORD M340 A6ESI	1	A8ES	1					Current
	BMX AMM 0600	4	AI+2 AO	706-3340/501-XXXX	CORD M340 A6ESU	1	A8ES	1					Voltage
	BMX AMO 0210	2	AO	706-3340/502-XXXX	CORD M340 A2S	1	A4ES	1					
	BMX AMO 0410	4	AO	706-3340/401-XXXX	CORD M340 A4EU	1	A4ES	1					
	BMX AMO 0802	8	AO	706-3340/504-XXXX	CORD M340 A8S	1	A8ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-3340/301-200

PLC SCHNEIDER QUANTUM

PLC				FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	140 DAI 340 00	16	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 24 VAC
	140 DAI 353 00	32	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 24 VAC
	140 DAI 440 00	16	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 48 VAC
	140 DAI 453 00	32	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 48 VAC
	140 DAI 540 00	16	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 115 VAC
	140 DAI 543 00	16	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 115 VAC
	140 DAI 553 00	32	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 115 VAC
	140 DAI 740 00	16	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 230 VAC
	140 DAI 753 00	32	DI	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{in} = 230 VAC
	140 DDI 353 00	32	DI	706-3140/301-XXXX	CORD QUANTUM 2xT16ES	1	T16ES	2	T16EO	2			
	140 DDI 364 00	96	DI	706-3057/300-XXXX	CORD TSX T16ES	6	T16ES	6	T16EO	6			
	140 DSI 353 00	32	DI	706-3140/301-XXXX	CORD QUANTUM 2xT16ES	1	T16ES	2	T16EO	2			U_{in} = 20 … 30 VDC
DO	140 DAO 840 00	16	DO	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{out} = 48 … 230 VAC
	140 DAO 840 10	16	DO	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{out} = 48 … 115 VAC
	140 DDO 353 00	32	DO	706-3140/301-XXXX	CORD QUANTUM 2xT16ES	1	T16ES	2			T16S	2	
	140 DDO 353 01	32	DO	706-3140/301-XXXX	CORD QUANTUM 2xT16ES	1	T16ES	2			T16S	2	
	140 DDO 364 00	96	DO	706-3057/300-XXXX	CORD TSX T16ES	6	T16ES	6			T16S	6	
	140 DRA 840 00	16	DO	706-3140/300-XXXX	CORD QUANTUM 2xT16ESHT	1	T16ESHT	2					U_{out} = 20 … 250 VAC/DC
	140 DVO 853 00	32	DO	706-3140/301-XXXX	CORD QUANTUM 2xT16ES	1	T16ES	2			T16S	2	U_{out} = 10 … 30 VDC
DI/DO	140 DDM 390 00	16	DI	706-3140/302-XXXX	CORD QUANTUM T16E8S	1	T16ES	1	T16EO	1			U_{in} = 30 VDC
		8	DO				T8ES	1			T8S	1	U_{out} = 19 … 30 VDC
AI	140 ACI 030 00	8	AI	706-3140/400-XXXX	CORD QUANTUM A8EI	1	A8ES	1					Current
	140 ACI 030 00	8	AI	706-3140/401-XXXX	CORD QUANTUM A8EU	1	A8ES	1					Voltage
	140 ACI 040 00	16	AI	706-3140/402-XXXX	CORD QUANTUM 2xA8E	1	A8ES	2					
	140 ARI 030 10	8	AI	706-3140/402-XXXX	CORD QUANTUM 2xA8E	1	A8ES	2					4 wires
	140 AVI 030 00	8	AI	706-3140/400-XXXX	CORD QUANTUM A8EI	1	A8ES	1					Current
	140 AVI 030 00	8	AI	706-3140/401-XXXX	CORD QUANTUM A8EU	1	A8ES	1					Voltage
AO	140 ACO 020 00	4	AO	706-3140/500-XXXX	CORD QUANTUM A4S	1	A4ES	1					Current
	140 ACO 130 00	8	AO	706-3140/501-XXXX	CORD QUANTUM A8S	1	A8ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-3140/301-200

PLC ROCKWELL COMPACT LOGIX (1769)

PLC				FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	1769 - IA16	16	DI	706-4769/300-XXXX	CORD Compact Lx T16ESHT	1	T16ESHT	1					U_{in} = 200 ... 240 VAC
	1769 - IM12	12	DI	706-4769/300-XXXX	CORD Compact Lx T16ESHT	1	T16ESHT	1					U_{in} = 100 ... 120 VAC
	1769 - IQ16	16	DI	706-4769/100-XXXX	CORD Compact Lx T16E	1	T16ES	1	T16EO	1			
	1769 - IQ16F	16	DI	706-4769/100-XXXX	CORD Compact Lx T16E	1	T16ES	1	T16EO	1			
	1769 - IQ32	32	DI	706-4769/102-XXXX	CORD Compact Lx 2xT16E	1	T16ES	2	T16EO	2			
	1769 - IQ32T	32	DI	706-4769/101-XXXX	CORD Compact Lx 2xT16ES	1	T16ES	2	T16EO	2			Positive log. (com-)
DO	1769 - OA8	8	DO	706-4769/201-XXXX	CORD Compact Lx T8SHT	1	T8ESHT	1					U_{out} = 100 ... 240 VAC
	1769 - OA16	16	DO	706-4769/200-XXXX	CORD Compact Lx T16SHT	1	T16ESHT	1					U_{out} = 100 ... 240 VAC
	1769 - OB8	8	DO	706-4769/202-XXXX	CORD Compact Lx T8S	1	T8ES	1			T8S	1	
	1769 - OB16	16	DO	706-4769/203-XXXX	CORD Compact Lx T16S	1	T16ES	1			T16S	1	
	1769 - OB16P	16	DO	706-4769/203-XXXX	CORD Compact Lx T16S	1	T16ES	1			T16S	1	
	1769 - OB32	32	DO	706-4769/204-XXXX	CORD Compact Lx 2xT16S	1	T16ES	2			T16S	2	
	1769 - OB32T	32	DO	706-4769/301-XXXX	CORD Compact Lx 2xT16ES	1	T16ES	2			T16S	2	
	1769 - OW8	8	DO	706-4769/201-XXXX	CORD Compact Lx T8SHT	1	T8ESHT	1					U_{out} = 5 ... 265 VAC/DC
	1769 - OW8I	8	DO	706-4769/300-XXXX	CORD Compact Lx T16ESHT	1	T16ESHT	1					U_{out} = 5 ... 265 VAC/DC
	1769 - OW16	16	DO	706-4769/200-XXXX	CORD Compact Lx T16SHT	1	T16ESHT	1					U_{out} = 5 ... 265 VAC/DC
DI/DO	1769 - IQ6XOW4	6	DI	706-4769/0302-XXXX	CORD Compact Lx T6E4SHT	1	T16ESHT	1					U_{out} = 5 ... 265 VAC/DC
		4	DO										
AI	1769 - IF4	4	AI	706-4769/400-XXXX	CORD Compact Lx A4EI	1	A4ES	1					Current
	1769 - IF4	4	AI	706-4769/401-XXXX	CORD Compact Lx A4EU	1	A4ES	1					Voltage
	1769 - IF4I	4	AI	706-4769/402-XXXX	CORD Compact Lx A4EI1	1	A4ES	1					Current
	1769 - IF4I	4	AI	706-4769/403-XXXX	CORD Compact Lx A4EU1	1	A4ES	1					Voltage
	1769 - IF8	8	AI	706-4769/405-XXXX	CORD Compact Lx A4EI	1	A4ES	2					Current
	1769 - IF8	8	AI	706-4769/406-XXXX	CORD Compact Lx A4EU	1	A4ES	2					Voltage
	1769 - IR6	6	AI	706-4769/404-XXXX	CORD Compact Lx A6E RTD	1	A8ES	2					
	1769 - IF4XOF2 (F)	4	AI+ 2 AO	706-4769/600-XXXX	CORD Compact Lx A6ESI	1	A8ES	1					Current
	1769 - IF4XOF2 (F)	4	AI+ 2 AO	706-4769/601-XXXX	CORD Compact Lx A6ESU	1	A8ES	1					Voltage
	1769 - IF16C	16	AI	706-4769/408-XXXX	CORD Compact Lx A16E	1	A8ES	2					
AO	1769 - OF2	2	AO	706-4769/500-XXXX	CORD Compact Lx A2S	1	A4ES	1					
	1769 - OF4	4	AO	706-4769/503-XXXX	CORD Compact Lx A4SI	1	A4ES	1					Current
	1769 - OF4	4	AO	706-4769/504-XXXX	CORD Compact Lx A4SU	1	A4ES	1					Voltage
	1769 - OF4CI	4	AO	706-4769/501-XXXX	CORD Compact Lx A4S	1	A4ES	1					
	1769 - OF4VI	4	AO	706-4769/501-XXXX	CORD Compact Lx A4S	1	A4ES	1					
	1769 - OF8V	8	AO	706-4769/502-XXXX	CORD Compact Lx A8S	1	A8ES	1					
	1769 - OF8C	8	AO	706-4769/502-XXXX	CORD Compact Lx A8S	1	A8ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-4769/302-200

PLC ROCKWELL CONTROL LOGIX (1756)

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	1756 - IA16I	16	DI	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{in} = 120 VAC
	1756 - IB16I	16	DI	706-4756/301-XXXX	CORD Control Lx 2xT16ES	1	T16ES	2					
	1756 - IB16ISOE	16	DI	706-4756/301-XXXX	CORD Control Lx 2xT16ES	1	T16ES	2					U_{in} = 24/48 VDC
	1756 - IB32	32	DI	706-4756/102-XXXX	CORD Control Lx 2xT16E	1	T16ES	2	T16EO	2			
	1756 - IH16I	16	DI	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{in} = 125 VDC
	1756 - IH16ISOE	16	DI	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{in} = 125 VDC
	1756 - IM16I	16	DI	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{in} = 240 VAC
DO	1756 - OA16I	16	DO	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{out} = 120/240 VAC
	1756 - OB16E	16	DO	706-4756/203-XXXX	CORD Control Lx T16S	1	T16ES	1			T16S	1	
	1756 - OB16I	16	DO	706-4756/301-XXXX	CORD Control Lx 2xT16ES	1	T16ES	2					
	1756 - OB16IS	16	DO	706-4756/301-XXXX	CORD Control Lx 2xT16ES	1	T16ES	2					
	1756 - OB32	32	DO	706-4756/207-XXXX	CORD Control Lx 2xT16S	1	T16ES	2			T16S	2	
	1756 - OC8	8	DO	706-4756/202-XXXX	CORD Control Lx T8SHT1	1	T8ESHT	1					U_{out} = 48 VDC
	1756 - OH8I	8	DO	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{out} = 120 VDC
	1756 - OW16I	16	DO	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{out} = 10 ... 265 VAC/DC
	1756 - OX8I	8	DO	706-4756/302-XXXX	CORD Control Lx 2xT16ESHT1	1	T16ESHT	2					U_{out} = 10 ... 265 VAC/DC
AI	1756 - IF6CIS	6	AI	706-4756/411-XXXX	CORD Control Lx A6EP	1	A8ES	1					Passive sensor
	1756 - IF6CIS	6	AI	706-4756/412-XXXX	CORD Control Lx A6EA	1	A8ES	1					Active sensor
	1756 - IF6I	6	AI	706-4756/408-XXXX	CORD Control Lx A6EI	1	A8ES	1					Current
	1756 - IF6I	6	AI	706-4756/409-XXXX	CORD Control Lx A6EU	1	A8ES	1					Voltage
	1756 - IF8	8	AI	706-4756/402-XXXX	CORD Control Lx A8EI	1	A8ES	1					Current
	1756 - IF8	8	AI	706-4756/403-XXXX	CORD Control Lx A8EU	1	A8ES	1					Voltage
	1756 - IF8H	8	AI	706-4756/404-XXXX	CORD Control Lx A8EI1	1	A8ES	1					Current
	1756 - IF8H	8	AI	706-4756/405-XXXX	CORD Control Lx A8EU1	1	A8ES	1					Voltage
	1756 - IF16	16	AI	706-4756/406-XXXX	CORD Control Lx 2xA8EI	1	A8ES	2					Current
	1756 - IF16	16	AI	706-4756/407-XXXX	CORD Control Lx 2xA8EU	1	A8ES	2					Voltage
	1756 - IR6I	16	AI	706-4756/410-XXXX	CORD Control Lx A6E RTD	1	A8ES	2					
AO	1756 - OF4	4	AO	706-4756/500-XXXX	CORD Control Lx A4SI	1	A4ES	1					Current
	1756 - OF4	4	AO	706-4756/501-XXXX	CORD Control Lx A4SU	1	A4ES	1					Voltage
	1756 - OF6CI	6	AO	706-4756/502-XXXX	CORD Control Lx A6S	1	A8ES	1					Z < 550 Ω
	1756 - OF6VI	6	AO	706-4756/502-XXXX	CORD Control Lx A6S	1	A8ES	1					
	1756 - OF8	8	AO	706-4756/503-XXXX	CORD Control Lx A8SI	1	A8ES	1					Current
	1756 - OF8	8	AO	706-4756/504-XXXX	CORD Control Lx A8SU	1	A8ES	1					Voltage
	1756 - OF8H	8	AO	706-4756/503-XXXX	CORD Control Lx A8SI	1	A8ES	1					Current
	1756 - OF8H	8	AO	706-4756/504-XXXX	CORD Control Lx A8SU	1	A8ES	1					Voltage

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-4756/411-200

WAGO 750/753
OMRON

PLC WAGO I/O SYSTEM 753

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	753-430 (x1)	8	DI	706-7753/300-XXXX	CORD Wago-753 T8ES	1	T8ES	1					
	753-430 (x2)	16	DI	706-7753/301-XXXX	CORD Wago-753 T16ES	1	T16ES	1	T16EO	1			
	753-431 (x1)	8	DI	706-7753/300-XXXX	CORD Wago-753 T8ES	1	T8ES	1					
	753-431 (x2)	16	DI	706-7753/301-XXXX	CORD Wago-753 T16ES	1	T16ES	1	T16EO	1			
DO	753-530 (x1)	8	DO	706-7753/300-XXXX	CORD Wago-753 T8ES	1	T8ES	1			T8S	1	
	753-530 (x2)	16	DO	706-7753/301-XXXX	CORD Wago-753 T16ES	1	T16ES	1			T16S	1	
AI	753-453 (x1)	4	AI	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-453 (x2)	8	AI	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-455 (x1)	4	AI	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-455 (x2)	8	AI	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-457 (x1)	4	AI	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-457 (x2)	8	AI	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-459 (x1)	4	AI	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-459 (x2)	8	AI	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
AO	753-553 (x1)	4	AO	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-553 (x2)	8	AO	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-555 (x1)	4	AO	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-555 (x2)	8	AO	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-557 (x1)	4	AO	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-557 (x2)	8	AO	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					
	753-559 (x1)	4	AO	706-7753/602-XXXX	CORD Wago-753 A4ES	1	A4ES	1					
	753-559 (x2)	8	AO	706-7753/601-XXXX	CORD Wago-753 A8ES	1	A8ES	1					

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

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PLC WAGO I/O SYSTEM 750

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	750-1400	16	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1	T16EO	1			
DO	750-1500	16	DO	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1			T16S	1	
DI/DO	750-1502	8	DI	706-7753/302-XXXX	CORD Wago-750 HE T8E8S	1	T8ES	1					
		8	DO								T8S	1	
	750-1502	8	DI	706-3057/300-XXXX	CORD TSX T16ES	1	T16ES	1					Interface only 3 wires
		8	DO										

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

PLC OMRON CJ1

	PLC			FRONT CABLES			COMPATIBLE INTERFACES						
	PLC I/O Card			Item No.	Type	Qty	Direct	Qty	Opto	Qty	Relays	Qty	Comments
DI	CJ1W-ID201	8	DI	706-100/310-XXXX	CORD UNIVERSEL T8ES	1	T8ES	1					Positive log. (com-)
	CJ1W-ID211	16	DI	706-100/320-XXXX	CORD UNIVERSEL T16ES	1	T16ES	1					Positive log. (com-)
	CJ1W-ID231	32	DI	706-6001/100-XXXX	CORD CJ1W 2xT16E	1	T16ES	2	T16EO	2			Positive log. (com-)
	CJ1W-ID232	32	DI	706-6001/300-XXXX	CORD CJ1W 2xT16ES	1	T16ES	2	T16EO	2			Positive log. (com-)
	CJ1W-ID261	64	DI	706-6001/100-XXXX	CORD CJ1W 2xT16E	2	T16ES	4	T16EO	4			Positive log. (com-)
	CJ1W-ID262	64	DI	706-6001/300-XXXX	CORD CJ1W 2xT16ES	2	T16ES	4	T16EO	4			Positive log. (com-)
	CJ1W-IDP01	16	DI	706-100/320-XXXX	CORD UNIVERSEL T16ES	1	T16ES	1					Positive log. (com-)
	CJ1W-INT01	16	DI	706-100/320-XXXX	CORD UNIVERSEL T16ES	1	T16ES	1					Positive log. (com-)
DO	CJ1W-OD204	8	DO	706-100/310-XXXX	CORD UNIVERSEL T8ES	1	T8ES	1			T8S	1	
	CJ1W-OD212	16	DO	706-100/320-XXXX	CORD UNIVERSEL T16ES	1	T16ES	1			T16S	1	
	CJ1W-OD232	32	DO	706-6001/300-XXXX	CORD CJ1W 2xT16ES	1	T16ES	2			T16S	2	
	CJ1W-OD262	64	DO	706-6001/300-XXXX	CORD CJ1W 2xT16ES	2	T16ES	4			T16S	4	
DI/DO	CJ1W-MD232	16	DI	706-6001/301-XXXX	CORD CJ1W T16E+T16S	1	T16ES	1					Positive log. (com-)
		16	DO								T16S	1	

When selecting the modules, please always observe their characteristics (max. voltage/current, relay/optocoupler control voltage).

The item number suffix «xxxx» indicates the length of cable in cm.

Standard length examples: L (xxxx)
• 1,00 m (100) / 2,00 m (200) / 3,00 m (300)

Item no. example for a 2 m cable: 706-7753/300-200

WAGO INTERFACE MODULES

Type		Description	Dimensions in mm (W x H x D)	Item No.
DI/DO	T8ES	10-pole; without supply	35 x 48 x 85	289-611
		10-pole; with LED; 3-wire	56 x 63 x 85	704-2003
		10-pole; with LED; 3-wire; channel isolation	56 x 63 x 105	704-2063
	T8ESHT	12-pole (*MCS*); without LED; 2 conductors; up to 250 V		704-3003
	T8S	10-pole; with LED; electrical isolation: 5 A relay	70 x 65 x 105	704-5003
		10-pole; with LED; electrical isolation: 5 A relay; manual operation	75 x 65 x 105	704-5013
		10-pole; with LED; electrical isolation: 5 A relay (2 u)	124 x 50 x 105	704-5063
	T16ES	20-pole; without supply	47 x 62 x 85	289-614
		20-pole; with LED; 1-wire	55 x 50 x 85	704-2004
		20-pole; with LED; 1-wire; channel isolation		704-2014
		20-pole; with LED; 2-wire	85 x 50 x 85	704-2024
		20-pole; with LED; 2-wire; channel fuse		704-2034
		20-pole; with LED; 2-wire; channel isolation	99 x 50 x 85	704-2044
		20-pole; with LED; 3-wire	85 x 63 x 85	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
	T16S	20-pole; with LED; electrical isolation: 5 A relay	180 x 50 x 105	704-5004
		20-pole; with LED; electrical isolation: 5 A relay	111 x 65 x 105	704-5024
		20-pole; with LED; electrical isolation: 5 A relay; channel fuse	247 x 55 x 105	704-5034
		20-pole; with LED; electrical isolation: 5 A relay; manual operation	121 x 65 x 105	704-5044
		20-pole; with LED; electrical isolation: 5 A relay; 0 V isolation; channel fuse	240 x 55 x 105	704-5054
		20-pole; with LED; electrical isolation: 5 A relay (2 u)	247 x 50 x 105	704-5064
		20-pole; with LED; electrical isolation: 5 A relay (1 a); 0 V/channel isolation; channel fuse	240 x 55 x 105	704-5074
		20-pole; with LED; electrical isolation: 5 A relay	180 x 50 x 105	704-5204
		20-pole; with LED; electrical isolation: 5 A relay; channel fuse	115 x 50 x 125	704-5234
	T16EO	20-pole; with LED; electrical isolation: 2 A optocoupler	105 x 50 x 134	704-4004
AI/AO	A4ES	15-pole sub-D; 2- and 4-wire	66 x 50 x 105	704-8002
		15-pole sub-D; 2- and 4-wire; isolation		704-8012
	A8ES	25-pole sub-D; 2- and 4-wire	66 x 50 x 105	704-8003
		25-pole sub-D; 2- and 4-wire; isolation	92 x 50 x 105	704-8013
	A8TSX	25-pole sub-D; current and voltage signal	92 x 50 x 105	704-8023

WAGO Interface Cable (Examples)

For Siemens

For Rockwell

For WAGO

For Schneider

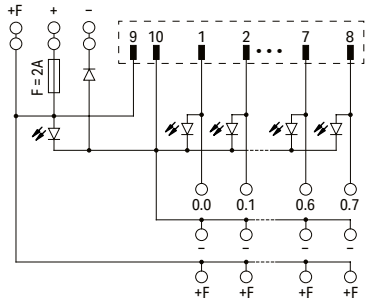
Cable Length Overview			
Item No.	-XXXX	Length	Example
706-2300/201-XXXX	-100	1 m	706-2300/201-100
	-200	2 m	706-2300/201-200
	-300	3 m	706-2300/201-300
	Additional cable lengths upon request		

6

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 10-pole; 8-channel digital input or output; 3-wire connection; in mounting carrier

704 Series

	Item No.	PU
	704-2003	1

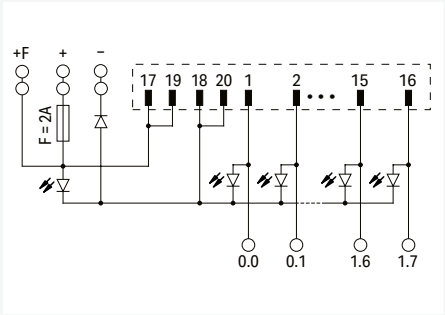


Electrical data	
Inputs/outputs	8-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	10
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Pole number 2	24
Connection type 2	Field
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	56 mm / 2.205 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	63 mm / 2.48 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	92 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

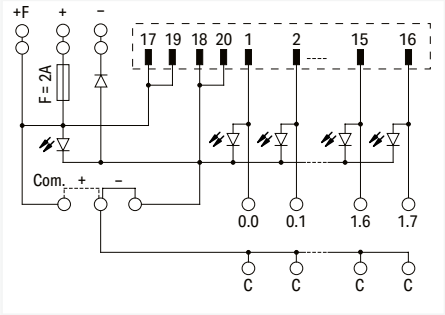
Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; in mounting carrier

704 Series

Circuit Type	Width	Item No.	PU
1-wire connection	55 mm	704-2004	1
2-wire connection	85 mm	704-2024	1



704-2004



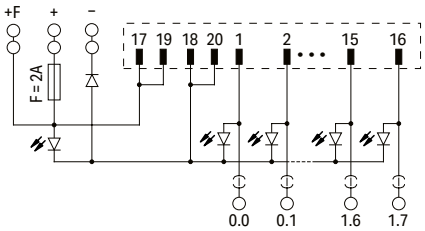
704-2004

Electrical data	
Inputs/outputs	16-channel digital input or output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	16
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	80 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; 1-wire connection; with disconnect terminal block; in mounting carrier

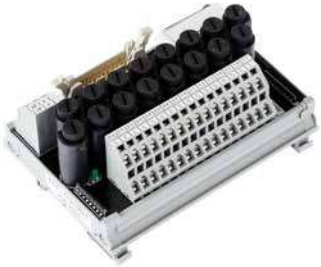
704 Series

	Item No.	PU
	704-2014	1

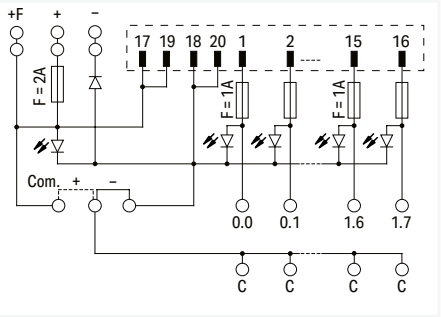


Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	1-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	16
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	85 mm / 3.346 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	150 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; 2-wire connection; Miniature fuse; in mounting carrier
704 Series

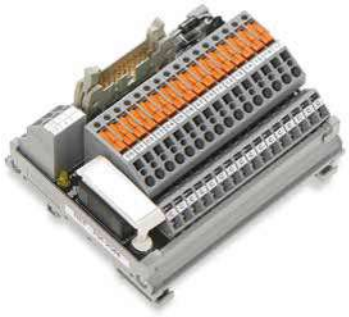


	Item No.	PU
	704-2034	1

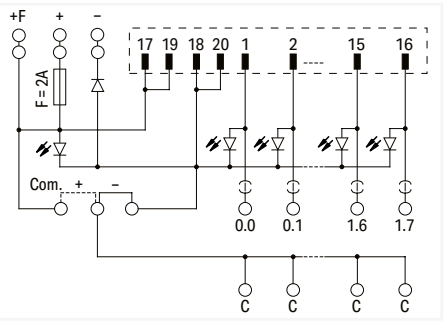


Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Channel: 1 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	32
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	120 mm / 4.724 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	170 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; 2-wire connection; in mounting carrier
704 Series



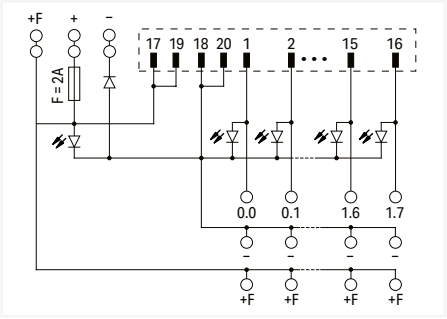
	Item No.	PU
	704-2044	1



Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	16
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	16
Connection type 3	Field
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks (double-deck)
Pole number 4	6
Connection type 4	Power supply
WAGO connector 4	WAGO 736 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	99 mm / 3.898 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	184.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; 3-wire connection; in mounting carrier
704 Series

	Item No.	PU
	704-2054	1

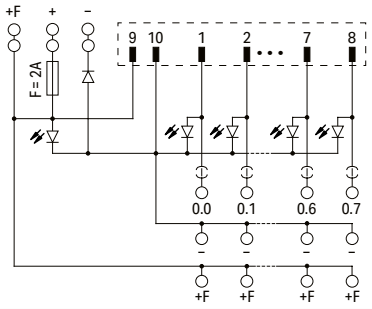


Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Pole number 2	48
Connection type 2	Field
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	85 mm / 3.346 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	63 mm / 2.48 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	143 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 10-pole; 8-channel digital input or output; 3-wire connection; with disconnect terminal block; in mounting carrier

704 Series

	Item No.	PU
	704-2063	1

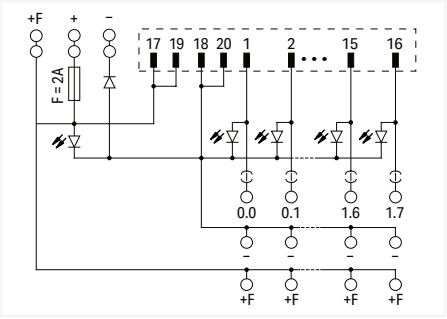


Electrical data	
Inputs/outputs	8-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	10
Connection type 1	System
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	8
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	16
Connection type 3	Field
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks (double-deck)
Pole number 4	24
Connection type 4	Power supply
WAGO connector 4	WAGO 736 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	56 mm / 2.205 inches
Height	105 mm / 4.133 inches
Depth from upper-edge of DIN-rail	63 mm / 2.48 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	114.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input or output; 3-wire connection; with disconnect terminal block; in mounting carrier

704 Series

	Item No.	PU
	704-2064	1

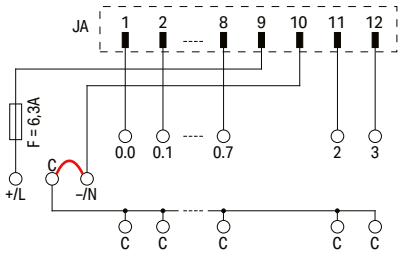


Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	16
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks (double-row)
Pole number 3	32
Connection type 3	Field
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks (double-deck)
Pole number 4	6
Connection type 4	Power supply
WAGO connector 4	WAGO 736 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	85 mm / 3.346 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	170 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; for 232 Series Pluggable Connectors; 12-pole; 8-channel digital input or output; 2-wire connection; Double-deck PCB terminal blocks; for higher voltages; in mounting carrier

704 Series

Item No.	PU
704-3003	1

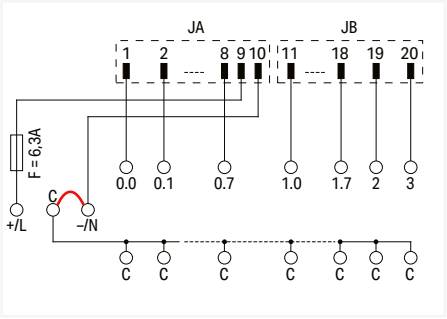


Electrical data	
Inputs/outputs	8-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	230 VAC
Operating voltage range	±10 %
Total current	8 A
Limiting continuous current	3 A
Internal fuse	6.3 A
Safety and protection	
Rated voltage	250 V
Rated surge voltage	2 kV
Connection data	
Connection 1	
Connector	WAGO 231 Series
Design	PCB terminal blocks
Pole number 1	12
Connection type 1	System
WAGO connector	WAGO 232 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	20
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	3
Connection type 3	Power supply
WAGO connector 3	WAGO 742 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	71 mm / 2.795 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	56 mm / 2.204 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	170 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; for 232 Series Pluggable Connectors; 2 x 10-pole; 16-channel digital input or output; 2-wire connection; Double-deck PCB terminal blocks; in mounting carrier

704 Series

	Item No.	PU
	704-3004	1



Electrical data	
Inputs/outputs	16-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	230 VAC
Operating voltage range	±10 %
Total current	8 A
Limiting continuous current	3 A
Internal fuse	6.3 A
Safety and protection	
Rated voltage	250 V
Rated surge voltage	2 kV
Connection data	
Connection 1	
Connector	WAGO 231 Series
Design	PCB terminal blocks
Pole number 1	20
Connection type 1	System
WAGO connector	WAGO 232 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	32
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	3
Connection type 3	Power supply
WAGO connector 3	WAGO 742 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	111 mm / 4.37 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	56 mm / 2.204 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	170 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel digital input; 2-wire connection; Double-deck PCB terminal blocks; in mounting carrier

704 Series

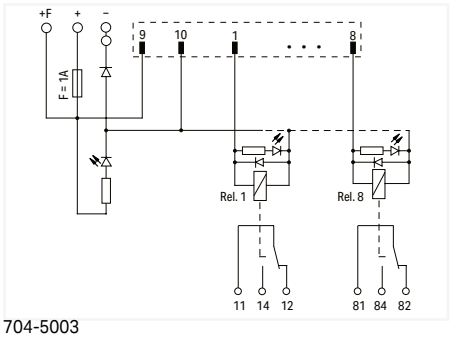
	Item No.	PU
	704-4004	1

Electrical data	
Inputs/outputs	16-channel digital input
Circuit type	2-wire connection
Nominal input voltage UN	24 VAC/VDC
Nominal input current at UN	14 mA
Peak output current	0.1A
Switching voltage (max.)	DC 30 V
Internal fuse	2 A
Safety and protection	
Pollution degree	2
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Mating direction	Vertical
Connection 2	
Connector 2	WAGO 736 Series
Design 2	PCB terminal blocks (double-deck)
Pole number 2	32
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Connector 3	WAGO 736 Series
Design 3	PCB terminal blocks (double-deck)
Pole number 3	4
Connection type 3	Field
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Connector 4	WAGO 736 Series
Design 4	PCB terminal blocks (double-deck)
Pole number 4	6
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	105 mm / 4.13 inches
Height	50 mm / 1.97 inches
Depth from upper-edge of DIN-rail	134 mm / 5.28 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	280 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

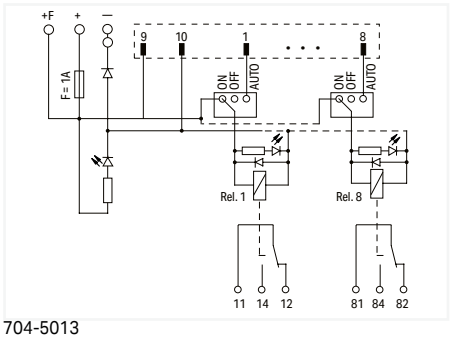
Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 10-pole; 8-channel relay output; 1 changeover contact; Triple-deck PCB terminal blocks; in mounting carrier

704 Series

	Item No.	PU
	704-5003	1
manual operation	704-5013	1



704-5003



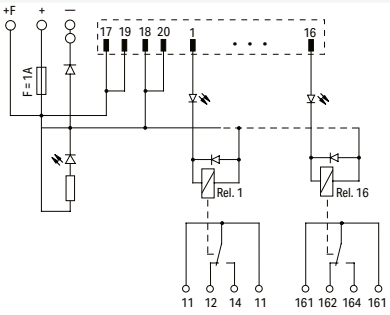
704-5013

Electrical data	
Inputs/outputs	8-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	857-152
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	10
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Pole number 2	24
Connection type 2	Field
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	70 mm / 2.756 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	65 mm / 2.559 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Contact material (relay)	$AgSnO_2$
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 changeover contact; Double-deck PCB terminal blocks; in mounting carrie

704 Series

	Item No.	PU
	704-5004	1



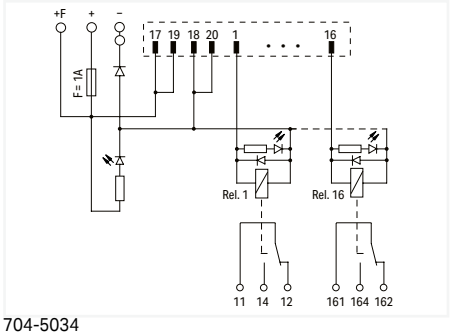
Independent of the relay used, the maximum continuous current is 5A per channel.

Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Making capacity	2 ms 16 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	64
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	6
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	180 mm / 7.087 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 changeover contact; Triple-deck PCB terminal blocks; in mounting carrier

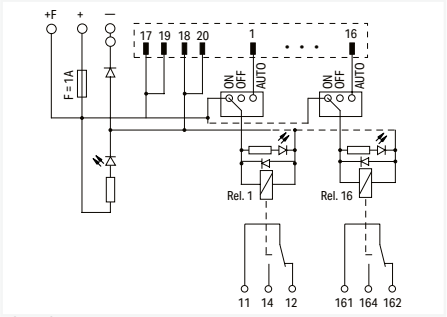
704 Series

Width	Item No.	PU
111 mm	704-5024	1



704-5034

manual operation		
Width	Item No.	PU
121 mm	704-5044	1



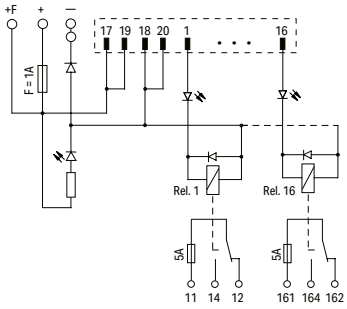
704-5074

Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	857-152
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Pole number 2	48
Connection type 2	Field
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	65 mm / 2.559 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Contact material (relay)	$AgSnO_2$
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; in mounting carrier

704 Series

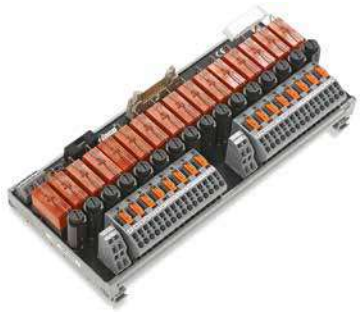
	Item No.	PU
	704-5034	1



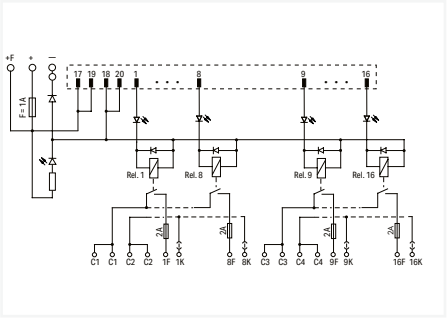
Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 5 A
WAGO Basic Relay	788-154
Specialty functions	With output fuse
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	48
Connection type 2	Field
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	247 mm / 9.724 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 make contact; with disconnect terminal block and fuse; in mounting carrier

704 Series



	Item No.	PU
	704-5054	1



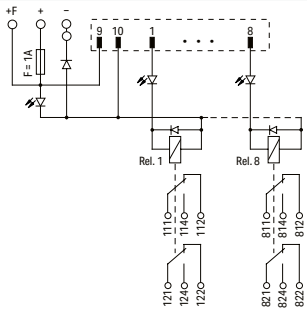
Independent of the relay used, the maximum continuous current is 5A per channel.

Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of make/switch-on contacts	1
Limiting continuous current	2 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 500 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 2 A
WAGO Basic Relay	788-154
Specialty functions	With disconnect/test terminal blocks; with output fuse
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	32
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	8
Connection type 3	Field
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks
Pole number 4	4
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
WAGO connector 4	WAGO 236 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	240 mm / 9.449 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	770 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 10-pole; 8-channel relay output; 2 changeover contacts; Double-deck PCB terminal blocks; in mounting carrier

704 Series

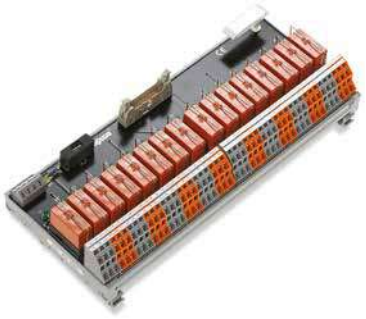
	Item No.	PU
	704-5063	1



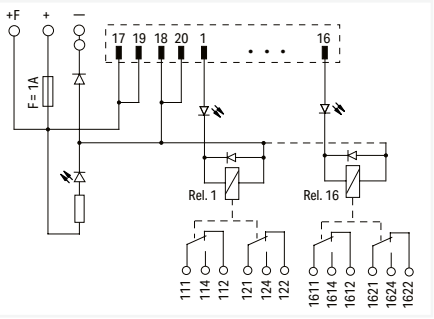
Electrical data	
Inputs/outputs	8-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	2
Limiting continuous current	5 A
Making capacity	2 ms 8 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1000 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-156
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	10
Connection type 1	System
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	48
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	124 mm / 4.882 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	177.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 2 changeover contacts; Double-deck PCB terminal blocks; in mounting carrier

704 Series



	Item No.	PU
	704-5064	1



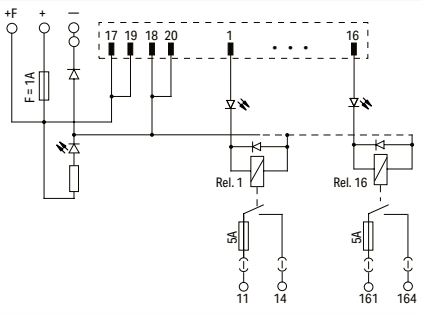
Independent of the relay used, the maximum continuous current is 5A per channel.

Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	2
Limiting continuous current	5 A
Making capacity	2 ms 8 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1000 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-156
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	96
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	247 mm / 9.724 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	645 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 make contact; with disconnect terminal block and fuse; in mounting carrier

704 Series

	Item No.	PU
	704-5074	1

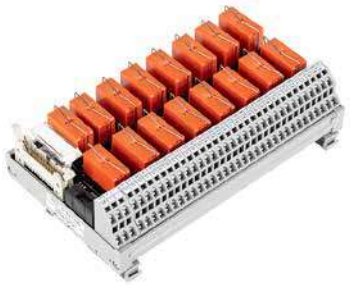


Independent of the relay used, the maximum continuous current is 5A per channel.

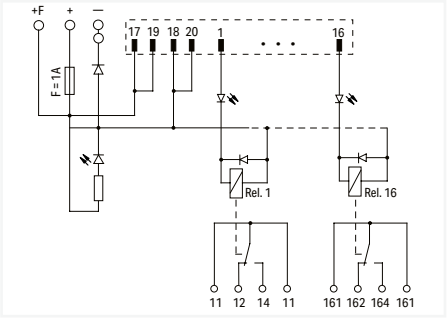
Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of make/switch-on contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 5 A
WAGO Basic Relay	788-154
Specialty functions	With disconnect/test terminal blocks; with output fuse
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	32
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	240 mm / 9.449 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	785 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 changeover contact; Double-deck PCB terminal blocks; for DC loads; in mounting carrier

704 Series



Item No.	PU
704-5204	1

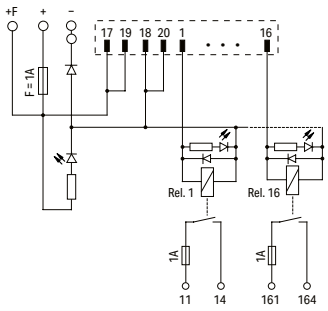


Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Making capacity	2 ms 16 A
Switching voltage (max.)	AC 250 V; DC 150 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-156
Specialty functions	For DC loads
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	2.5 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	64
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks (double-deck)
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 736 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	180 mm / 7.087 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	419.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; Pluggable connector per DIN 41651; Male connector; 20-pole; 16-channel relay output; 1 make contact; Double-deck PCB terminal blocks; with output fuse; in mounting carrier

704 Series

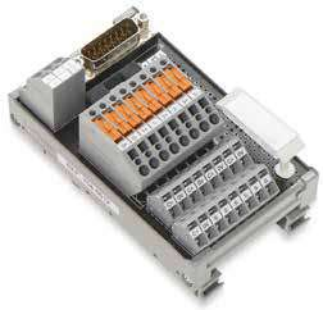
	Item No.	PU
	704-5234	1



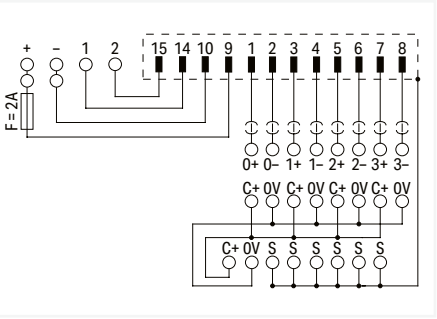
Electrical data	
Inputs/outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of make/switch-on contacts	1
Limiting continuous current	1 A
Switching voltage (max.)	AC 250 V; DC 48 V
Switching power (resistive) max.	AC 1250 VA; DC 50 W
Mechanical life	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
WAGO Basic Relay	857-152
Specialty functions	With output fuse
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Dielectric strength (control/load circuit) (AC, 1 min)	4 kV_{rms}
Dielectric strength (load/load circuit) (AC, 1 min)	1 kV_{rms}
Connection data	
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	20
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Pole number 2	32
Connection type 2	Field
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Power supply
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	115 mm / 5.133 inches
Height	125 mm / 4.921 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Contact material (relay)	$AgSnO_2$
Weight	393.4g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; with solder pin; Male connector; 15-pole; 4-channel analog input or output; 4-wire; PCB terminal blocks; in mounting carrier

704 Series

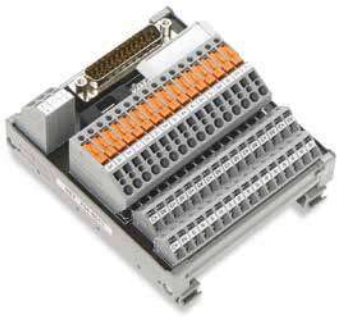


	Item No.	PU
	704-8012	1

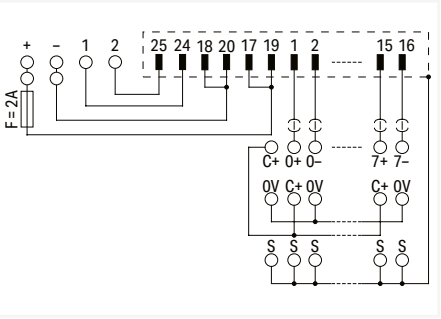


Electrical data	
Inputs/outputs	4-channel analog input or output
Circuit type	2-wire connection; 4-wire connection
Operating voltage	≤48 VDC
Limiting continuous current	1 A
Internal fuse	Supply: 2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	D-sub male connector
Pole number 1	15
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	8
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks (double-row)
Pole number 3	16
Connection type 3	Field
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks (double-deck)
Pole number 4	6
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
WAGO connector 4	WAGO 736 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	66 mm / 2.598 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	131 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface module for system wiring; with solder pin; Male connector; 25-pole; 8-channel analog input or output; 4-wire; PCB terminal blocks; in mounting carrier
704 Series



	Item No.	PU
	704-8013	1



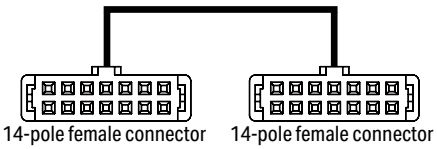
Electrical data	
Inputs/outputs	8-channel analog input or output
Circuit type	2-wire connection; 4-wire connection
Operating voltage	≤48 VDC
Limiting continuous current	1 A
Internal fuse	Supply: 2 A
Specialty functions	With disconnect/test terminal blocks
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Connection 1	
Connector	D-sub male connector
Pole number 1	25
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	16
Connection type 2	Field
WAGO connector 2	WAGO 742 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Connection 3	
Design 3	PCB terminal blocks (double-row)
Pole number 3	32
Connection type 3	Field
WAGO connector 3	WAGO 236 Series
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inches
Connection 4	
Design 4	PCB terminal blocks (double-deck)
Pole number 4	6
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
WAGO connector 4	WAGO 736 Series
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	92 mm / 3.62 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	190 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

Connection cable; 14-pole; Pluggable connector per DIN 41651; Length: 1 m (1 MOhm); 14-pole; Pluggable connector per DIN 41651; Conductor cross-section: 0.14 mm²

706 Series

Length	Item No.	PU
1 m	706-753/300-100	1
2 m	706-753/300-200	1
3 m	706-753/300-300	1



Color coding acc. to DIN VDE 47100		14 poles flat connector Pin number
White		1
Brown		2
Green		3
Yellow		4
Grey		5
Pink		6
Blue		7
Red		8
Black		9
Violet		10
Grey-Pink		11
Red-Blue		12
White-Green		13
Brown-Green		14

Short description:
WAGO's 14-pole interface cables transmit the signal one-to-one from the 14-pole connector and are available in 1-, 2- and 3-meter lengths.
These cables are suitable for system wiring when paired with 857-981 and 857-982 Interface Adapters.

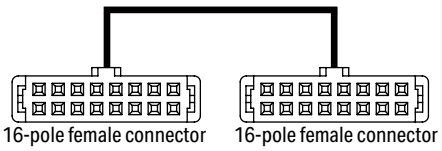
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical data	
Operating voltage	≤35 VDC
Current per wire (max.)	1A
Connection data	
Cable type	LiYY
Color code	per DIN VDE 47100
Connection 1	
Connector	Pluggable connector per DIN 41651; female connector
Pole number 1	14
Connection type 1	System
Wire cross-section	0.14mm²
Connection type	Pluggable Connector per DIN 41651
Connection 2	
Connector 2	Pluggable connector per DIN 41651; female connector
Pole number 2	14
Connection type 2	System
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C

Connection cable; 16-pole; Pluggable connector per DIN 41651; Length: 1 m (1 MOhm); 14-pole; Pluggable connector per DIN 41651; Conductor cross-section: 0.14 mm²

706 Series

Length	Item No.	PU
1 m	706-753/301-100	1
2 m	706-753/301-200	1
3 m	706-753/301-300	1



Color coding acc. to DIN VDE 47100		16 poles flat connector Pin number
White		1
Brown		2
Green		3
Yellow		4
Grey		5
Pink		6
Blue		7
Red		8
Black		9
Violet		10
Grey-Pink		11
Red-Blue		12
White-Green		13
Brown-Green		14
White-Yellow		15
Yellow-Brown		16

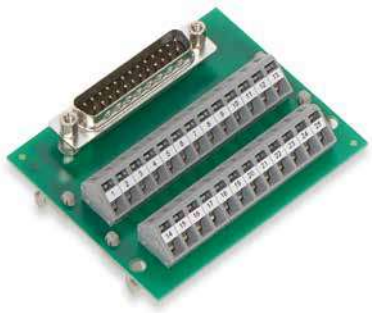
Short description:
WAGO's 16-pole interface cables transmit the signal one-to-one from the 16-pole connector and are available in 1-, 2- and 3-meter lengths. Signal transmission from the 857-980 Interface Adapter is also possible.
These cables are suitable for system wiring when paired with 857-980 Interface Adapter.

When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

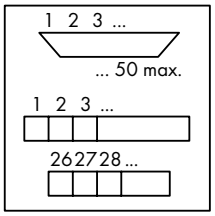
Electrical data	
Operating voltage	≤35 VDC
Current per wire (max.)	1A
Connection data	
Cable type	LiYY
Color code	per DIN VDE 47100
Connection 1	
Connector	Pluggable connector per DIN 41651; female connector
Pole number 1	16
Connection type 1	System
Wire cross-section	0.14mm²
Connection type	Pluggable Connector per DIN 41651
Connection 2	
Connector 2	Pluggable connector per DIN 41651; female connector
Pole number 2	16
Connection type 2	System
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C

Interface module; with solder pin; Male connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; with mounting feet

289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38 mm	289-445	25 (1)
15	15	53.5 mm	289-446	15 (1)
25	25	79 mm	289-447	10 (1)
37	37	120 mm	289-448	5 (1)
50	50	157 mm	289-449	5 (1)



Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤30 VAC; ≤50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP00;
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	63.5 mm / 2.5 inches
Depth from upper-edge of DIN-rail	19 mm / 0.748 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	PCB with mounting feet
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

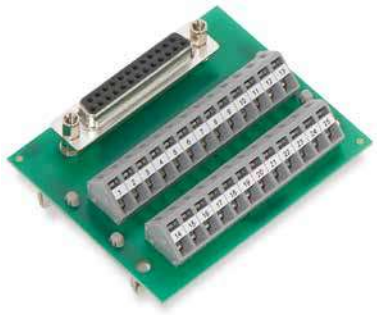
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

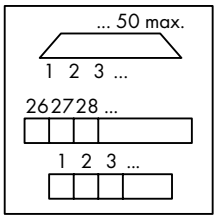
Item No.	PU
709-153	10

Interface module; with solder pin; Female connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; with mounting feet

289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38 mm	289-455	40 (1)
15	15	53.5 mm	289-456	30 (1)
25	25	79 mm	289-457	15 (1)
37	37	120 mm	289-458	10 (1)
50	50	157 mm	289-459	5 (1)



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The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤30 VAC; ≤50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP00;
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	63.5 mm / 2.5 inches
Depth from upper-edge of DIN-rail	19 mm / 0.748 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	PCB with mounting feet
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

6

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

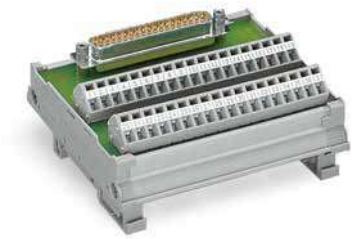
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

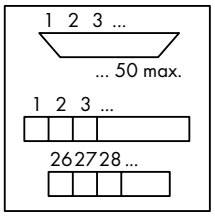
Item No.	PU
709-153	10

Interface module; with solder pin; Male connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; in mounting carrier

289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38 mm	289-545	8 (1)
15	15	46 mm	289-546	6 (1)
25	25	72 mm	289-547	4 (1)
37	37	102 mm	289-548	3 (1)

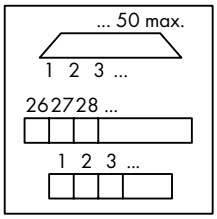


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; 289-545: DNV

Interface module; with solder pin; Female connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; in mounting carrier

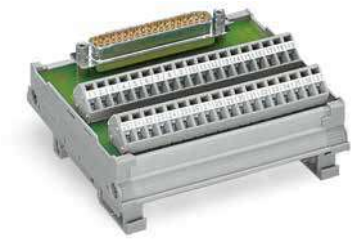
289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38 mm	289-555	8 (1)
15	15	46 mm	289-556	8 (1)
25	25	72 mm	289-557	4 (1)
37	37	102 mm	289-558	3 (1)
50	50	94 mm	289-559	3 (1)

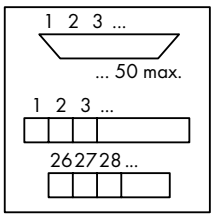


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; with solder pin; Male connector; 50-pole; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, triple-row; in mounting carrier
289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
50	50	94 mm	289-549	4 (1)



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The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	0.75 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Pole number 1	50
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-row)
Pole number 2	50
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	94 mm / 3.701 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	123 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

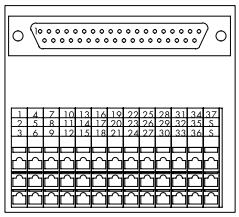
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Male connector; Mating connector with solder connection; Vertical mounting; Triple-deck PCB terminal blocks; in mounting carrier; with shield connection
289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
25	27	56 mm	289-620	6 (1)
37	39	74 mm	289-621	3 (1)



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Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Overvoltage category	II
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	62 mm / 2.441 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

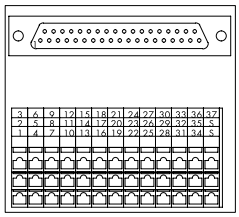
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Female connector; Mating connector with solder connection; Vertical mounting; Triple-deck PCB terminal blocks; in mounting carrier; with shield connection

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
25	27	56 mm	289-623	4 (1)
37	39	74 mm	289-624	3 (1)



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The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	62 mm / 2.441 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

6

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

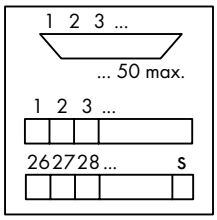
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Male connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; in mounting carrier; with shield connection
289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	10	38.5 mm	289-585	8 (1)
15	16	46 mm	289-586	7 (1)
25	26	71.5 mm	289-587	4 (1)
37	38	102 mm	289-588	3 (1)

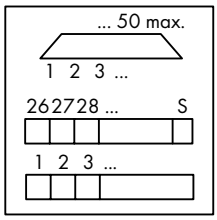


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; with solder pin; Female connector; Mating connector with solder connection; Vertical mounting; PCB terminal blocks, double-row; in mounting carrier

289 Series

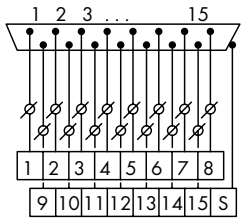
Pole No. 1	Pole No. 2	Width	Item No.	PU
9	10	33 mm	289-575	8 (1)
15	16	43 mm	289-576	7 (1)
25	26	68.5 mm	289-577	4 (1)
37	38	99 mm	289-578	3 (1)



Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; 289-575: DNV

Interface module; with solder pin; Male connector; Double-deck PCB terminal blocks; in mounting carrier; Mating connector for solder connection
289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	10	33.5 mm	289-720	8 (1)
15	16	43.5 mm	289-721	7 (1)
25	26	69 mm	289-722	4 (1)
37	38	99.5 mm	289-723	3 (1)



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The installation guidelines must be observed for each individual application.

Note
One solder terminal per pole is available for testing and patching (except for shield contact).

Electrical data	
Operating voltage	≤30 VAC; ≤50 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With solder pin; with shield connection
Safety and protection	
Rated voltage	50 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3kV$_{rms}$
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	HD D-sub male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

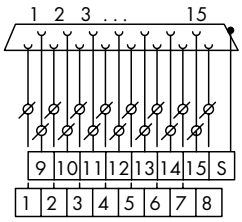
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Female connector; Double-deck PCB terminal blocks; in mounting carrier; Mating connector for solder connection

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	10	33.5 mm	289-725	8 (1)
15	16	43.5 mm	289-726	8 (1)
37	38	99.5 mm	289-728	3 (1)



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The installation guidelines must be observed for each individual application.

Note
One solder terminal per pole is available for testing and patching (except for shield contact).

Electrical data	
Operating voltage	≤30 VAC; ≤50 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With solder pin; with shield connection
Safety and protection	
Rated voltage	50 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With solder contact
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

6

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

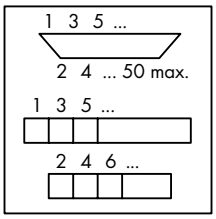
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Male connector; for mating connectors with IDC; Vertical mounting; PCB terminal blocks, triple-row; in mounting carrier

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38 mm	289-540	8 (1)
15	15	46 mm	289-541	8 (1)
25	25	72 mm	289-542	4 (1)
37	37	102 mm	289-543	3 (1)

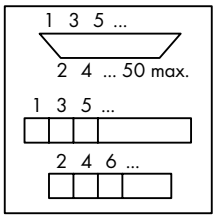


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With IDC
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; with solder pin; Male connector; 50-pole; for mating connectors with IDC; Vertical mounting; PCB terminal blocks, triple-row; in mounting carrier

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
50	50	94 mm	289-544	3 (1)



Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	0.75 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature male connector
Pole number 1	50
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With IDC
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-row)
Pole number 2	50
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	94 mm / 3.701 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	126 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

6

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

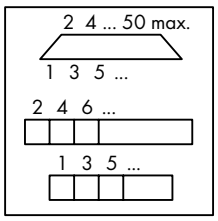
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; with solder pin; Female connector; for mating connectors with IDC; Vertical mounting; PCB terminal blocks, double-row; in mounting carrier

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	9	38	289-550	8 (1)
15	15	46	289-551	8 (1)
25	25	72	289-552	4 (1)
37	37	102	289-553	3 (1)
50	50	94	289-554	3 (1)

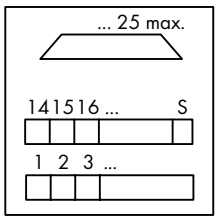


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
For mating connector	With IDC
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; with solder pin; Female connector; Double-deck PCB terminal blocks; in mounting carrier; with shield connection

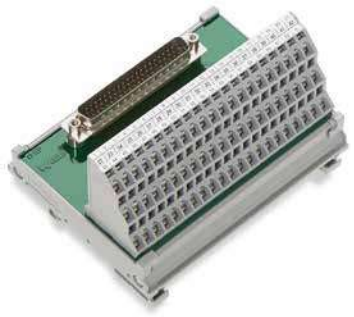
289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
9	10	33 mm	289-650	8 (1)
25	26	68.5 mm	289-652	4 (1)

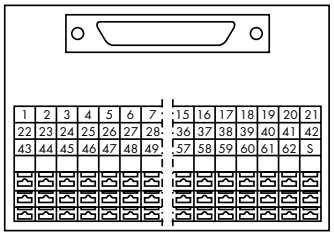


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	2 / 200 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	D-subminiature female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; HD-Sub-D; Male connector; Triple-deck PCB terminal blocks; in mounting carrier; with shield connection
289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
15	15	35 mm	289-714	10 (1)
62	64	62 mm	289-710	4 (1)

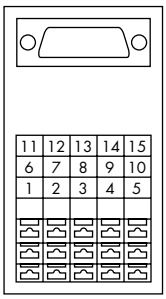


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Contact resistance (max.)	15 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Connection data	
Performance level	3 / 50 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	HD D-sub male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	62 mm / 2.441 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; HD-Sub-D; Female connector; Triple-deck PCB terminal blocks; in mounting carrier; with shield connection

289 Series

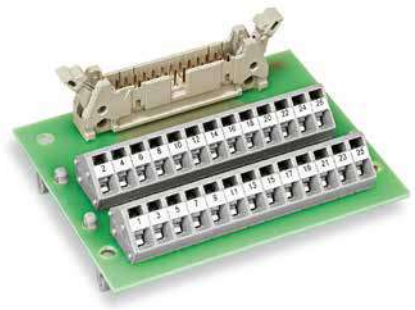
Pole No. 1	Pole No. 2	Width	Item No.	PU
15	15	35 mm	289-713	8 (1)
44	45	79 mm	289-707	4 (1)
62	63	108 mm	289-708	4 (1)



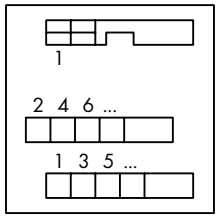
Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Contact resistance (max.)	15 mΩ
Specialty functions	With shield connection
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Connection data	
Performance level	3 / 50 mating cycles
Strain relief	UNC 4-40 stud bolt
Connection 1	
Connector	HD D-sub female connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Female connector; D-sub/HD D-sub
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	62 mm / 2.441 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; Pluggable connector per DIN 41651; PCB terminal blocks, double-row; with mounting feet

289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
10	10	41 mm	289-401	15 (1)
14	14	51.5 mm	289-402	15 (1)
16	16	56.5 mm	289-403	10 (1)
20	20	66.5 mm	289-404	10 (1)
26	26	81 mm	289-405	10 (1)
34	34	102 mm	289-406	10 (1)
40	40	126 mm	289-407	5 (1)
50	50	151 mm	289-408	4 (1)
64	64	187 mm	289-409	5 (1)



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The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤30 VAC; ≤50 VDC
Nominal current	1 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP00;
Insulation type	Basic insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	63.5 mm / 2.5 inches
Depth from upper-edge of DIN-rail	28 mm / 1.102 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	PCB with mounting feet
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

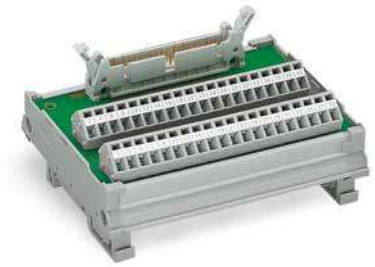
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

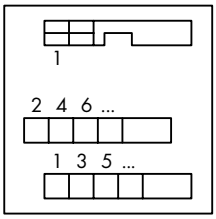
Item No.	PU
709-153	10

Interface module; Pluggable connector per DIN 41651; PCB terminal blocks, double-row; in mounting carrier

289 Series

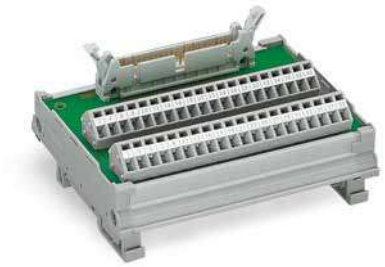


Pole No. 1	Pole No. 2	Width	Item No.	PU
10	10	38 mm	289-501	10 (1)
14	14	43 mm	289-502	5 (1)
16	16	46 mm	289-503	6 (1)
20	20	53.5 mm	289-504	10 (1)
26	26	71 mm	289-505	5 (1)
34	34	94 mm	289-506	5 (1)
50	50	132 mm	289-508	3 (1)

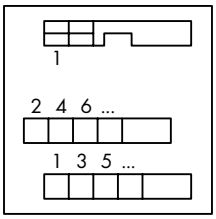


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	36 mm / 1.417 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; Pluggable connector per DIN 41651; PCB terminal blocks, double-row; in mounting carrier
289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
40	40	114 mm	289-507	5 (1)
64	64	170 mm	289-509	3 (1)



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The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	0.75 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (double-row)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	36 mm / 1.417 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

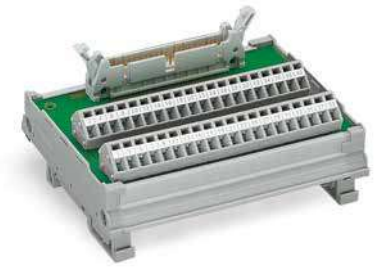
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

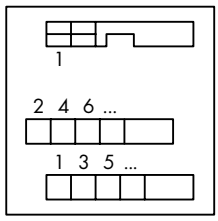
Item No.	PU
709-153	10

Interface module; Pluggable connector per DIN 41651; PCB terminal blocks, triple-row; in mounting carrier

289 Series



Pole No. 1	Pole No. 2	Width	Item No.	PU
64	64	120 mm	289-510	4 (1)



Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Pole number 1	64
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (triple-row)
Pole number 2	64
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	120 mm / 4.724 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	36 mm / 1.417 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	147.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

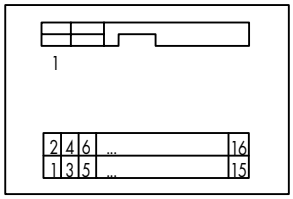
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Interface module; Pluggable connector per DIN 41651; Double-deck PCB terminal blocks; in mounting carrier

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
10	10	35 mm	289-611	10 (1)
14	14	40 mm	289-612	5 (1)
16	16	45 mm	289-613	20 (1)

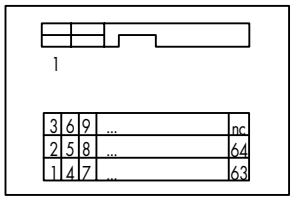


Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1 A
Safety and protection	
Rated voltage	125 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Insulation type	Basic insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (double-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 736 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Interface module; Pluggable connector per DIN 41651; Triple-deck PCB terminal blocks; in mounting carrier

289 Series

Pole No. 1	Pole No. 2	Width	Item No.	PU
20	20	47 mm	289-614	5 (1)
26	26	55 mm	289-615	5 (1)
34	34	65 mm	289-616	4 (1)
40	40	74 mm	289-617	4 (1)
50	50	88 mm	289-618	3 (1)
64	64	114 mm	289-619	3 (1)



Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ AC/DC 125 V
Nominal current	1A
Safety and protection	
Rated voltage	125 V
Pollution degree	2
Protection type	IP00;
Dielectric strength (channel/channel) (AC, 1 min.)	1.3 kV_{rms}
Insulation type	Functional insulation
Connection data	
Performance level	3 / 50 mating cycles
Connection 1	
Connector	DIN 41651 connector; male connector
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Mating direction	Vertical
Connection type	Male connector; pluggable connector per DIN 41651
Connection 2	
Design 2	PCB terminal blocks (triple-deck)
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 737 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	62 mm / 2.441 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

6

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

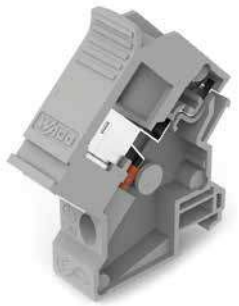
Item No.	PU
709-153	10

Interface module; RJ-45; IDC technology; Cat. 6; in mounting carrier; with shield connection
289 Series

	Item No.	PU
	289-195	1

Electrical data	
Specialty functions	With shield connection
Safety and protection	
Protection type	IP20
Connection data	
Mating cycles	750
Connection cable	Cat. 6 (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Pole number 2	8
Connection type 2	System
Connection technology 2	IDC connection
Solid conductor 2	0.2 … 0.32 mm² / 24 … 22 AWG
Stranded conductor 2	0.2 … 0.32 mm² / 26/7 … 22/7 AWG
Strip length 2	0.8 … 1.6 mm / 0.03 … 0.06 inches
Physical data	
Width	26.8 mm / 1.056 inches
Height	81.4 mm / 3.205 inches
Depth from upper-edge of DIN-rail	64.4 mm / 2.535 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	51 g
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	95% (non-condensing)

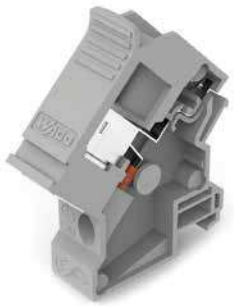
Coupler module; 2xRJ-45; Cat. 6A; in mounting carrier; with shield connection
289 Series



	Item No.	PU
	289-198	1

Electrical data	
Contact resistance	200 mΩ
Specialty functions	With shield connection
Safety and protection	
Protection type	IP20
Connection data	
Mating cycles	750
Connection cable	Cat. 6A (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Connector 2	RJ-45 (shielded)
Pole number 2	8
Connection type 2	System
Physical data	
Width	18 mm / 0.709 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	59 mm / 2.323 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Contact plating (connector)	Au over Ni
Material (plug-in module)	Zinc die casting
Material (DIN-rail adapter)	PC-GF10
Weight	34 g
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	95% (non-condensing)

Interface module; RJ-45; IDC technology; Cat. 6A; in mounting carrier; with shield connection
289 Series

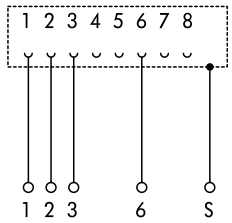


Item No.	PU
289-197	1

Electrical data	
Contact resistance (max.)	5 mΩ
Specialty functions	With shield connection
Safety and protection	
Protection type	IP20
Connection data	
Mating cycles	750
Connection cable	Cat. 6A (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Pole number 2	8
Connection type 2	System
Connection technology 2	IDC connection
Solid conductor 2	0.4 … 0.65 mm² / 26 … 22 AWG
Stranded conductor 2	0.4 … 0.65 mm² / 26/7 … 22/7 AWG
Strip length 2	4.5 … 9.6 mm / 0.18 … 0.38 inches
Physical data	
Width	18 mm / 0.709 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	59 mm / 2.323 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Contact plating (connector)	Au over Ni
Contact material (connector)	CuSn
Material (plug-in module)	Zinc die casting
Material (DIN-rail adapter)	PC-GF10
Weight	39 g
Environmental requirements	
Ambient temperature (operation at U_N)	-10 … +60 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	95% (non-condensing)

Interface module; RJ-45; PCB terminal blocks; Cat. 5; in mounting carrier; with shield connection
289 Series

	Item No.	PU
	289-174	10 (1)
with shield clamping saddle	289-174/790-108	10 (1)



Electrical data	
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Specialty functions	With shield connection
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Mating cycles	500
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	5
Connection type 2	System
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 739 Series
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	24 mm / 0.945 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C (Actuation: −35 … +85 °C)
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

Shield clamping saddle; 11 mm wide; Connectable shield diameter: up to 8 mm

Item No.	PU
790-108	50 (10)

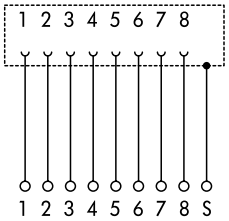
Shield clamping saddle; 12.4 mm wide; Connectable shield diameter: up to 8 mm

Item No.	PU
790-208	50 (10)

Interface module; RJ-45; PCB terminal blocks, double-row; Cat. 5; in mounting carrier; with shield connection

289 Series

	Item No.	PU
	289-175	10 (1)
with shield clamping saddle	289-175/790-108	10 (1)



Electrical data	
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Specialty functions	With shield connection
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Mating cycles	500
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks (double-row)
Pole number 2	9
Connection type 2	System
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 739 Series
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	24 mm / 0.945 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C (Actuation: −35 … +85 °C)
Ambient temperature (storage)	-40 … +85 °C
Ambient temperature UL (operation at U_N)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)
Standards and specifications	
Standards/specifications	DNV

Accessories

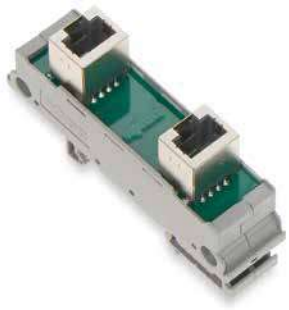
Shield clamping saddle; 11 mm wide; Connectable shield diameter: up to 8 mm

Item No.	PU
790-108	50 (10)

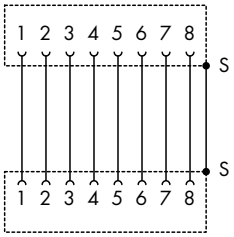
Shield clamping saddle; 12.4 mm wide; Connectable shield diameter: up to 8 mm

Item No.	PU
790-208	50 (10)

Interface module; RJ-45; RJ-45; Cat. 5; in mounting carrier
289 Series

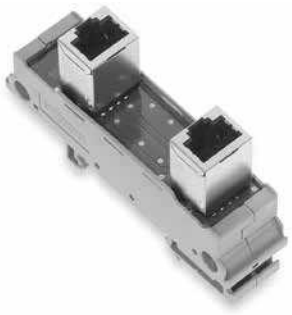


	Item No.	PU
	289-172	15 (1)

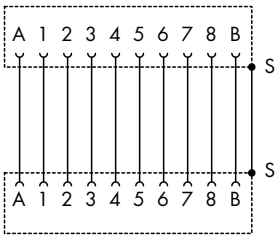


Electrical data	
Operating voltage	≤30 VAC; ≤42 VDC
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Mating cycles	500
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
Connection 1	
Connector	RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Connection type	RJ-45
Connection 2	
Connector 2	RJ-45 (shielded)
Pole number 2	8
Connection type 2	System
Physical data	
Width	20.5 mm / 0.807 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	51 mm / 2.008 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	28.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Ambient temperature UL (operation at U_N)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

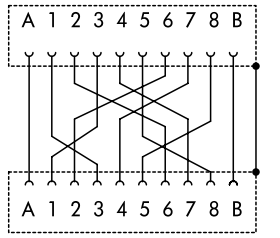
Interface module; RJ-45; with power jumper contacts; RJ-45; Cat. 5; in mounting carrier
289 Series



	Item No.	PU
	289-176	10 (1)
crossover	289-177	15 (1)



289-176



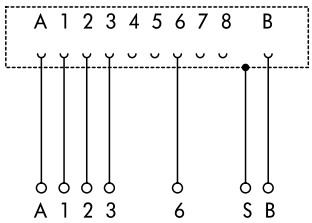
289-177

Electrical data	
Operating voltage	≤35 VAC; ≤50 VDC
Nominal current	2.1 A
Insulation resistance	≥ 500 MΩ
Specialty functions	with power jumper contacts
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Mating cycles	1,000
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
Connection 1	
Connector	RJ-45 (shielded); with two additional power contacts
Pole number 1	10
Connection type 1	System
Connection type	RJ-45
Connection 2	
Connector 2	RJ-45 (shielded); with two additional power contacts
Pole number 2	10
Connection type 2	System
Physical data	
Width	30 mm / 1.181 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	51 mm / 2.008 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	17.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

6

Interface module; RJ-45; with power jumper contacts; PCB terminal blocks; Cat. 5; in mounting carrier; with shield connection; with shield clamping saddle
289 Series

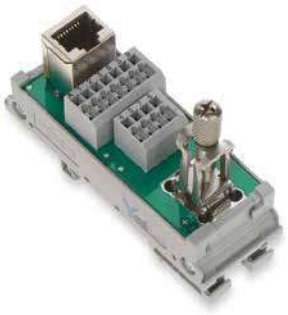
	Item No.	PU
	289-178	10 (1)



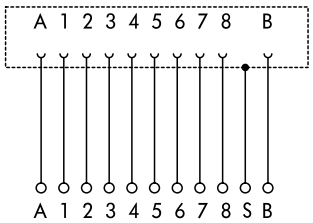
Electrical data	
Operating voltage	≤35 VAC; ≤50 VDC
Nominal current	2.1 A
Insulation resistance	≥ 500 MΩ
Specialty functions	With power jumper contacts; with shield connection; with shield clamping saddle
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kVrms
Connection data	
Mating cycles	1,000
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
WAGO shield clamping saddle	11 mm wide; cable diameter up to 8 mm
Connection 1	
Connector	RJ-45 (shielded); with two additional power contacts
Pole number 1	10
Connection type 1	System
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	7
Connection type 2	System
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 739 Series
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	30 mm / 1.181 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	67 mm / 2.638 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	51.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C (Actuation: −35 … +85 °C)
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)
Standards and specifications	
Standards/specifications	DNV

Interface module; RJ-45; with power jumper contacts; PCB terminal blocks, double-row; Cat. 5; in mounting carrier; with shield connection; with shield clamping saddle

289 Series

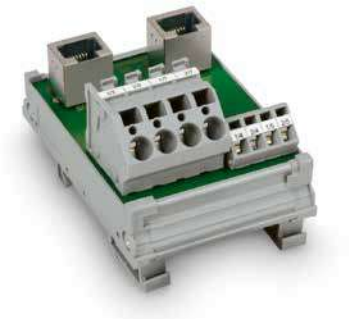


	Item No.	PU
	289-179	15 (1)

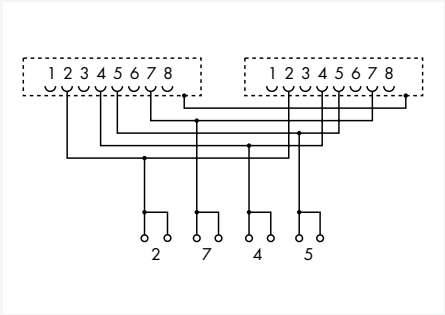


Electrical data	
Operating voltage	≤35 VAC; ≤50 VDC
Nominal current	2.1 A
Insulation resistance	≥ 500 MΩ
Specialty functions	With power jumper contacts; with shield connection; with shield clamping saddle
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	1 kV_{rms}
Connection data	
Mating cycles	1,000
Transmission length (max.)	100 m
Connection cable	Cat. 5 (min.)
WAGO shield clamping saddle	11 mm wide; cable diameter up to 8 mm
Connection 1	
Connector	RJ-45 (shielded); with two additional power contacts
Pole number 1	10
Connection type 1	System
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks (double-row)
Pole number 2	11
Connection type 2	System
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 739 Series
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	30 mm / 1.181 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	67 mm / 2.638 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	52.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +85 °C (Actuation: −35 … +85 °C)
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

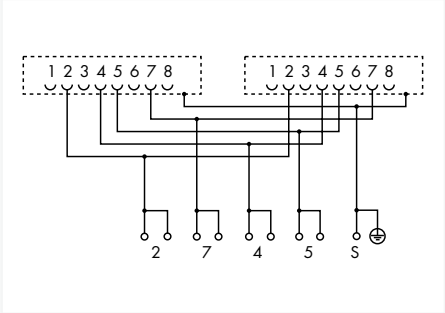
Interface module; 2xRJ-45; PCB terminal blocks, double-row; in mounting carrier
289 Series



	Width	Item No.	PU
	58 mm	289-965	5 (1)
with shield clamping saddle	69 mm	289-966	5 (1)



289-965



289-966

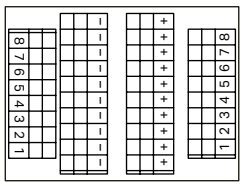
Short description:
Compatible on the field side with the 789-620, 789-621 and 789-622 Current Sensors

Required terminal assignment:
2: + Supply
7: - Supply
4: D+
5: D-

Electrical data	
Nominal current	1.5 A
Insulation resistance	≥ 500 MΩ
Safety and protection	
Dielectric strength (contact/contact) (AC, 1 min)	0.5 kV_{rms}
Connection data	
Mating cycles	500
Connection cable	RJ-45 cable assembly (recommended: UTP)
Connection 1	
Connector	2 x RJ-45 (shielded)
Pole number 1	8
Connection type 1	System
Note (conductor cross-section)	12 AWG: THHN, THWN
Connection type	RJ-45
Connection 2	
Design 2	PCB terminal blocks
Pole number 2	8
Connection type 2	Clamping units 2, 7
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Connection 3	
Design 3	PCB terminal blocks
Pole number 3	4
Connection type 3	Clamping units 4, 5
Connection technology 3	CAGE CLAMP®
WAGO connector 3	WAGO 745 Series
Solid conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Strip length 3	11 … 12 mm / 0.43 … 0.47 inches
Physical data	
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	40 mm / 1.575 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +85 °C

Sensor/actuator module; 8-channel digital input; 3-wire connection; in mounting carrier
289 Series

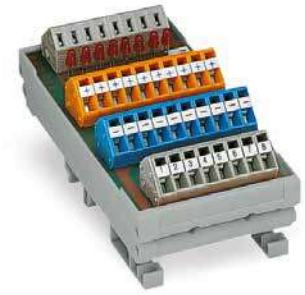
Item No.	PU
289-664	5 (1)



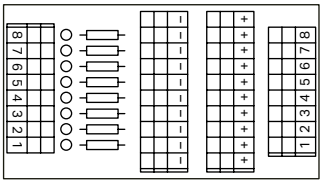
Electrical data	
Inputs/outputs	8-channel digital Input
Circuit type	3-wire connection
Operating voltage	≤100 VAC; ≤125 VDC
Current per connection (max.)	1 A
Total current	8 A
Safety and protection	
Rated voltage	100 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Connection data	
Connector	WAGO 236 Series
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	56 mm / 2.205 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	73g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Sensor/actuator module; 8-channel digital input; 3-wire connection/high-side switching; Red status indicator; in mounting carrier

289 Series



	Item No.	PU
	289-665	5 (1)



Electrical data	
Inputs/outputs	8-channel digital Input
Circuit type	3-wire connection; high-side switching
Nominal operating voltage	DC 24 V
Operating voltage range	±10 %
Current per connection (max.)	1A
Current consumption (status indication)	5.2 mA
Total current	8 A
Status indicator	Red LED
Safety and protection	
Rated voltage	100 V
Rated surge voltage	0.8 kV
Pollution degree	2
Protection type	IP20
Connection data	
Connector	WAGO 236 Series
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	56 mm / 2.205 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	83.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Universal connection cable; with pluggable connector per DIN 41651
706 Series

Image	Connection Type 1	Pole No. 1	Connection Type 2	Pole No. 2	Cable Type	Operating Voltage	Current per Wire (max.)	Wire Cross-Section	Length	Item No.
Connection cable; Pluggable connector per DIN 41651/open-ended; Female connector										
	Pluggable connector per DIN 41651; Female connector	10	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/310-100
									2 m	706-100/310-200
									3 m	706-100/310-300
	Pluggable connector per DIN 41651; Female connector	14	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/314-100
									2 m	706-100/314-200
									3 m	706-100/314-300
	Pluggable connector per DIN 41651; Female connector	16	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/316-100
									2 m	706-100/316-200
									3 m	706-100/316-300
	Pluggable connector per DIN 41651; Female connector	20	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/320-100
									2 m	706-100/320-200
									3 m	706-100/320-300
	Pluggable connector per DIN 41651; Female connector	26	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/326-100
									2 m	706-100/326-200
									3 m	706-100/326-300
	Pluggable connector per DIN 41651; Female connector	34	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/334-100
									2 m	706-100/334-200
									3 m	706-100/334-300
	Pluggable connector per DIN 41651; Female connector	40	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/340-100
									2 m	706-100/340-200
									3 m	706-100/340-300
	Pluggable connector per DIN 41651; Female connector	50	open-ended	–	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-100/350-100
									2 m	706-100/350-200
									3 m	706-100/350-300
Connection cable; Pluggable connector per DIN 41651/Pluggable connector per DIN 41651; Female connector										
	Pluggable connector per DIN 41651; Female connector	10	Pluggable connector per DIN 41651; Female connector	10	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/310-100
									2 m	706-150/310-200
									3 m	706-150/310-300
	Pluggable connector per DIN 41651; Female connector	14	Pluggable connector per DIN 41651; Female connector	14	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/314-100
									2 m	706-150/314-200
									3 m	706-150/314-300
	Pluggable connector per DIN 41651; Female connector	16	Pluggable connector per DIN 41651; Female connector	16	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/316-100
									2 m	706-150/316-200
									3 m	706-150/316-300
	Pluggable connector per DIN 41651; Female connector	20	Pluggable connector per DIN 41651; Female connector	20	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/320-100
									2 m	706-150/320-200
									3 m	706-150/320-300
	Pluggable connector per DIN 41651; Female connector	26	Pluggable connector per DIN 41651; Female connector	26	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/326-100
									2 m	706-150/326-200
									3 m	706-150/326-300
	Pluggable connector per DIN 41651; Female connector	34	Pluggable connector per DIN 41651; Female connector	34	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/334-100
									2 m	706-150/334-200
									3 m	706-150/334-300
	Pluggable connector per DIN 41651; Female connector	40	Pluggable connector per DIN 41651; Female connector	40	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/340-100
									2 m	706-150/340-200
									3 m	706-150/340-300
	Pluggable connector per DIN 41651; Female connector	50	Pluggable connector per DIN 41651; Female connector	50	LiYY	≤ 35 VAC/VDC	1 A	0.14 mm²	1 m	706-150/350-100
									2 m	706-150/350-200
									3 m	706-150/350-300

Note: When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Image	Connection Type 1	Pole No. 1	Connection Type 2	Pole No. 2	Cable Type	Operating Voltage	Current per Wire (max.)	Wire Cross-Section	Length	Item No.
Connection cable; Pluggable connector per DIN 41651/Pluggable connector per DIN 41651; Female connector; compatible with 857-981 and 857-982 Interface Adapters										
	Pluggable connector per DIN 41651; Female connector	14	Pluggable connector per DIN 41651; Female connector	14	LiYY	≤ 35 VAC/VDC	2 A	0.14 mm²	1 m	706-753/300-100
									2 m	706-753/300-200
									3 m	706-753/300-300
	Pluggable connector per DIN 41651; Female connector	16	Pluggable connector per DIN 41651; Female connector	16	LiYY	≤ 35 VAC/VDC	2 A	0.14 mm²	1 m	706-753/301-100
									2 m	706-753/301-200
									3 m	706-753/301-300

Note: When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

6

Universal connection cable; with D-sub pluggable connector
706 Series

Image	Connection Type 1	Pole No. 1	Connection Type 2	Pole No. 2	Cable Type	Operating Voltage	Current per Wire (max.)	Wire Cross-Section	Length	Item No.
Connection cable; D-sub/open-ended; Male connector										
	D-sub; Male connector	9	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/509-100
									2 m	706-100/509-200
									3 m	706-100/509-300
	D-sub; Male connector	15	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/515-100
									2 m	706-100/515-200
									3 m	706-100/515-300
	D-sub; Male connector	25	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/525-100
									2 m	706-100/525-200
									3 m	706-100/525-300
	D-sub; Male connector	37	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/537-100
									2 m	706-100/537-200
									3 m	706-100/537-300
	D-sub; Male connector	50	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/550-100
									2 m	706-100/550-200
									3 m	706-100/550-300
Connection cable; D-sub/open-ended; Female connector										
	D-sub; Female connector	9	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/609-100
									2 m	706-100/609-200
									3 m	706-100/609-300
	D-sub; Female connector	15	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/615-100
									2 m	706-100/615-200
									3 m	706-100/615-300
	D-sub; Female connector	25	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/625-100
									2 m	706-100/625-200
									3 m	706-100/625-300
	D-sub; Female connector	37	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/637-100
									2 m	706-100/637-200
									3 m	706-100/637-300
	D-sub; Female connector	50	open-ended	–	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-100/650-100
									2 m	706-100/650-200
									3 m	706-100/650-300
Connection cable; D-sub/D-sub; Male connector/Female connector										
	D-sub; Male connector	9	D-sub; Female connector	9	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-160/509-100
									2 m	706-160/509-200
									3 m	706-160/509-300
	D-sub; Male connector	15	D-sub; Female connector	15	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-160/515-100
									2 m	706-160/515-200
									3 m	706-160/515-300
	D-sub; Male connector	25	D-sub; Female connector	25	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-160/525-100
									2 m	706-160/525-200
									3 m	706-160/525-300
	D-sub; Male connector	37	D-sub; Female connector	37	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-160/537-100
									2 m	706-160/537-200
									3 m	706-160/537-300
	D-sub; Male connector	50	D-sub; Female connector	50	LiYCY	≤ 35 VAC/VDC	2 A	0.25 mm²	1 m	706-160/550-100
									2 m	706-160/550-200
									3 m	706-160/550-300

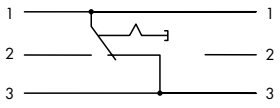
Note: When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

WAGO Component Modules

WAGO Component Modules

Switching module; with changeover rocker switch; Switching voltage: 250 VAC; Switching current: 6 A

286 Series



Electrical data	
Switching current (resistive) max.	6 A
Switching voltage (max.)	250 VAC; 24 VDC
Electrical life (NO; resistive load; 23 °C)	50 x 10³ switching operations
Physical data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	85 mm / 3.346 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Material data	
Weight	20.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m

	Item No.	PU
	286-895	1

7

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

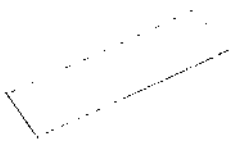
	Item No.	PU
	280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

	Item No.	PU
	280-609	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

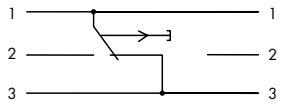
	Item No.	PU
	280-763	25



WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	PU
1 … 10	209-702	5
S	209-682	5

Switching module; with momentary switch; Switching voltage: 250 VAC; Switching current: 6 A
286 Series



	Item No.	PU
	286-896	1

Electrical data	
Switching current (resistive) max.	6 A
Switching voltage (max.)	250 VAC; 24 VDC
Electrical life (NO; resistive load; 23 °C)	50 x 10³ switching operations
Physical data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	85 mm / 3.346 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Material data	
Weight	19.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +40 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

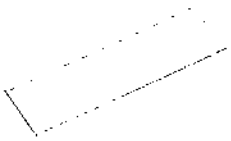
	Item No.	PU
	280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

	Item No.	PU
	280-609	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

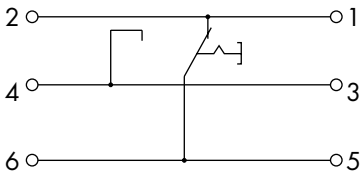
	Item No.	PU
	280-763	25



WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	PU
1 … 10	209-702	5
S	209-682	5

Switching module; with changeover rocker switch; Switching voltage: 250 VAC; translucent
2042 Series

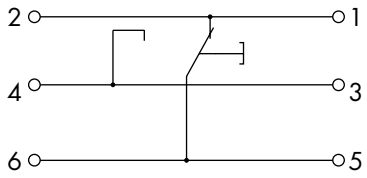


	Item No.	PU
	2042-1008	10

Electrical data	
Switching current (resistive) max.	10 A
Inrush current (max.)	128 A
Switching voltage (max.)	250 VAC
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations; UL: 6 x 10^3 switching operations
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Overvoltage category	II
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data	
Width	15.5 mm / 0.61 inches
Height	87 mm / 3.425 inches
Height from the surface	68 mm / 2.677 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material data	
Flammability class per UL94	V0
Weight	17.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 50155; EN 61373

7

Switching module; with momentary switch; Switching voltage: 250 VAC; translucent
2042 Series

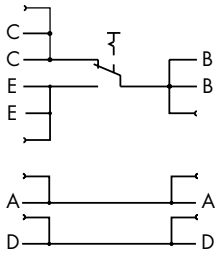


Item No.	PU
2042-1108	10

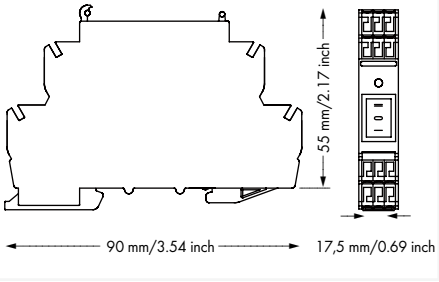
Electrical data	
Switching current (resistive) max.	10 A
Inrush current (max.)	128 A
Switching voltage (max.)	250 VAC
Contact resistance	≤ 20 mΩ
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations; UL: 6 x 10^3 switching operations
Safety and protection	
Rated voltage	250 V
Pollution degree	2
Overvoltage category	II
Dielectric strength (open contact) (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Physical data	
Width	15.5 mm / 0.61 inches
Height	87 mm / 3.425 inches
Height from the surface	68 mm / 2.677 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material data	
Flammability class per UL94	V0
Weight	29.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201; EN 50155; EN 61373

Switching module; with changeover rocker switch; Switching voltage: 250 VAC; Switching current: 10 A

789 Series

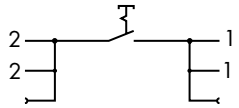


	Item No.	PU
	789-800	1

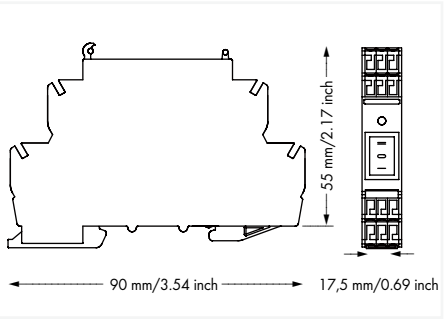


Electrical data	
Operating voltage	≤ 250 VAC
Switching current (resistive) max.	10 A
Inrush current (max.)	100 A (capacitive)
Switching voltage (max.)	250 VAC
Contact resistance	≤ 100 mΩ (12 V/1 ADC; new condition)
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	100 x 10^3 switching operations
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (open contact) (AC, 1 min)	1.25 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	02 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure
Material data	
Contact material (switch)	Ag alloy
Weight	41.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +80 °C

Switching module; with circuit breaker; Switching voltage: 250 VAC; Switching current: 16 A
789 Series



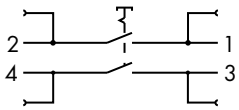
Item No.	PU
789-801	1



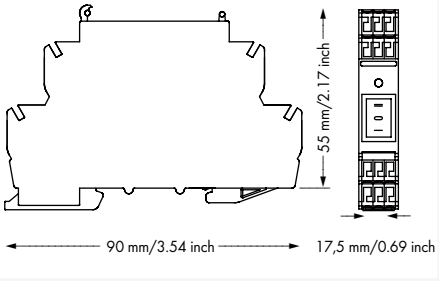
Electrical data	
Operating voltage	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Switching voltage (max.)	250 VAC
Contact resistance	≤ 100 mΩ (12 V/1 ADC; new condition)
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10³ switching operations
Mechanical life	50 x 10³ switching operations
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (open contact) (AC, 1 min)	1.25 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	02 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure
Material data	
Contact material (switch)	Ag alloy
Weight	44.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +80 °C

Switching module; with 2-pole circuit breaker; Switching voltage: 250 VAC; Switching current: 16 A

789 Series

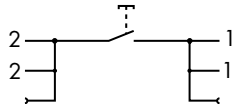


	Item No.	PU
	789-802	1

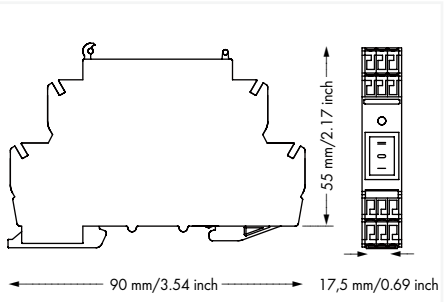


Electrical data	
Operating voltage	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Switching voltage (max.)	250 VAC
Contact resistance	≤ 100 mΩ (12 V/1 ADC; new condition)
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (open contact) (AC, 1 min)	1.25 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	02 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure
Material data	
Contact material (switch)	Ag alloy
Weight	45.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +80 °C

Switching module; with off button; Switching voltage: 250 VAC; Switching current: 16 A
789 Series

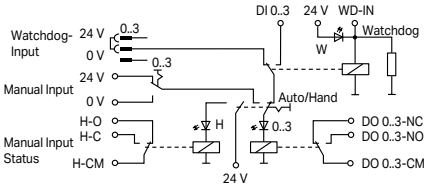


	Item No.	PU
	789-803	1

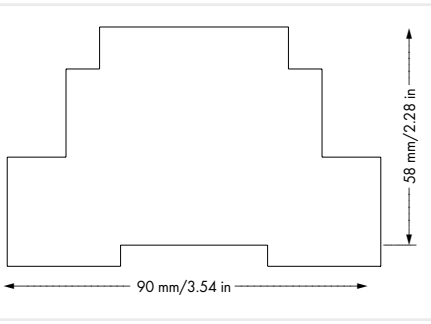


Electrical data	
Operating voltage	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Switching voltage (max.)	250 VAC
Contact resistance	≤ 100 mΩ (12 V/1 ADC; new condition)
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10³ switching operations
Mechanical life	50 x 10³ switching operations
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength (open contact) (AC, 1 min)	1.25 kV_{rms}
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	02 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	17.5 mm / 0.689 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure
Material data	
Contact material (switch)	Ag alloy
Weight	42.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +55 °C
Ambient temperature (storage)	-40 … +80 °C

Manual operation module; 4 digital outputs
789 Series



	Item No.	PU
	789-810	1



Short description:
WAGO's digital manually operated module (789-810) monitors 0 … 3 inputs and signals their status via green LED and the power relay's changeover contact. Depending on both the manual/automatic switch and watchdog input, the states 0 or 1 are transmitted (electrically isolated) via relay to the output.

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage range	±20 %
Inputs	No. 1 / 10: 24 V; power supply; No. 2: GND; No. 3 / 4 / 5 / 6: DI-0 … 3; Input 0 … 3; 24 V / 20 mA (max.); No.11: WD-IN; Watchdog input; 24 V / 20 mA (max.)
Outputs	No. 7: H-C; Manual operation; "closed"; No. 8: H-CM; Manual operation; "common"; No. 9: H-O; Manual operation; "open"; No. 12 / 15 / 18 / 21: GND; No. 13 / 16 / 19 / 22: AO-0 … 3; Output 0 … 3; 0 … 10 V / 20 mA (max.); No. 14 / 17 / 20 / 23: GND

Safety and protection	
Dielectric strength, input/output (AC, 1 min)	4 kV_{rms}

Connection data	
Connection type 1	Input
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 734 Series
Solid conductor	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length	7 mm / 0.28 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 231 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches

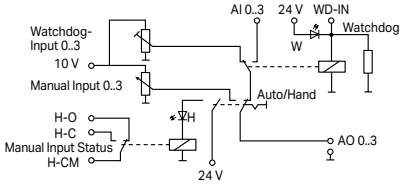
Physical data	
Width	106 mm / 4.173 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	58 mm / 2.283 inches

Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure

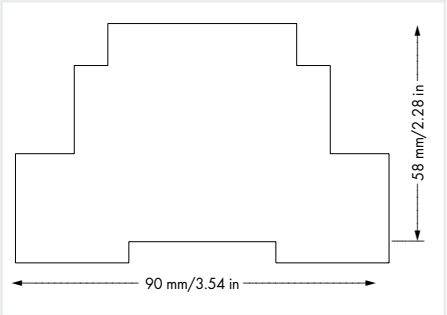
Material data	
Weight	251.6 g

Environmental requirements	
Ambient temperature (operation at U_N)	0 … +50 °C
Ambient temperature (storage)	-25 … +70 °C

Manual operation module; 4 analog outputs
789 Series



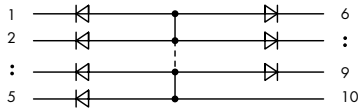
	Item No.	PU
	789-811	1



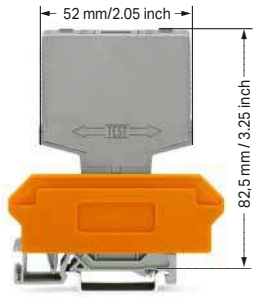
Short description:
WAGO's analog manually operated module (789-811) monitors 0 … 3 analog inputs. Depending on both manual/automatic switch and watchdog input, 0 to 10 V set voltage is transmitted to the output.

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage range	±20 %
Inputs	No. 1 / 10: 24 V; power supply; No. 2: GND; No. 3 / 4 / 5 / 6: AI-0 … 3; Input 0 … 3; 0 … 10 V / 20 mA (max.); No.11: WD-IN; Watchdog input; 24 V / 20 mA (max.)
Outputs	No. 7: H-C; Manual operation; "closed"; No. 8: H-CM; Manual operation; "common"; No. 9: H-O; Manual operation; "open"; No. 12 / 15 / 18 / 21: DO-0 … 3-NC; Channel 0 … 3; Break contact; 250 VAC / 30 VDC; 8 A; No. 13 / 16 / 19 / 22: DO-0 … 3-CM; Channel 0 … 3; Common; No. 14 / 17 / 20 / 23: DO-0 … 3-NO; Channel 0 … 3; Make contact; 250 VAC / 30 VDC; 8 A
Connection data	
Connection type 1	Input
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 734 Series
Solid conductor	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length	7 mm / 0.28 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
WAGO connector 2	WAGO 231 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	106 mm / 4.173 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	58 mm / 2.283 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	DIN-rail-mount enclosure
Material data	
Weight	199.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	0 … +50 °C
Ambient temperature (storage)	-25 … +70 °C

Component module with diode; with 5 pcs; Diode 1N4007; with common anode
286 Series



Module Width	Diodes	Item No.	PU
15 mm/0.591 inch	5	286-805	1
20 mm/0.787 inch	7	286-807	1
25 mm/0.984 inch	9	286-809	1



Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1000 V
Rectified current for each diode (resistive)	1 A
Rectified current for each diode (resistive)	1 A
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Physical data	
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Color	Gray
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Component module with diodes
286 Series

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-608	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
15 mm	280-762	30

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-609	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
20 mm	280-763	25

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
22 mm	280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
22 mm	280-628	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
25 mm	280-764	20

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

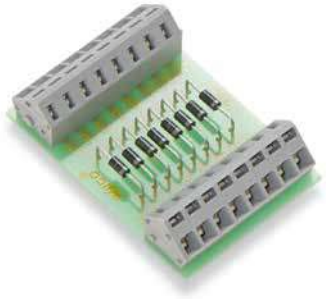
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

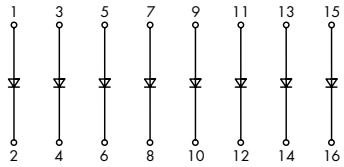
Width	Item No.	PU
27 mm	280-629	15

Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
30 mm	280-765	15

Component module with diode; with 8 pcs; Diode 1N4007
289 Series





	Item No.	PU
	289-101	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1000 V
Rectified current for each diode (resistive)	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Leakage current	50 µA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	24.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

Accessories

Mounting carrier; for screw or DIN-rail mounting

Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

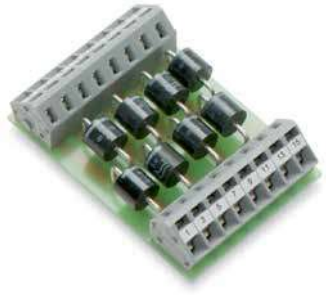
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

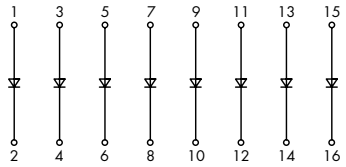
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Component module with diode; with 8 pcs; Diode P600B
289 Series





	Item No.	PU
	289-103	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 100 VAC/VDC
Peak reverse voltage	100 V
Forward voltage per diode	1 V
Forward current per diode (resistive)	6 A
Leakage current	5 µA

Safety and protection	
Rated voltage	150 V
Pollution degree	2
Overvoltage category	II
Dielectric strength (channel/channel) (AC, 1 min.)	2.7 kV_{rms}
Protection type	IP00
Insulation type	Reinforced insulation (safe isolation)

Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN

Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	65.5 mm / 2.579 inches

Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB

Material data	
Weight	19 g

Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 95% (non-condensing)
Operating altitude (max.)	2000 m

Standards and specifications	
Standards/specifications	EN 61010-2-201

7

Accessories

Mounting carrier; for screw or DIN-rail mounting

Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

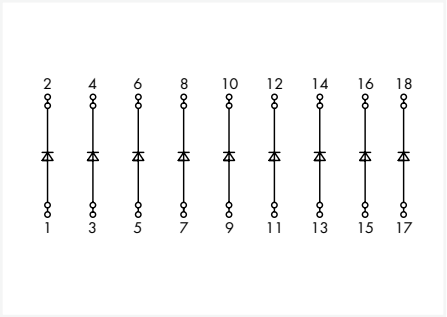
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Component module with diode; with 9 pcs; Diode 1N5408
289 Series



	Item No.	PU
	289-105	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1000 V
Rectified current for each diode (resistive)	3 A
Forward voltage per diode	1.3 V
Forward current per diode (resistive)	3 A
Leakage current	10 µA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 736 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	51 mm / 2.008 inches
Height	85 mm / 3.346 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Depth from upper-edge of DIN-rail	48 mm / 1.89 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Weight	80.6 g
Environmental requirements	
Ambient temperature (operation at UN)	-25 … +40 °C

Accessories

Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

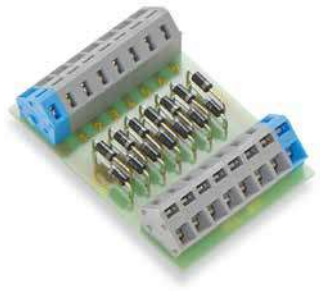
Cover; Type 1; for cover carrier (type 1); 1 m long

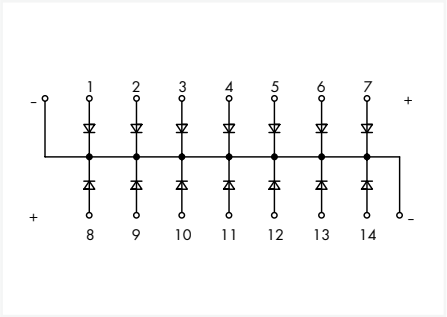
Item No.	PU
709-153	10

Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	PU
709-178	1

Component module with diode; with 14 pcs; Diode 1N4007; with common cathode
289 Series





	Item No.	PU
	289-111	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1000 V
Rectified current for each diode (resistive)	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Leakage current	50 µA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	25.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

Accessories

Mounting carrier; for screw or DIN-rail mounting

	Item No.	PU
	288-001	50

Universal mounting foot; for DIN-15/35/32 rails

	Item No.	PU
	288-002	100

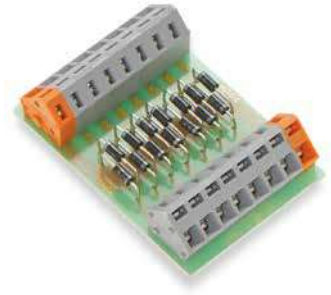
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

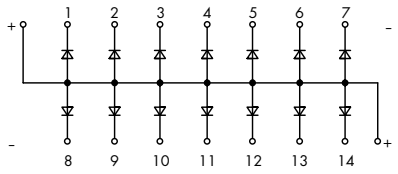
	Item No.	PU
	709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

	Item No.	PU
	709-153	10

Component module with diode; with 14 pcs; Diode 1N4007; with common anode
289 Series





	Item No.	PU
	289-121	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1000 V
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Leakage current	50 µA
Safety and protection	
Pollution degree	2
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from upper-edge of DIN-rail	65.5 mm / 2.58 inches
Depth	31.5 mm / 1.24 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	25.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	≤ 85% (non-condensing)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 61010-2-201

Accessories

Mounting carrier; for screw or DIN-rail mounting

Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

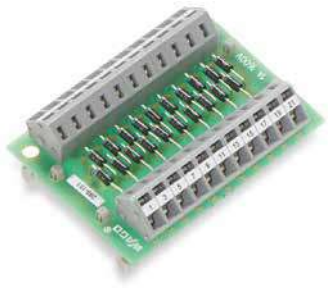
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

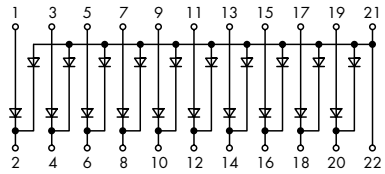
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Component module with diode; with 20 pcs; Diode EM 513
289 Series





	Item No.	PU
	289-151	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
Max. admissible forward current per the manufacturer's data sheet. With all diodes loaded, the continuous current must be reduced to 0.45 A.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Peak reverse voltage	1600 V
Rectified current for each diode (resistive)	1 A
Rectified current for each diode (resistive)	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Leakage current	50 µA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	69 mm / 2.717 inches
Height	50 mm / 1.969 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Depth from upper-edge of DIN-rail	21 mm / 0.827 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	PCB with mounting feet
Material data	
Insulation material	Polyamide (PA66)
Flammability class per UL94	V2
Weight	35.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

7

Accessories

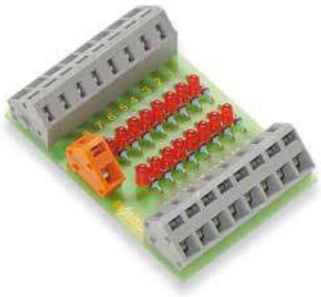
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	PU
709-167	10

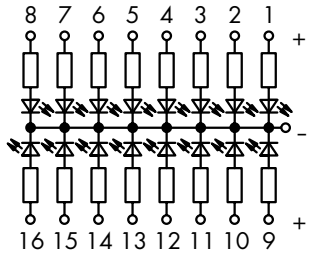
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Component module with LED; with 16 pcs; Red LED; with common cathode
289 Series



Similar to pictured device



Item No.	PU
289-201	1

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	20 … 26 VDC
Current consumption at nominal supply voltage	≤ 5.6 mA (per LED)
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	26.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

Accessories

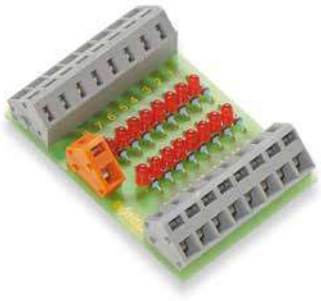
Mounting carrier; for screw or DIN-rail mounting

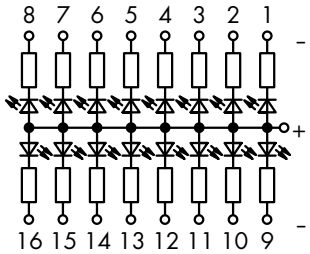
Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

Component module with LED; with 16 pcs; Red LED; with common anode
289 Series





	Item No.	PU
	289-202	1

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	20 … 26 VDC
Current consumption at nominal supply voltage	≤ 5.6 mA (per LED)
Connection data	
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	26.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

7

Accessories

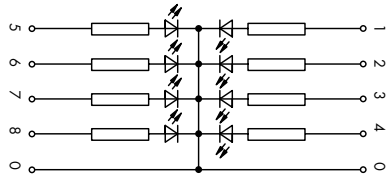
Mounting carrier; for screw or DIN-rail mounting

	Item No.	PU
	288-001	50

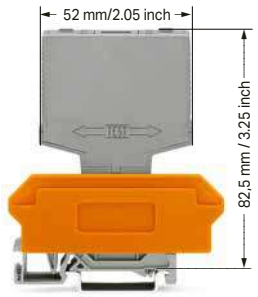
Universal mounting foot; for DIN-15/35/32 rails

	Item No.	PU
	288-002	100

Component module with LED; Red LED; with common cathode
286 Series



	Item No.	PU
	286-822	1



Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	20 … 26 VDC
Current consumption at nominal supply voltage	≤ 5.1 mA (per LED)
Physical data	
Width	25 mm / 0.984 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Weight	28.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Accessories

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

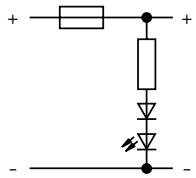
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-629	15

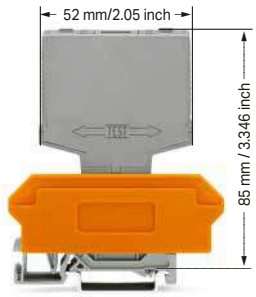
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
30 mm	280-765	15

Component module with fuse; for (5 x 20) mm microfuse; Nominal voltage: 24 VAC/DC
286 Series



	Item No.	PU
	286-890	1



Electrical data	
Nominal operating voltage	24 VAC/VDC
Fuse capacity (max.)	6.3 A
Leakage current in case of a blown fuse	5 mA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Physical data	
Width	10 mm / 0.394 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Material data	
Weight	14.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-618	40

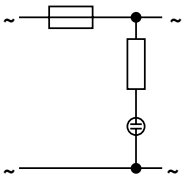
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-608	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
15 mm	280-762	30

Component module with fuse; for (5 x 20) mm microfuse; Nominal voltage: 230 VAC/DC
286 Series



Electrical data	
Nominal operating voltage	230 VAC/VDC
Fuse capacity (max.)	6.3 A
Leakage current in case of a blown fuse	0.5 mA
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Physical data	
Width	10 mm / 0.394 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Material data	
Weight	14.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

	Item No.	PU
	286-891	1

7

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-618	40

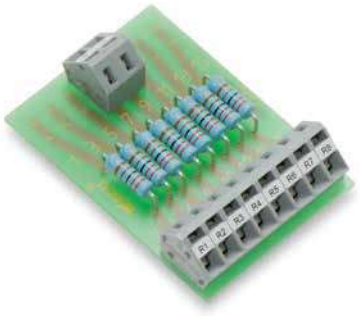
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

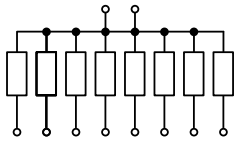
Width	Item No.	PU
12 mm	280-608	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
15 mm	280-762	30

Component module with resistor; with 8 pcs; Resistor 2K2; 1 Watt
289 Series





	Item No.	PU
	289-113	1

Note:
- Max. admissible capacity of a single resistor – with all resistors loaded, the max. admissible power dissipation must be reduced.
- Other resistors are available upon request!

Electrical data	
Operating voltage	≤ 40 VAC/VDC
Resistance	2K2
Tolerance	±1%
Resistor type/design	DIN 0414
Temperature coefficient	50 ppm (20 °C)
Component rated dissipation (P70)	1 W
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	18.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

Accessories

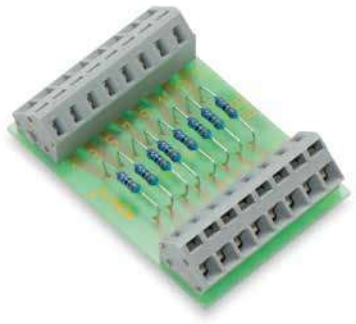
Mounting carrier; for screw or DIN-rail mounting

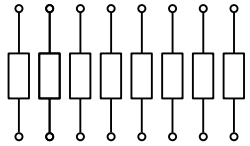
Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

Component module with resistor; with 8 pcs; Resistor 2K7; 0.6 Watt
289 Series





	Item No.	PU
	289-114	1

Note:
- Max. admissible capacity of a single resistor – with all resistors loaded, the max. admissible power dissipation must be reduced.
- Other resistors are available upon request!

Electrical data	
Operating voltage	≤ 40 VAC/VDC
Resistance	2K7
Tolerance	±1%
Resistor type/design	DIN 0207
Temperature coefficient	50 ppm (20 °C)
Component rated dissipation (P70)	0.6 W
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	23.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

7

Accessories

Mounting carrier; for screw or DIN-rail mounting

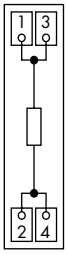
Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

Component module with resistor; with 1 pcs; Resistor 9K1; 5 Watt; in mounting carrier
289 Series

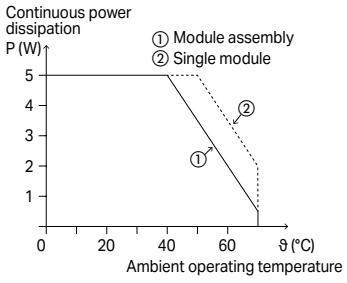
Picture of 289-128/003-000



Resistor	Item No.	PU
100R	289-128/005-000	1
270R	289-128/006-000	1
2K4	289-128/001-000	1
4K7	289-128/002-000	1
6K8	289-128/003-000	1
9K1	289-128	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Note:
- Depending on operating conditions, the components' temperature may exceed the limit temperature for accessible parts.
- Other resistors are available upon request!



Derating

Electrical data	
Tolerance	±10 %
Temperature coefficient	50 ppm (20 °C)
Component rated dissipation (P70)	5 W
Safety and protection	
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	13 mm / 0.512 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	34 mm / 1.339 inches
Mechanical data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier
Material data	
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Weight	19.1 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +70 °C (Derating must be observed)
Ambient temperature (storage)	-40 … +70 °C

Accessories

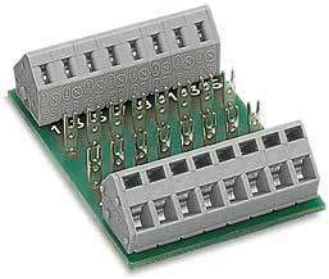
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

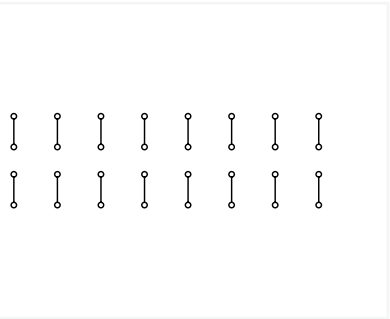
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

PCB for self-assembly; with 8 mounting positions
289 Series





	Item No.	PU
	289-102	1
With solder terminals	**289-131**	1

Notice!
Live parts can be easily touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover. The installation guidelines must be observed for each individual application.

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Nominal current	3 A
Safety and protection	
Protection type	IP00
Connection data	
Connection technology	CAGE CLAMP®
WAGO connector	WAGO 236 Series
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Note (conductor cross-section)	12 AWG: THHN, THWN
Physical data	
Width	47 mm / 1.85 inches
Height from the surface	31.5 mm / 1.24 inches
Depth	65.5 mm / 2.579 inches
Mechanical data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter
Housing design	PCB
Material data	
Weight	22.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C

7

Accessories

Mounting carrier; for screw or DIN-rail mounting

Item No.	PU
288-001	50

Universal mounting foot; for DIN-15/35/32 rails

Item No.	PU
288-002	100

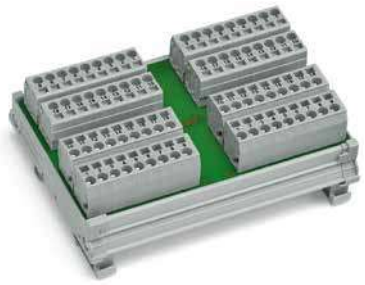
Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

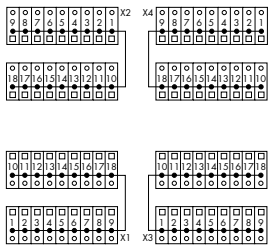
Item No.	PU
709-167	10

Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	PU
709-153	10

Potential distribution module; 4 potentials; with 18 connection points each
288 Series

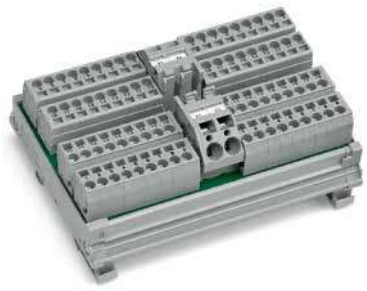


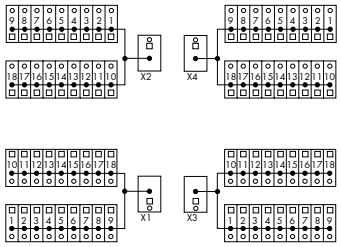


	Item No.	PU
	288-825	1

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	12 A
Total current per potential (max.)	12 A
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Connection data	
Total number of potentials	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	115 mm / 4.528 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	45 mm / 1.772 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	156.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +80 °C

Potential distribution module; 4 potentials; with 19 connection points each
288 Series





	Item No.	PU
	288-837	1

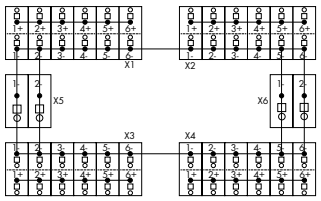
Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	12 A
Total current per potential (max.)	32 A
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Connection data	
Total number of potentials	4
Connection type 1	Power supply
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Connection points
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	115 mm / 4.528 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	45 mm / 1.772 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	178.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +80 °C

Accessories

Comb-style jumper bar; 2-way

Item No.	PU
745-382	250 (50)

Potential distribution module; 4 potentials; with 6 connection points each
288 Series



	Item No.	PU
	288-867	1

Features:
- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Four potential groups for four output circuits
- Six connection points per potential group for positive and negative potentials
- On-unit commoned negative potential with optional commoning to adjacent modules via comb-style jumper bar (745-682)
- Marker carrier is available

Electrical data	
Nominal operating voltage	24 VDC
Current per connection (max.)	10 A
Total current per potential (max.)	10 A
Total current 0 V (max.)	40 A
Safety and protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2
Connection data	
Total number of potentials	4
Connection type 1	Connection points
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Connection type 2	Negative potential
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 2	0.2 … 16 mm² / 24 … 6 AWG
Strip length 2	12 … 13 mm / 0.47 … 0.51 inches
Physical data	
Width	70 mm / 2.756 inches
Height	105 mm / 4.134 inches
Depth from upper-edge of DIN-rail	50 mm / 1.969 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	136.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Ambient temperature (storage)	-40 … +70 °C

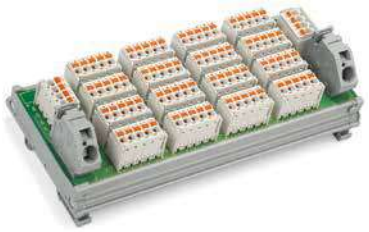
Accessories

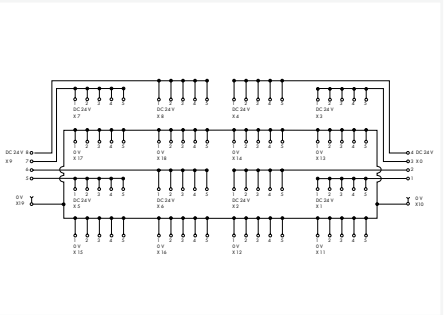
Comb-style jumper bar; 2-way

Item No.	PU
745-682	400 (50)

Potential distribution module; 8 potentials; with 6 connection points each; with 42 ground clamping points

288 Series





	Item No.	PU
	288-870/000-040	1

Features:

- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Pre-wiring and electrical isolation of current paths via pluggable picoMAX® Female Headers
- Optional coding pins (2092-1610) protect against any inadvertent mixing of female headers
- Optional gripping plates with sliding connector release (2092-1601/002-000 or 2092-1602/002-000) provide conductor strain relief
- 0 V may be supplied to the adjacent modules via comb-style jumper bar (745-682) (Derating with jumper bar: -1 A/K > 60°C surrounding air temperature)

Electrical data	
Nominal operating voltage	24 VDC
Current per connection (max.)	10A
Total current per potential (max.)	10 A
Total current 0 V (max.)	76 A
Connection data	
Total number of potentials	8
Connection type 1	Power supply 0 V
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor	0.2 … 16 mm² / 24 … 6 AWG
Strip length	12 … 13 mm / 0.47 … 0.51 inches
Connection type 2	Power supply 24 V; Connection points
Connection technology 2	Push-in CAGE CLAMP®
Solid conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	154 mm / 6.063 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	49 mm / 1.929 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	226.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C (without condensation)
Ambient temperature (storage)	-40 … +85 °C

Accessories

Comb-style jumper bar; 2-way

Item No.	PU
745-682	400 (50)

Coding pin carrier

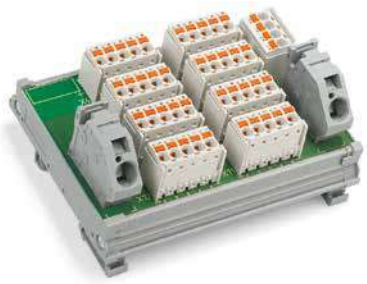
Item No.	PU
2092-1610	100 (25)

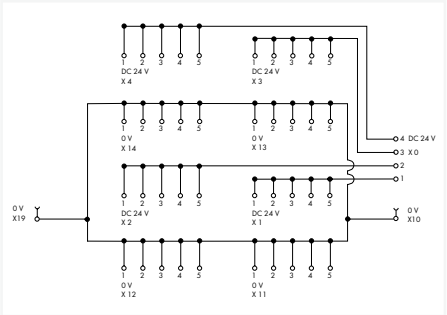
Gripping plate with sliding connector release

Description	Item No.	PU
3- to 4-pole	2092-1601/002-000	100 (25)
5- to 8-pole	2092-1602/002-000	100 (25)

Potential distribution module; 4 potentials; with 6 connection points each; with 22 ground clamping points

288 Series





	Item No.	PU
	288-870/000-030	1

Features:

- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Pre-wiring and electrical isolation of current paths via pluggable picoMAX® Female Headers
- Optional coding pins (2092-1610) protect against any inadvertent mixing of female headers
- Optional gripping plates with sliding connector release (2092-1601/002-000 or 2092-1602/002-000) provide conductor strain relief
- 0 V may be supplied to the adjancent modules via comb-style jumper bar (745-682)

Electrical data	
Nominal operating voltage	24 VDC
Current per connection (max.)	10 A
Total current per potential (max.)	10 A
Total current 0 V (max.)	40 A
Connection data	
Total number of potentials	4
Connection type 1	Power supply 0 V
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor	0.2 … 16 mm² / 24 … 6 AWG
Strip length	12 … 13 mm / 0.47 … 0.51 inches
Connection type 2	Power supply 24 V; Connection points
Connection technology 2	Push-in CAGE CLAMP®
Solid conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	100 mm / 3.937 inches
Height	85 mm / 3.346 inches
Depth from upper-edge of DIN-rail	49 mm / 1.929 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	140.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C (without condensation)
Ambient temperature (storage)	-40 … +85 °C

Accessories

Comb-style jumper bar; 2-way

Item No.	PU
745-682	400 (50)

Coding pin carrier

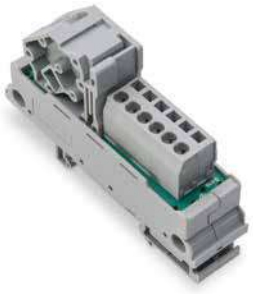
Item No.	PU
2092-1610	100 (25)

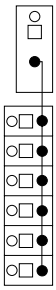
Gripping plate with sliding connector release

Description	Item No.	PU
3- to 4-pole	2092-1601/002-000	100 (25)
5- to 8-pole	2092-1602/002-000	100 (25)

Potential distribution module; 1 potential; with 1 input clamping point; Conductor cross-section up to 16 mm²; with 6 output clamping points; Conductor cross-section up to 2.5 mm²

830 Series





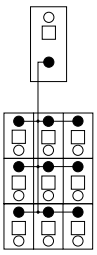
Color	Item No.	PU
gray	830-800/000-302	10
blue	830-800/000-302/000-006	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	12 A
Total current per potential (max.)	65 A
Connection data	
Total number of potentials	1
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor	0.2 … 16 mm² / 24 … 6 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	21 mm / 0.81 inches
Height from upper-edge of DIN-rail	49 mm / 1.929 inches
Depth	85 mm / 3.35 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	51 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

Potential distribution module; 1 potential; with 1 input clamping point; Conductor cross-section up to 16 mm²; with 9 output clamping points; Conductor cross-section up to 2.5 mm²

830 Series

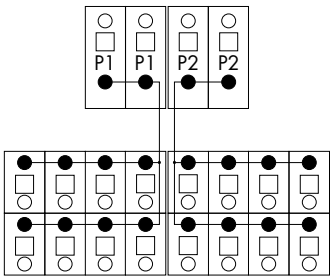


Color	Item No.	PU
gray	830-800/000-303	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	65 A
Connection data	
Total number of potentials	1
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor	0.2 … 16 mm² / 24 … 6 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	21 mm / 0.81 inches
Height from upper-edge of DIN-rail	62 mm / 2.44 inches
Depth	85 mm / 3.35 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	63 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with 8 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series



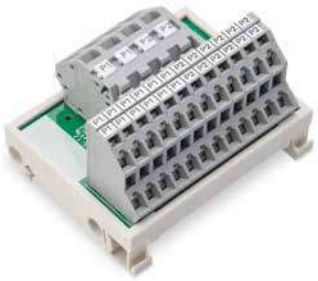
Color	Item No.	PU
gray	830-800/000-305	6

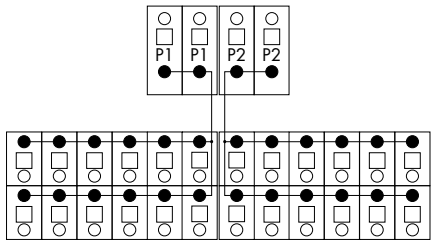
Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	49 mm / 1.92 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	70 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with 12 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series



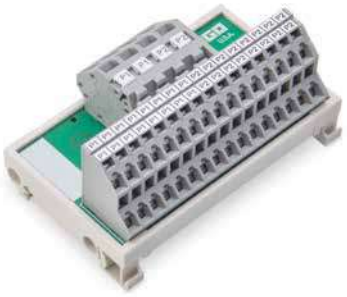


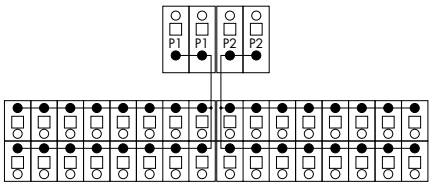
Color	Item No.	PU
gray	830-800/000-306	6

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	69 mm / 2.72 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	96.5 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with 16 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series





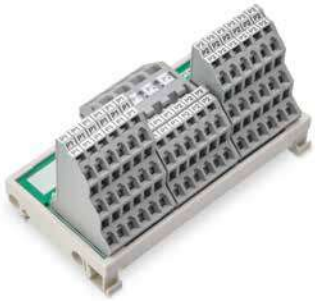
Color	Item No.	PU
gray	830-800/000-307	6

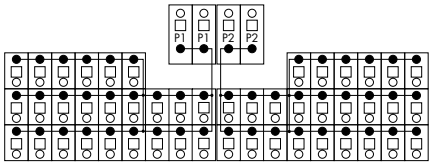
Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	89 mm / 3.51 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	118.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with 24 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series

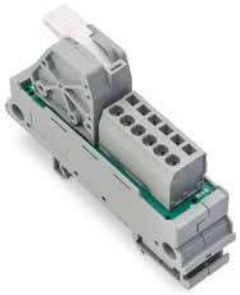


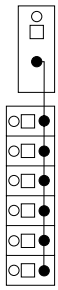


Color	Item No.	PU
gray	830-800/000-308	6

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	102 mm / 4.02 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	158.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 1 potential; with 1 input clamping point; Conductor cross-section up to 16 mm²; with lever; with 6 output clamping points; Conductor cross-section up to 2.5 mm²
830 Series



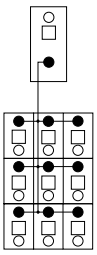


Color	Item No.	PU
gray	830-800/000-312	10
blue	830-800/000-312/000-006	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	12 A
Total current per potential (max.)	65 A
Connection data	
Total number of potentials	1
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	1.5 … 16 mm² / 16 … 6 AWG
Fine-stranded conductor	1.5 … 16 mm² / 16 … 6 AWG
Strip length	12 … 13 mm / 0.47 … 0.51 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inches
Physical data	
Width	21 mm / 0.81 inches
Height from upper-edge of DIN-rail	49 mm / 1.929 inches
Depth	85 mm / 3.35 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	57.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

Potential distribution module; 1 potential; with 1 input clamping point; Conductor cross-section up to 16 mm²; with lever; with 9 output clamping points; Conductor cross-section up to 2.5 mm²
830 Series

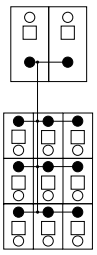


Color	Item No.	PU
gray	830-800/000-313	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	65 A
Connection data	
Total number of potentials	1
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	1.5 … 16 mm² / 16 … 6 AWG
Fine-stranded conductor	1.5 … 16 mm² / 16 … 6 AWG
Strip length	12 … 13 mm / 0.47 … 0.51 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	21 mm / 0.81 inches
Height from upper-edge of DIN-rail	62 mm / 2.44 inches
Depth	85 mm / 3.35 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	61.9 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications (pending)	cULus 61010-2-201

Potential distribution module; 1 potential; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with lever; with 9 output clamping points; Conductor cross-section up to 2.5 mm²

830 Series

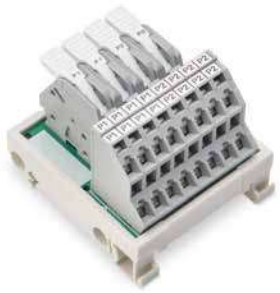


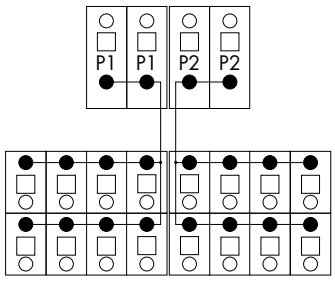
Color	Item No.	PU
gray	830-800/000-314	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	1
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor	0.5 … 6 mm² / 20 … 10 AWG
Strip length	11 mm / 0.43 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	21 mm / 0.81 inches
Height from upper-edge of DIN-rail	62 mm / 2.44 inches
Depth	85 mm / 3.35 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	62.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with lever; with 8 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series



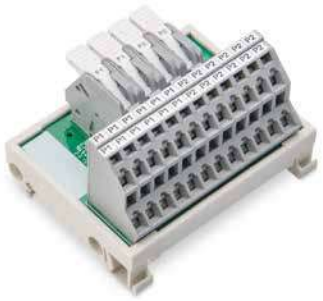


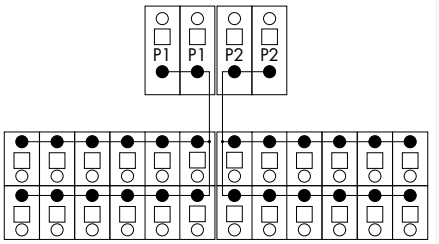
Color	Item No.	PU
gray	830-800/000-315	10

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor	0.5 … 6 mm² / 20 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	49 mm / 1.92 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	63.3 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with lever; with 12 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series





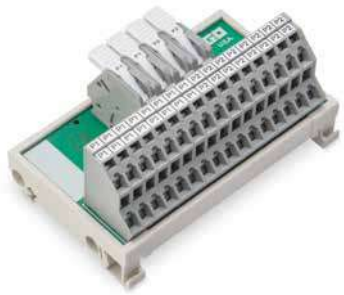
Color	Item No.	PU
gray	830-800/000-316	6

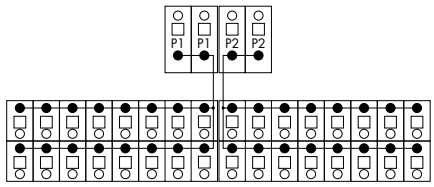
Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor	0.5 … 6 mm² / 20 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	69 mm / 2.72 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	101.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with lever; with 16 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series



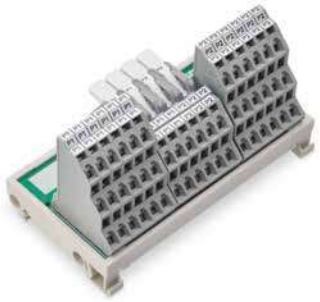


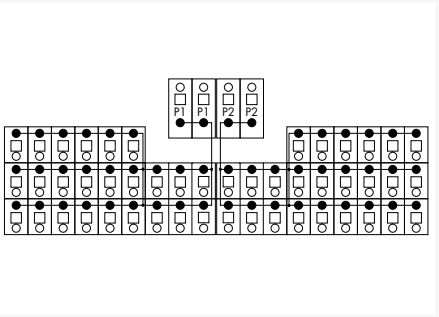
Color	Item No.	PU
gray	830-800/000-317	6

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor	0.5 … 6 mm² / 20 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	89 mm / 3.51 inches
Height from upper-edge of DIN-rail	38 mm / 1.47 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	119.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

Potential distribution module; 2 potentials; with 2 input clamping points each; Conductor cross-section up to 6 mm²; with lever; with 24 output clamping points each; Conductor cross-section up to 2.5 mm²

830 Series



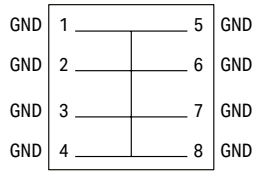


Color	Item No.	PU
gray	830-800/000-318	3

Electrical data	
Operating voltage	≤ 250 VAC/VDC
Current per connection (max.)	10 A
Total current per potential (max.)	30 A
Connection data	
Total number of potentials	2
Connection type 1	Input
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor	0.5 … 6 mm² / 20 … 10 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inches
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	102 mm / 4.02 inches
Height from upper-edge of DIN-rail	53 mm / 2.02 inches
Depth	55 mm / 2.17 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	134.2 g
Environmental requirements	
Ambient temperature (operation at U_N)	-20 … +50 °C
Relative humidity	≤ 95% (without condensation)
Standards and specifications	
Standards/specifications	cULus 61010-2-201

7

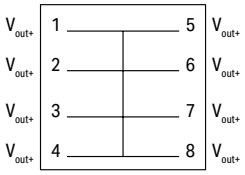
Potential distribution module; 8-way 0 VDC
787 Series



	Item No.	PU
	0787-3861/0000-1000	1

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	0 … 30 VDC
Limiting continuous current	20 A; 15 A (UL)
Safety and protection	
Protection class	III
Pollution degree	2
Protection type	IP20; per EN 60529
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Operating altitude (max.)	2000 m
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Standards and specifications	
Conformity marking	CE

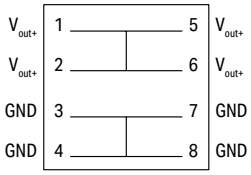
Potential distribution module; 8-way 24 VDC
787 Series



	Item No.	PU
	0787-3861/0000-2000	1

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	0 … 30 VDC
Limiting continuous current	20 A; 15 A (UL)
Safety and protection	
Protection class	III
Pollution degree	2
Protection type	IP20; per EN 60529
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Operating altitude (max.)	2000 m
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Standards and specifications	
Conformity marking	CE

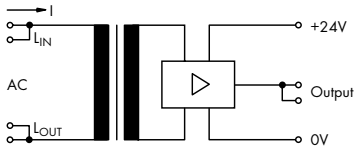
Potential distribution module; 4-way 24 VDC / 4-way 0 VDC
787 Series



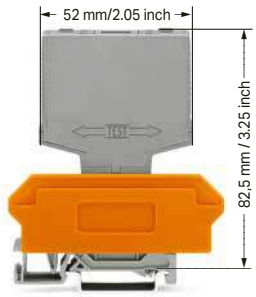
	Item No.	PU
	0787-3861/0000-3000	1

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	0 … 30 VDC
Limiting continuous current	20 A; 15 A (UL)
Safety and protection	
Protection class	III
Pollution degree	2
Protection type	IP20; per EN 60529
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0,34 … 2,5 mm² / 22 … 14 AWG
Physical data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical data	
Mounting type	DIN-35 rail
Environmental requirements	
Operating altitude (max.)	2000 m
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Standards and specifications	
Conformity marking	CE

Current flow monitoring module; AC currents
286 Series



	Item No.	PU
	286-661	1



Electrical data	
Nominal operating voltage	24 VDC
Current consumption at nominal supply voltage	≤ 41 mA
Voltage drop at input	13 … 460 mV
Measurement span (max.)	80 mA … 6 AAC (5 … 250 VAC)
Response time	40 ms
Limiting continuous current	0.05 A
Switching power (resistive) max.	DC 1.2 W
Status indicator	Green LED; Output: 0 V (operation; current > 80 mA); Red LED; Output: 24 VDC (current flow interruption; current < 80 mA)
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, input/output (AC, 1 min)	2 kV_{rms}
Physical data	
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Color	Light gray
Weight	46.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-619	30

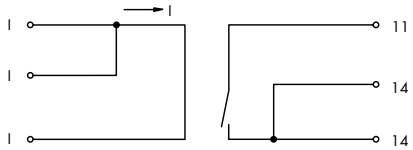
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-609	30

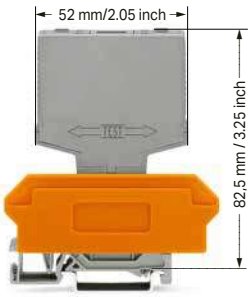
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
20 mm	280-763	25

Current flow monitoring module; DC currents; Monitoring range: 0.4 … 3.5 A; 1 make contact
286 Series



	Item No.	PU
	286-662	1



Electrical data	
Operating voltage	12 … 28 VDC
Voltage drop at input	24 … 210 mV
Measurement span (max.)	0.4 … 3.5 ADC (−20 … +40 °C); 0.4 … 3 ADC (−20 … +60 °C); 0.4 … 2 ADC (−20 … +70 °C)
Turn on/off point	0.35 A / 0.07 A
Response time	0.5 ms
Number of make/switch-on contacts	1
Limiting continuous current	0.5 A
Switching voltage (max.)	DC 200 V
Switching power (resistive) max.	DC 10 W
Safety and protection	
Dielectric strength, input/output (AC, 1 min)	1.5 kV_{rms}
Physical data	
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Color	Light gray
Weight	22.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

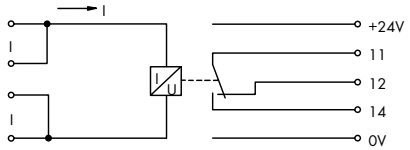
Width	Item No.	PU
17 mm	280-609	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

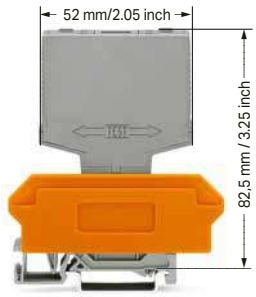
Width	Item No.	PU
20 mm	280-763	25

Current flow monitoring module; AC currents; Monitoring range: 0.2 … 3 A; 1 changeover contact

286 Series



	Item No.	PU
	286-664	1



Electrical data	
Nominal operating voltage	24 VDC
Current consumption at nominal supply voltage	≤ 17 mA
Voltage drop at input	44 … 430 mV
Measurement span (max.)	0.2 … 3 AAC
Switching threshold (adjustable) min.	0.2 A
Response time	300 ms
Number of changeover/switchover contacts	1
Number of break/switch-off contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Status indicator	Red LED; Energized relay (current < switching threshold)
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, input/output (AC, 1 min)	1.5 kV_{rms}
Physical data	
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Weight	58 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

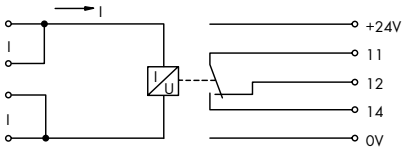
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-629	15

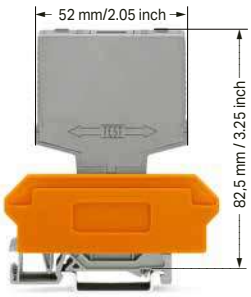
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
30 mm	280-765	15

Current flow monitoring module; AC currents; Monitoring range: 1 … 10 A; 1 changeover contact
286 Series



	Item No.	PU
	286-665	1



Electrical data	
Nominal operating voltage	24 VDC
Current consumption at nominal supply voltage	≤ 28 mA
Voltage drop at input	23 … 850 mV
Measurement span (max.)	1 … 10 AAC
Switching threshold (adjustable) min.	1 A
Response time	200 ms
Number of changeover/switchover contacts	1
Number of break/switch-off contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	AC 1250 VA
Status indicator	Red LED; Energized relay (current < switching threshold)
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, input/output (AC, 1 min)	1.5 kV_{rms}
Physical data	
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Weight	58 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Ambient temperature (storage)	-40 … +70 °C
Relative humidity	5 … 85 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

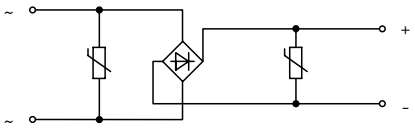
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-629	15

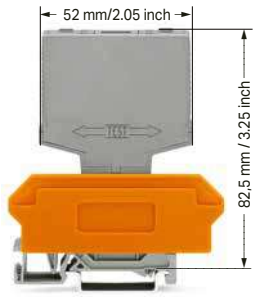
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
30 mm	280-765	15

Bridge rectifier module; Input voltage: 24 VAC; with varistor protective circuit
286 Series

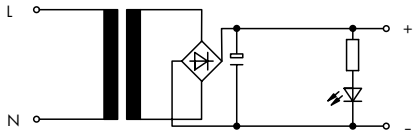


	Item No.	PU
	286-830	1



Electrical data	
Nominal operating voltage	24 VAC
Operating voltage	≤35 VAC
Nominal current	1 A
Switch-on capacity	< 2200 µF
Physical data	
Width	15 mm / 0.591 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Weight	21.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

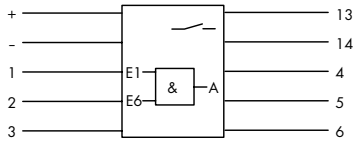
S0 interface power supply; Input voltage: 230 VAC; S0 interface
286 Series



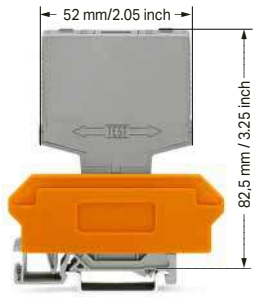
	Item No.	PU
	286-742	1

Electrical data	
Nominal operating voltage	230 VAC
Nominal mains frequency range	50 Hz
Output voltage (DC) max.	27 V
Output current (max.)	27 mA
Safety and protection	
Dielectric strength, input/output (AC, 1 min)	2.5 kV_{rms}
Physical data	
Width	25 mm / 0.984 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Housing design	Plug for carrier terminal blocks
Material data	
Weight	57g
Environmental requirements	
Ambient temperature (operation at U_N)	0 … +70 °C
Ambient temperature (storage)	-40 … +80 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m
Standards and specifications	
Standards/specifications	EN 60664-1; EN 60742

AND gate module with 6 inputs
286 Series



	Item No.	PU
	286-826	1



Electrical data	
Nominal operating voltage	24 VDC
Operating voltage	24 … 27.5 VDC
Current consumption at nominal supply voltage	≤ 34.6 mA
Number of make/switch-on contacts	1
Limiting continuous current	3 A
Switching voltage (max.)	250 VAC; 120 VDC
Switching power (resistive) max.	AC 750 VA; 120 WDC
Safety and protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, input/output (AC, 1 min)	2.5 kV_{rms}
Physical data	
Width	25 mm / 0.984 inches
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inches
Depth	52 mm / 2.047 inches
Mechanical data	
Mounting type	Pluggable module for receptacle terminal blocks
Material data	
Weight	34 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +40 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

7

Accessories

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

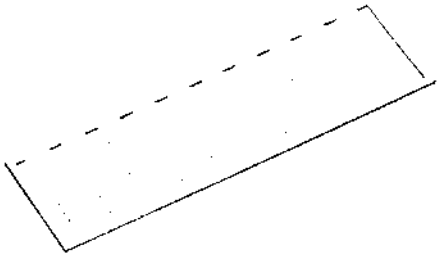
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

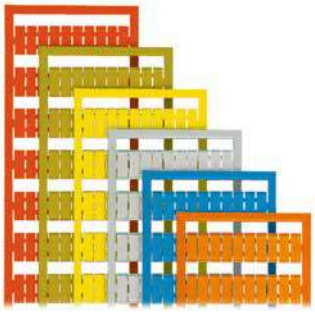
Width	Item No.	PU
27 mm	280-629	15

Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
30 mm	280-765	15

Accessories

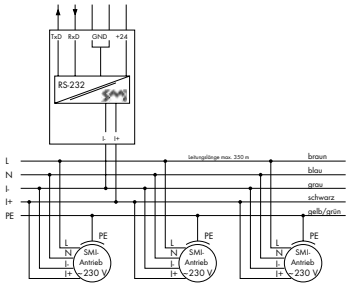




WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Marking	Item No.	PU
K	209-782	50
1 ... 10 (10 x)	209-702	5
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50

WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Color	Item No.	PU
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100

Specialty electronic module
789 Series



	Item No.	PU
	789-912	1

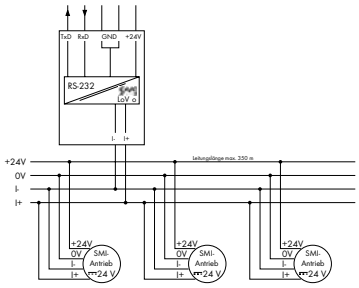
WAGO's RS-232/SMI interface module offers a standard interface to SMI-compliant electrical drives. The interface represents a purely physical level conversion between the standard RS-232 interface and the SMI signal level. The interface module operates up to 16 SMI drives. The entire SMI range of functions can be used. The special WAGO-I/O-PRO function blocks communicate between applications and SMI drives. These function blocks support both single and group addressing, as well as status monitoring. The SMI Interface Module can be used with RS-232 onboard interfaces from 750 Series Programmable Fieldbus Controllers and with the serial 750-650/003-000 or 753-650/003-000 RS-232 Interface.

The module must be supplied with an external 24 VDC power source. The 24 V power supply and RS-232 connectors are electrically isolated from the SMI connectors. There is no electrical isolation between power supply and RS-232. The module is DIN-35-rail mountable.

Notes on SMI:
SMI stands for "Standard Motor Interface," a standard interface for electrical drives. SMI was developed to connect drives with integrated electronic circuitry for applications in shutters and sunshade systems.

Electrical data	
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption at nominal supply voltage	≤ 55 mA (inside)
Number of SMI channels	1
Number of drives per channel	16
Status indicator	Green LED
Interface	RS-232 (interface input)
Safety and protection	
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 2.5 mm² / 20 … 12 AWG
Fine-stranded conductor	0.5 … 2.5 mm² / 20 … 12 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inches
Cable length (max.)	350 m (SMI bus; ≤ 3 m for data and power supply cable, RS-232)
Physical data	
Width	35 mm / 1.378 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Mounting position	Any
Housing design	DIN-rail-mount enclosure
Material data	
Weight	80 g
Environmental requirements	
Ambient temperature (operation at U_N)	0 … +50 °C
Ambient temperature (storage)	-25 … +85 °C
Standards and specifications	
Standards/specifications	EN 50090-2-2

Specialty electronic module
789 Series



	Item No.	PU
	789-913	1

WAGO's RS-232/SMI interface module offers a standard interface to SMI LoVo-compliant electrical drives. The interface represents a purely physical level conversion between the standard RS-232 interface and the SMI LoVo signal level. The interface module operates up to 16 SMI drives. The entire SMI range of functions can be used. The special WAGO-I/O-PRO function blocks communicate between applications and SMI LoVo drives. These function blocks support both single and group addressing, as well as status monitoring. Both 750 Series Programmable Fieldbus Controllers' RS-232 onboard interfaces and 750-650/003-000 or 753-650/003-000 Serial RS-232 Interfaces can connect to the SMI LoVo Interface Module.

The module must be supplied with an external 24 VDC power source. RS-232 and 24 V power supply are electrically isolated from the SMI LoVo connections. There is no electrical isolation between power supply and RS-232. The module is DIN-35-rail mountable.

Notes on SMI:
SMI stands for "Standard Motor Interface," a standard interface for electrical drives. SMI was developed to connect drives with integrated electronic circuitry for applications in shutters and sunshade systems.

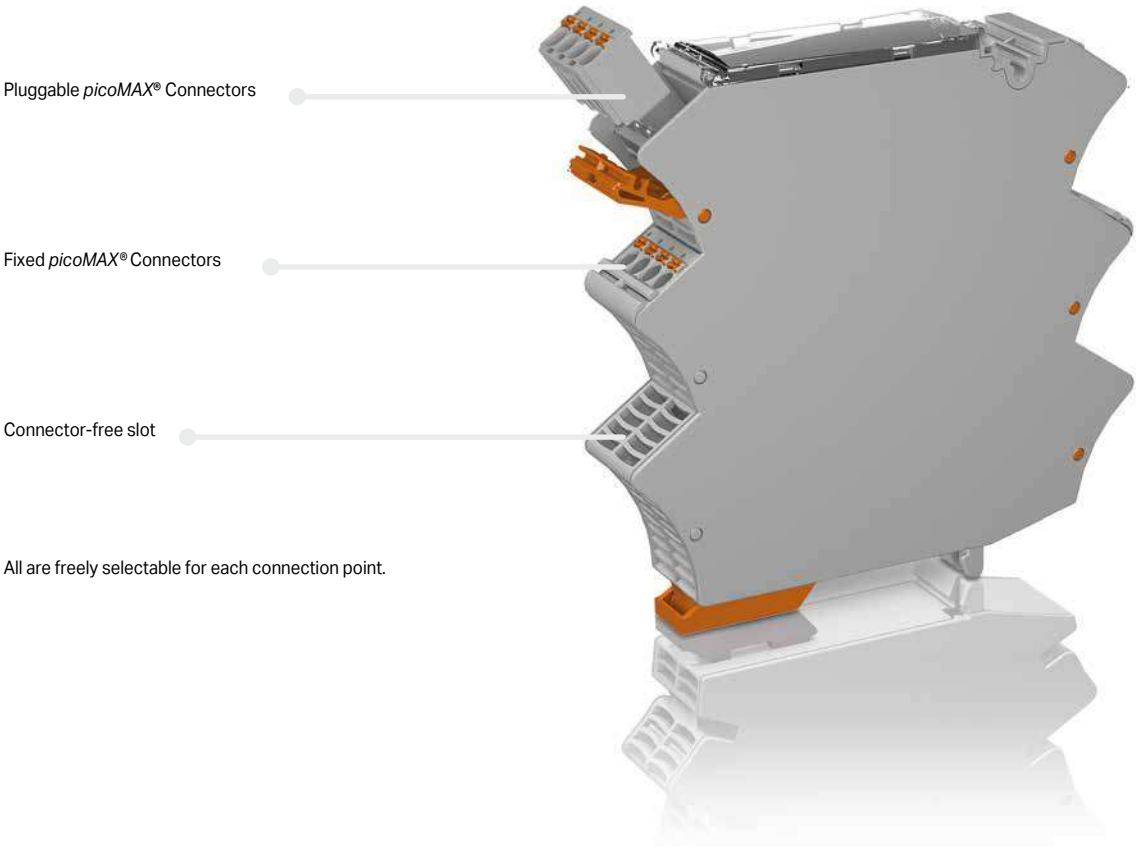
Electrical data	
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Current consumption at nominal supply voltage	≤ 55 mA (inside)
Number of SMI LoVo channels	1
Number of drives per channel	16
Status indicator	Green LED
Interface	RS-232 (interface input)
Safety and protection	
Protection type	IP20
Connection data	
Connection technology	CAGE CLAMP®
Solid conductor	0.5 … 2.5 mm² / 20 … 12 AWG
Fine-stranded conductor	0.5 … 2.5 mm² / 20 … 12 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inches
Cable length (max.)	350 m (SMI bus; ≤ 3 m for data and power supply cable, RS-232)
Physical data	
Width	35 mm / 1.378 inches
Height	90 mm / 3.543 inches
Depth from upper-edge of DIN-rail	55 mm / 2.165 inches
Mechanical data	
Mounting type	DIN-35 rail
Mounting position	Any
Housing design	DIN-rail-mount enclosure
Material data	
Weight	80 g
Environmental requirements	
Ambient temperature (operation at U_N)	0 … +50 °C
Ambient temperature (storage)	-25 … +85 °C
Standards and specifications	
Standards/specifications	EN 50090-2-2

WAGO Empty Housings

WAGO Empty Housings

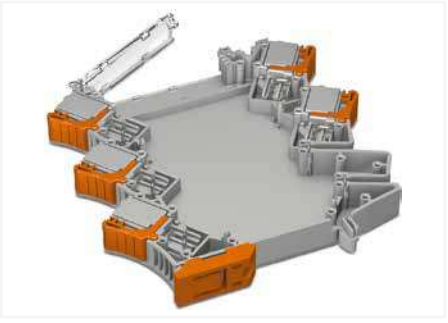
8

Modular Empty Housings
Overview and Configuration
2857 Series

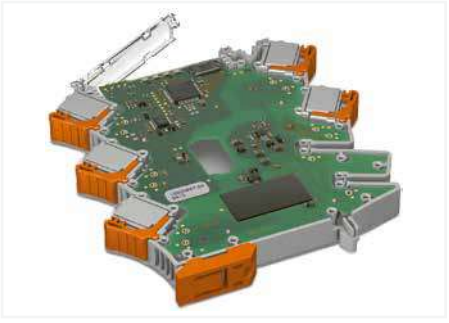


8

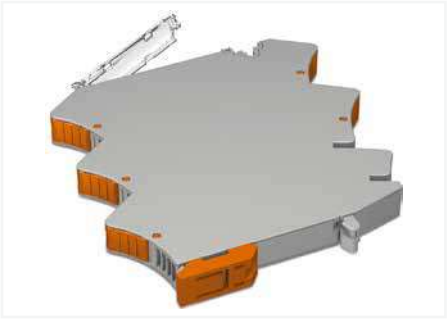
Supplied as a pre-assembled unit:



1. Pre-assembled unit



2. Insert and solder the PCB.



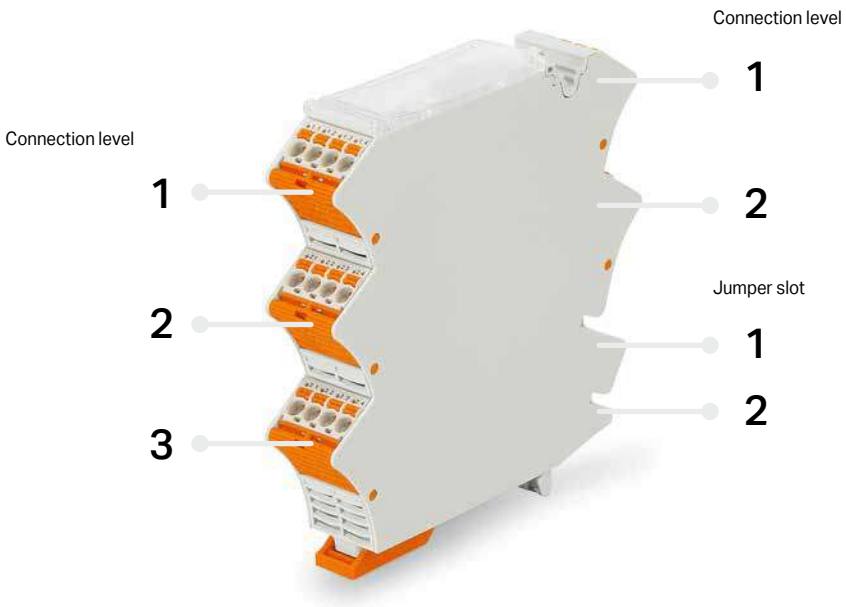
3. Snap on the side wall.

Housing configuration:

Housing width: 12.5 mm	 2857-101	 2857-102	 2857-103	–
Housing width: 22.5 mm	 2857-121	 2857-122	 2857-123	 2857-124
Connection levels	2-2	3-2	3-3	1-1
Jumper slots	2-2	0-2	0-0	2-2

Mixed configuration (fixed/removable/empty slot) upon request!

Example of connection level and jumper slot assignment:



Connection levels	3-2
Jumper slots	0-2

Modular Empty Housings
2857 Series

- *pico*MAX® female connectors, with coding keys, 4-pole
- Pre-assembled unit
- Flexible conductor termination
- Customizable connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning via jumpers (859-402)

Electrical Data (*picoMAX*® 5.0 Female Connector)			
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	16 A	16 A	16 A
Approvals per	UL 1059		
Use Group	B	C	D
Rated voltage UL	300 V	-	300 V
Rated current UL	15 A	-	10 A

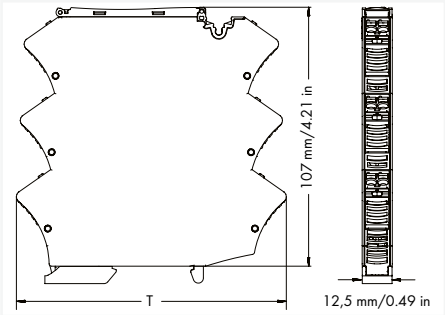
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Conductor connection direction to PCB	45 °
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule	0.2 … 1.5 mm²
Fine-stranded conductor; with uninsulated ferrule	0.2 … 2.5 mm²

Material Data (*picoMAX*® 5.0 Female Connector)	
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	–60 … +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated

Material Data (Empty Housing)	
Housing material	PC
Flammability class	V0
Surrounding air temperature	–40 … +70 °C
Storage temperature	–40 … +85 °C

» Marking Page 689
» Technical Data catalog *picoMAX*®

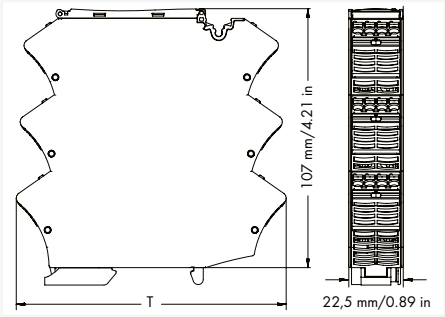
Modular Empty Housing; for DIN-35 Rail
2857 Series



Housing width: 12.5 mm		
Description	Item No.	PU
2-2 connection levels, 2-2 jumper slots	**2857-101**	10
3-2 connection levels, 0-2 jumper slots	**2857-102**	10
3-3 connection levels, 0-0 jumper slots	**2857-103**	10

Technical Data: Empty Housing	
Dimensions (mm) W x H x D	12.5 x 107 x 108 (2857-101) 12.5 x 107 x 110 (2857-102) 12.5 x 107 x 112 (2857-103) Height from upper-edge of DIN-rail
Power loss	2 W

Accessories		
Description	Item No.	PU
Coding pin carrier	**2092-1610**	1
Jumper	**859-402**	1



Housing width: 22.5 mm		
Description	Item No.	PU
2-2 connection levels, 2-2 jumper slots	**2857-121**	5
3-2 connection levels, 0-2 jumper slots	**2857-122**	5
3-3 connection levels, 0-0 jumper slots	**2857-123**	5
1-1 connection levels, 2-2 jumper slots	**2857-124**	5

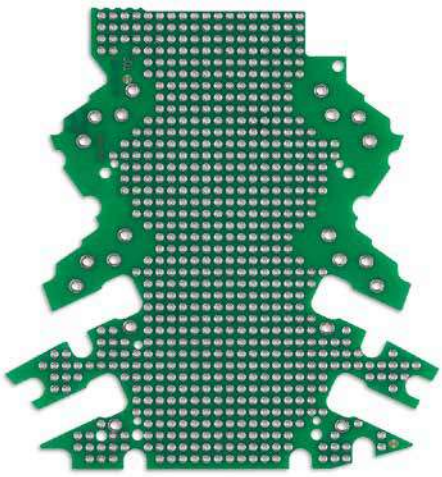
Technical Data: Empty Housing	
Dimensions (mm) W x H x D	22.5 x 107 x 108 (2857-121) 22.5 x 107 x 110 (2857-122) 22.5 x 107 x 112 (2857-123) 22.5 x 107 x 105 (2857-124) Height from upper-edge of DIN-rail
Power loss	3 W (max.)

Accessories		
Description	Item No.	PU
Coding pin carrier	**2092-1610**	1
Jumper	**859-402**	1

PU = Packaging Unit; SPU = Subpackaging Unit

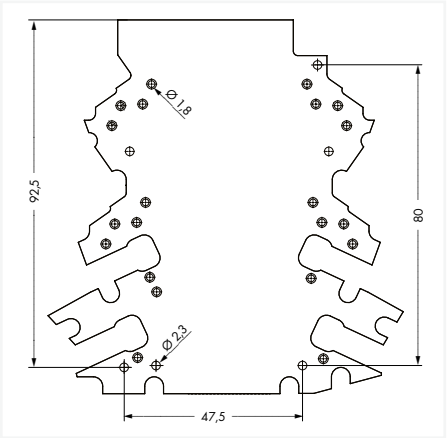
Stripboard; for installation in 12.5 mm and 22.5 mm empty housings
2857 Series

Connection levels: 2-2; Jumper slots: 2-2

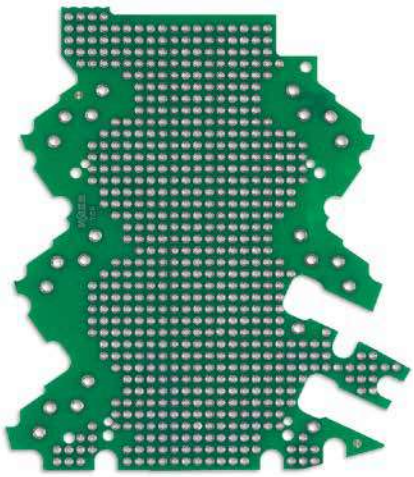


	Item No.	PU (SPU)
	2857-191/3140-000	5 (1)

Dimensions in mm

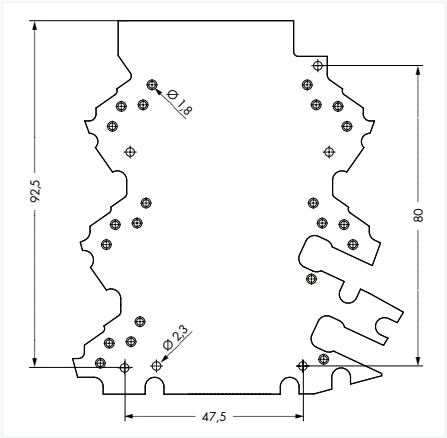


Connection levels: 3-2; Jumper slots: 0-2



	Item No.	PU (SPU)
	2857-192/3140-000	5 (1)

Dimensions in mm

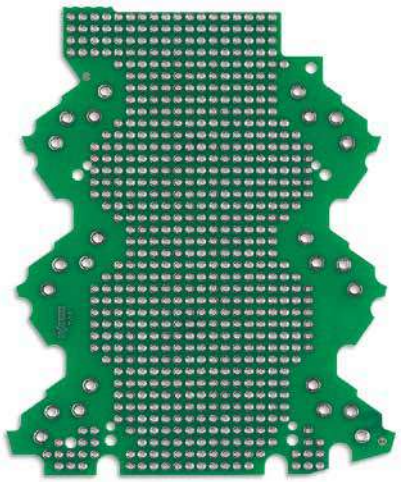


8

PU = Packaging Unit; SPU = Subpackaging Unit

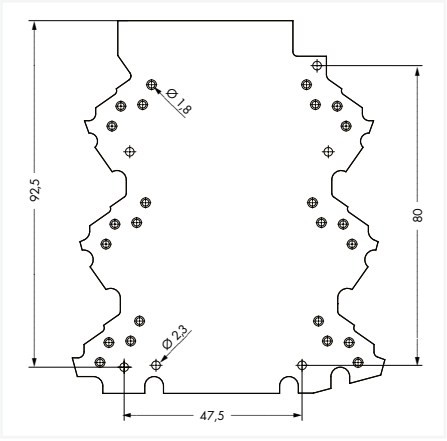
Stripboard; for installation in 12.5 mm and 22.5 mm empty housings
2857 Series

Connection levels: 3-3; Jumper slots: 0-0

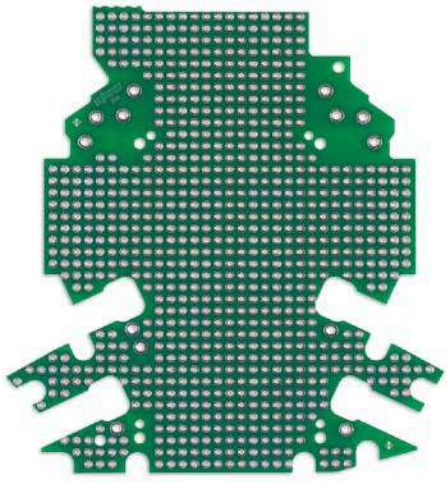


	Item No.	PU (SPU)
	2857-193/3140-000	5 (1)

Dimensions in mm

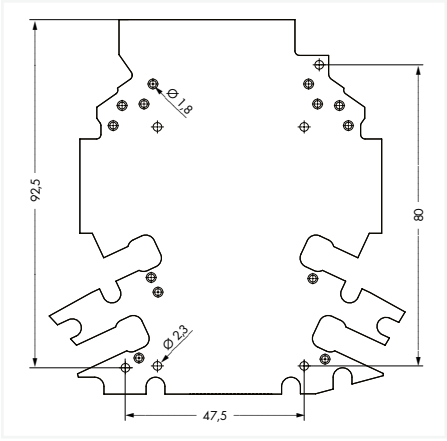


Connection levels: 1-1; Jumper slots: 2-2



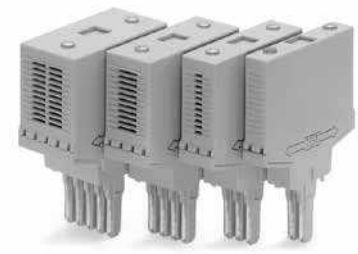
	Item No.	PU (SPU)
	2857-194/3140-000	5 (1)

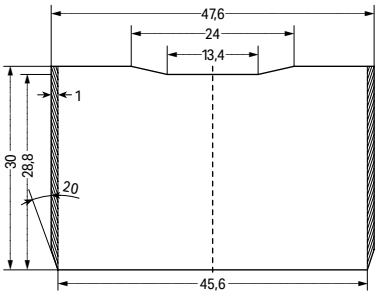
Dimensions in mm

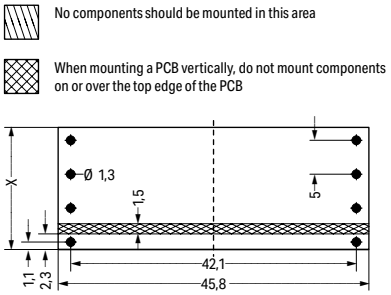


PU = Packaging Unit; SPU = Subpackaging Unit

Empty Component Plug Housing for Receptacle Terminal Blocks; for Self-Assembly
286/786 Series



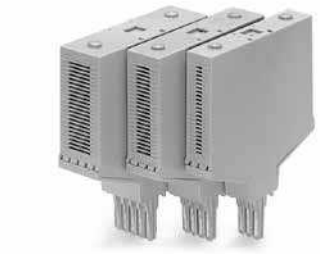


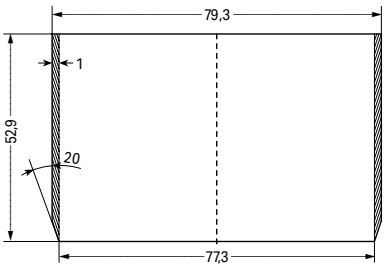


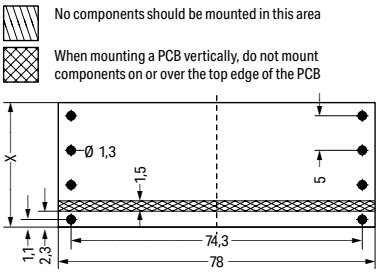
Module width	10	15	20	25
Component height	4.2	9.2	14.2	19.2
X = total height of PCB	8	13	18	23

Empty Component Plug Housing; 286 Series				
Type	Pole	Width	Item No.	PU
9	4	10 mm / 0.394 inch	286-110	1
10	6	15 mm / 0.591 inch	286-111	1
11	8	20 mm / 0.787 inch	286-112	1
12	10	25 mm / 0.984 inch	286-113	1

Technical Data	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-35 rail)







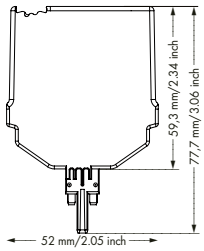
Module width	15	20	25
Component height	9.2	14.2	19.2
X = total height of PCB	13	18	23

Empty Component Plug Housing; 786 Series				
Type	Pole	Width	Item No.	PU
14	6	15 mm / 0.591 inch	786-101	1
15	8	20 mm / 0.787 inch	786-102	1
16	10	25 mm / 0.984 inch	786-103	1

Technical Data	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-35 rail)

Empty Component Plug Housing for Receptacle Terminal Blocks; for Self-Assembly
2002/2042 Series

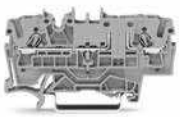
Empty Component Plug Housing; TOPJOB® S; 2002 Series; gray				
Type	Pole	Width	Item No.	PU
1	2	5.2 mm / 0.205 inch	2002-800	100
2	2	10.4 mm / 0.409 inch	2002-810	50
3	4	10.4 mm / 0.409 inch	2002-820	50
4	2	10.4 mm / 0.409 inch	2002-880	50



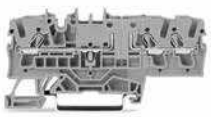
Empty Component Plug Housing; TOPJOB® S; 2042 Series; transparent housing; with fiber optics			
Pole	Width	Item No.	PU
4	10.3 mm breit / 0.406 inch	2042-321	5
6	15.5 mm / 0.61 inch	2042-331	5
8	20.7 mm / 0.815 inch	2042-341	5
10	25.9 mm / 1.02 inch	2042-351	5

8

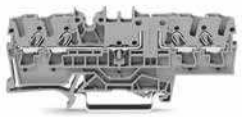
Accessories



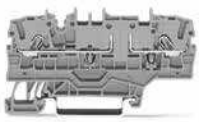
2-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	PU
gray	2002-1661	50



3-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	PU
gray	2002-1761	50



4-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	PU
gray	2002-1861	50



2-conductor carrier terminal block; with additional slot for adjacent jumper, for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	PU
gray	2002-1961	50

Empty Component Plug Housing for Receptacle Terminal Blocks; for Self-Assembly
286/786 Series

Accessories

Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-618	40

Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
12 mm	280-608	40

Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-619	30

Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
17 mm	280-609	30

Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
22 mm	280-638	20

Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
22 mm	280-628	20

Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-639	15

Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	PU
27 mm	280-629	15

Unlocking pliers for component plug housings

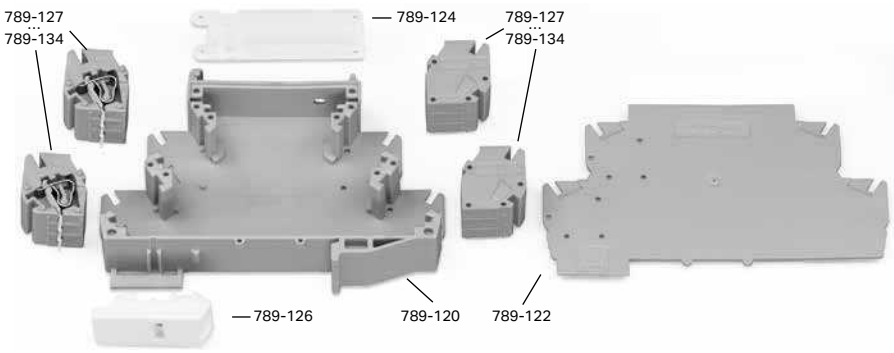
	Item No.	PU
	210-492	1

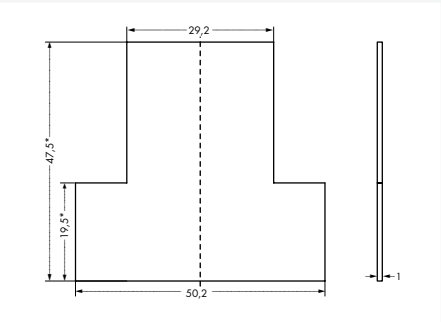
WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	PU
plain	209-501	5
1 … 10	209-702	5

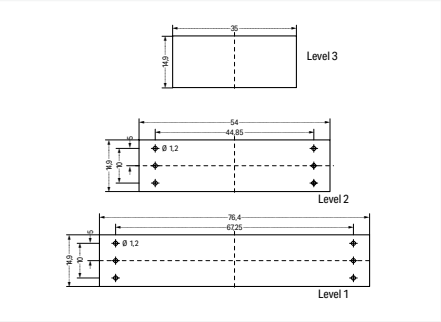
8

DIN-Rail-Mount Enclosures
789 Series

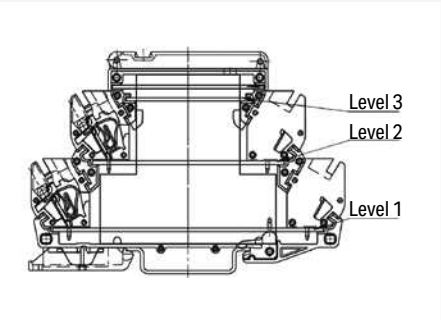




PCB dimensions, horizontal mounting
*less 4.5 mm when mounting a vertical PCB on level 1



PCB dimensions, vertical mounting:
(PCB thickness max. 1.5 mm) in level 1;
(PCB thickness max. 1 mm) in level 2 and 3

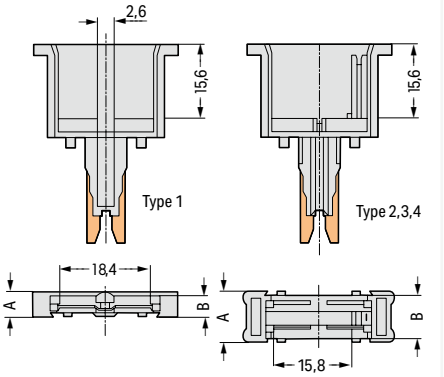


Universal Modular Component Plug Housing; as rail-mount terminal block		
Description	Item No.	PU
Housing: 55 mm	789-120	1
Top cover: 55 mm	789-122	1
Cover; transparent	789-124	1
Release mechanism	789-126	1
Compact terminal block; 3-pole: CCC*	789-127	1
Compact terminal block; 3-pole: COC*	789-128	1
Compact terminal block; 3-pole: CCO*	789-129	1
Compact terminal block; 3-pole: OCC*	789-130	1
Compact terminal block; 3-pole: OCO*	789-131	1
Compact terminal block; 3-pole: OOO*	789-132	1
Compact terminal block; 3-pole: OOC*	789-133	1
Compact terminal block; 3-pole: COO*	789-134	1

*C = with clamping spring; O = without clamping spring, enclosure open on the right side

Electrical Data	
Rated nominal voltage	250 V
Rated surge voltage	4 kV
Safety and Protection	
Pollution degree	3
Protection class	IP20
Connection Data	
Width	17.5 mm
Height	55 mm
Depth	90 mm
Dimensions (note)	Height from upper-edge of DIN-rail
Physical Data	
Connection technology	CAGE CLAMP®
Cross sections	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Mechanical Data	
Mounting position	Any
Material Data	
Housing material	PA 66
Flammability class	V0
Color	Gray (similar to RAL 7038)
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Empty Component Plug Housing for Carrier Terminal Blocks; for Self-Assembly
280 Series



Type	1	2	3	4
A	5	10	10	10
B	3.2	8.2	8.2	8.2

Empty Component Plug Housing

	Description	Item No.	PU
Type 1	2-pole; 5 mm/0.197 inch wide; Plug inside dimensions (W/H/D): 3.2/15/15 mm	280-801	100
Type 2	2-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-802	50
Type 3	4-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-804	50

Technical Data

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A (max.)

8

Accessories

2-conductor carrier terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

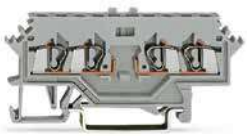
Item No.	PU
280-616	100

2-conductor carrier terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-916	100

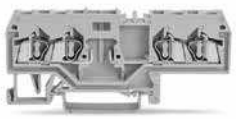
3-conductor carrier terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-610	100



4-conductor carrier terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-606	100



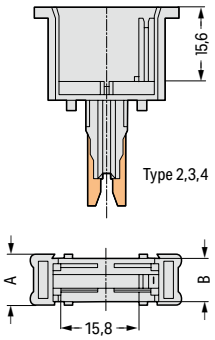
4-conductor carrier terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-686	100

Empty Component Plug Housing for Through Terminal Blocks; for Self-Assembly
280 Series

Empty Component Plug Housing			
	Description	Item No.	PU
Type 4	2-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-803	50

Technical Data	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A (max.)



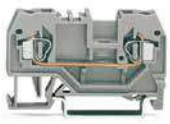
Type	1	2	3	4
A	5	10	10	10
B	3.2	8.2	8.2	8.2

8

Accessories

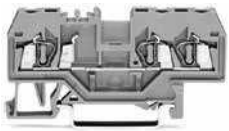
2-conductor through terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-601	100



2-conductor through terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-901	100



3-conductor through terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-681	100

4-conductor through terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-621	100

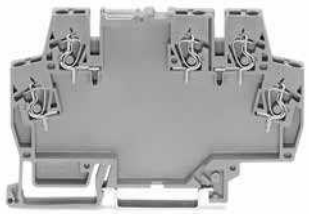
4-conductor through terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	PU
280-833	100

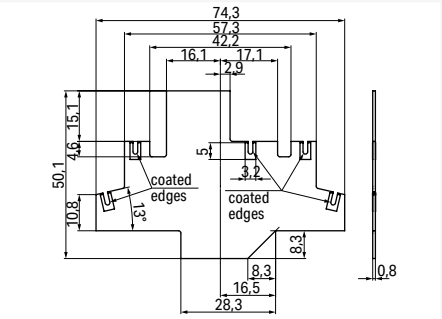
2-conductor through terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

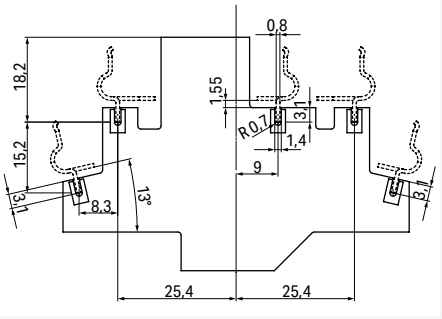
Item No.	PU
280-101	100

Empty Rail-Mount Terminal Block Housing
859 Series



Universal Modular Component Plug Housing as Rail-Mount Terminal Block		
	Item No.	PU
	859-110	1





PCB dimensions

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20
Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 in
Height from upper-edge of DIN-rail	56 mm / 2.205 in
Depth	91 mm / 3.583 in
Mechanical Data	
Mounting type	DIN-35 rail
Mounting position	Any
Material Data	
Color	Gray
Flammability class per UL94	V0
Housing material	PA 6.6
Weight	14.4 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Accessories

End and intermediate plate; 1 mm thick; gray

Item No.	PU
859-525	100 (25)

Push-in type jumper bar; light gray; insulated; 18 A

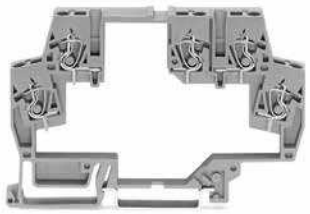
Description	Item No.	PU
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)

Item no. suffix for colored push-in type jumper bars	
yellow	**… /000-029**
red	**… /000-005**
blue	**… /000-006**

Test pin; 1 mm Ø; with solder connection for test cable

Item No.	PU
735-500	100 (1)

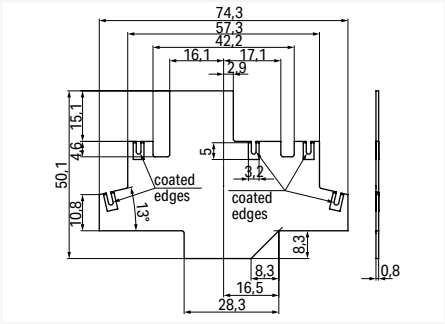
Empty Rail-Mount Terminal Block Housing
859 Series

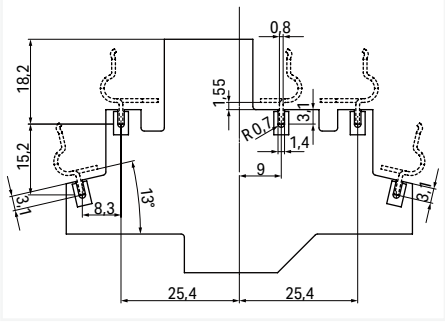


Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20
Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	8 mm / 0.315 in
Height from upper-edge of DIN-rail	56 mm / 2.205 in
Depth	91 mm / 3.583 in
Mechanical Data	
Mounting type	DIN-35 rail
Mounting position	Any
Material Data	
Color	Gray
Flammability class per UL94	V0
Housing material	PA 6.6
Weight	14.4 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Frame to Enlarge Terminal block Width

Item No.	PU
859-501	1





PCB dimensions

8

Accessories

End and intermediate plate; 1 mm thick; gray

Item No.	PU
859-525	100 (25)

Push-in type jumper bar; light gray; insulated; 18 A

Description	Item No.	PU
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)

Item no. suffix for colored push-in type jumper bars	
yellow	… /000-029
red	… /000-005
blue	… /000-006

Test pin; 1 mm Ø; with solder connection for test cable

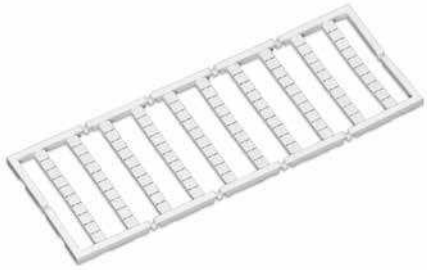
Item No.	PU
735-500	100 (1)

Accessories

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	PU
	210-720	50

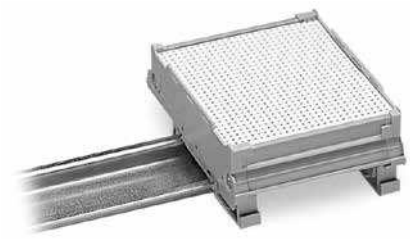
Felt-tip pen; for permanent marking		
	Item No.	PU
	210-110	200

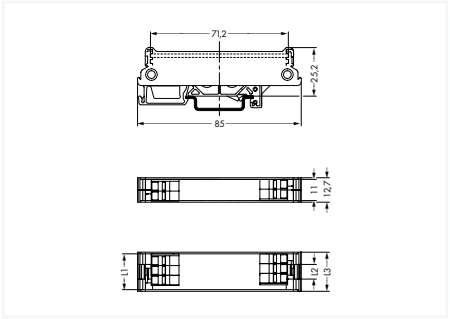
Push-in type jumper bar; 12-way; Nominal current: 16 A; uninsulated		
	Item No.	PU
	789-112	100

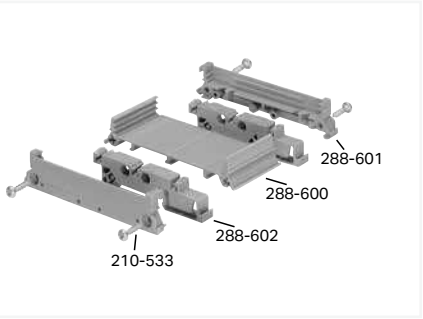


Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	Item No.	PU
plain	248-501	50
1 … 10 (10 x)	248-502	5
11 … 20 (10 x)	248-503	5
21 … 30 (10 x)	248-504	5
31 … 40 (10 x)	248-505	5
41 … 50 (10 x)	248-506	5
1 … 50 (2 x)	248-566	5
K1 … K10	248-450	50
K11 … K20	248-451	50
K100	248-452	50
U1 … U10	248-453	50
U11 … U20	248-454	50
U100	248-455	50

DIN-Rail Mount PCB Carriers
288 Series



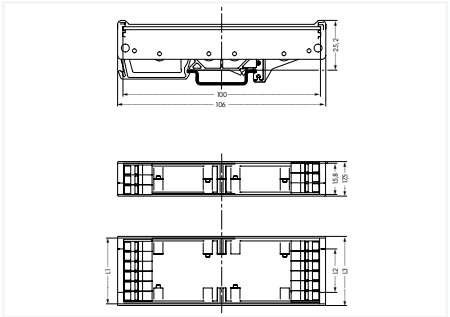


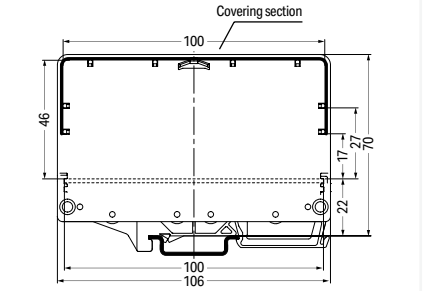


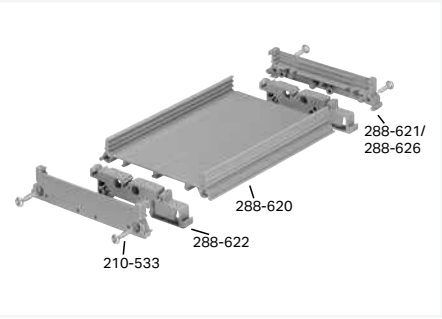
Mounting Carrier, Size 1

Length calculation for a complete mounting carrier:
PCB length: L1
Base length: L2 = L1 – 11 mm
Mounting carrier length: L3 = L1 + 2 mm
Lateral cover, size 1, 6.35 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width), –0.1/+0.3 for milling contours

Mounting Carrier; Size 1		
Description	Item No.	PU
Lateral cover; Type 1; small; 6.35 mm thick	**288-601**	1
Foot for DIN-35 rail	**288-602**	1
Carrier base; Size 1; 1 m long	**288-600**	1







Mounting Carrier, Size 2

Length calculation for a complete mounting carrier:
PCB length: L1
Base length: L2 = L1 – 15.8 mm
Mounting carrier length: L3 = L1 + 2 mm
Cover length: L4 = L1
Lateral cover, size 2, 8.75 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width), –0.1/+0.3 for milling contours

Mounting Carrier; Size 2		
Description	Item No.	PU
Lateral cover; Type 2; small; 8.75 mm thick	**288-621**	1
Lateral cover; Type 2; large; 8.75 mm thick	**288-626**	1
Foot for DIN-35 rail	**288-622**	1
Carrier base; Size 2; 1 m long	**288-620**	1
Cover; Size 2; 1 mm long	**288-627**	1

8

Accessories; for all mounting carriers

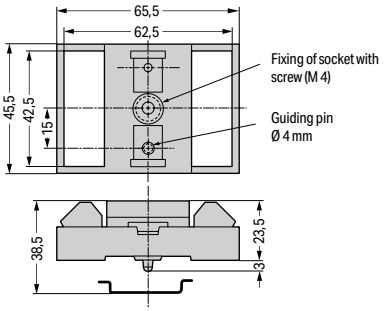
Marking strip

Description	Item No.	PU
Phillips screw 2.9 x 13*	**210-533**	25
Marking strip 7.5 x 0.5 mm; 1 m long; translucent	**709-196**	1

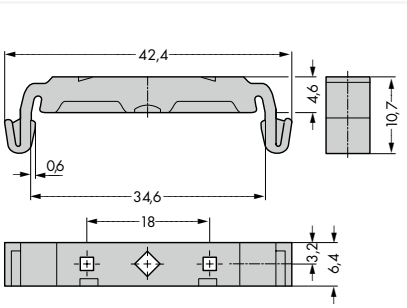
* Two screws per lateral cover; for a module length of 35 mm or higher; lateral covers must be riveted for smaller modules. Rivet length depends on module length (rivets are not offered by WAGO).

PU = Packaging Unit; SPU = Subpackaging Unit

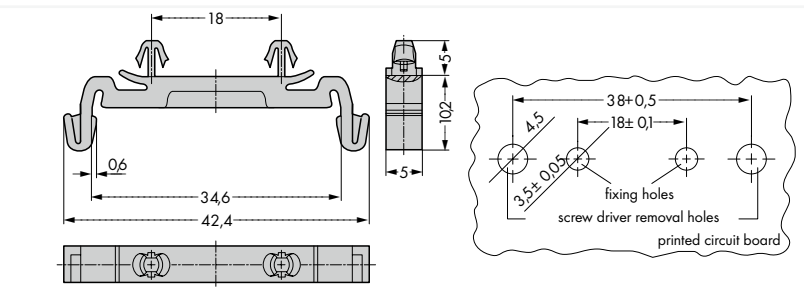
DIN-Rail-Mount PCB Carriers and Feet
288/209 Series



Mounting carrier			
Description		Item No.	PU
Mounting carrier	For screw or DIN-rail mounting via universal snap-on type mounting feet (to be ordered separately)	288-001	1
Universal mounting foot	Snap-fit type; for DIN-15, DIN-32 and DIN-35 rails	288-002	10
Mounting carrier for PCBs	Suitable for a "Eurocard" PCB (100 x 160 mm)	288-003	1

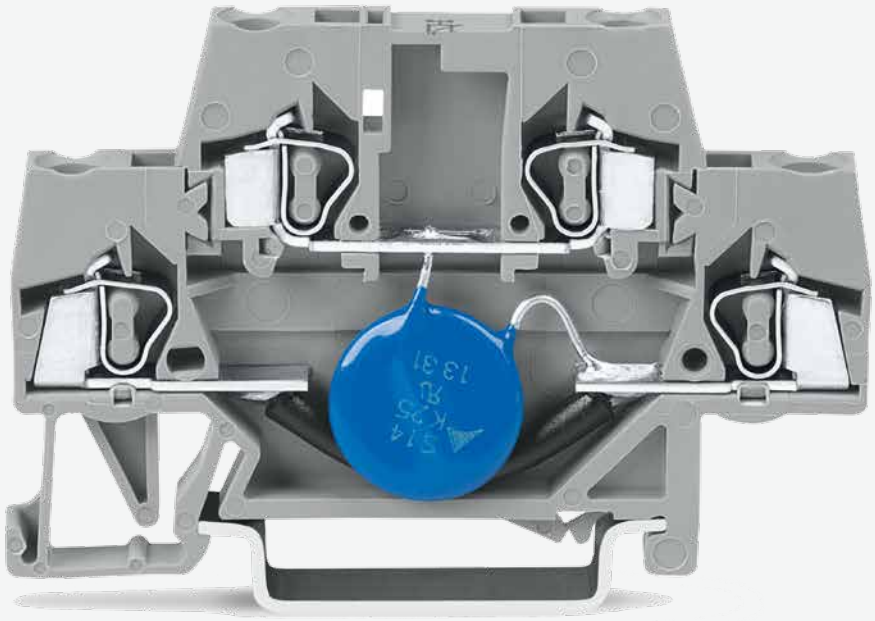


Mounting foot			
Description		Item No.	PU
Mounting foot		209-120	25
Mounting screw	for mounting foot (209-1209	209-119	50



Mounting foot			
Description		Item No.	PU
Mounting foot		209-188	25

PU = Packaging Unit; SPU = Subpackaging Unit



WAGO Protective Devices and Electronics

WAGO Protective Devices and Electronics

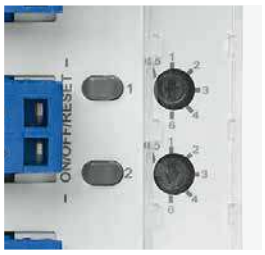
9

WAGO Electronic Circuit Breakers
Selection Guide

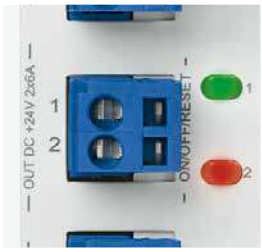
Nominal input/ output voltage	Input/Output				Approvals				Dimensions and Environmental Conditions				Item No.	Page
	Channels (output)	Nominal current (output) [ADC]	Communication	Active current limitation	UL 61010-2-201	UL 2367	cULus 508	DNV	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]		
12 VDC	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664/000-100	511
24 VDC	1	0.5	S		■			■	6	97.8	94	–25 … +70	787-2861/050-000	498
	1	0.5	S		■	■		■	6	97.8	94	–25 … +70	787-3861/050-000	490
	1	0.5 … 4	S		■	■		■	6	97.8	94	–25 … +70	787-3861/004-020	496
	1	1	S		■			■	6	97.8	94	–25 … +70	787-2861/100-000	499
	1	1	S		■	■		■	6	97.8	94	–25 … +70	787-3861/100-000	491
	1	1 … 8	S		■			■	6	97.8	94	–25 … +70	787-2861/108-020	504
	1	1 … 8	S		■	■		■	6	97.8	94	–25 … +70	787-3861/108-020	497
	1	2	S		■			■	6	97.8	94	–25 … +70	787-2861/200-000	500
	1	2	S		■	■		■	6	97.8	94	–25 … +70	787-3861/200-000	492
	1	4	S		■			■	6	97.8	94	–25 … +70	787-2861/400-000	501
	1	4	S		■	■		■	6	97.8	94	–25 … +70	787-3861/400-000	493
	1	6	S		■			■	6	97.8	94	–25 … +70	787-2861/600-000	502
	1	6	S		■	■		■	6	97.8	94	–25 … +70	787-3861/600-000	494
	1	8	S		■			■	6	97.8	94	–25 … +70	787-2861/800-000	503
	1	8	S		■	■		■	6	97.8	94	–25 … +70	787-3861/800-000	495
24 VDC	2	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1662	507
	2	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1662/000-054	509
	2	3.8 LPS	M	■		■	■		45	115.5	90	–25 … +70	787-1662/004-1000 [1]	506
	2	0.5 … 6	M	■		■	■	■	45	115.5	90	–25 … +70	787-1662/006-1000	505
	2	1 … 6	M			■	■	■	45	115.5	90	–25 … +70	787-1662/106-000	508
24 VDC	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664	517
	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664/000-004	519
	4	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1664/000-054	520
	4	2 … 10	N			■	■	■	45	115.5	90	–25 … +70	787-1664/000-011	523
	4	1 … 10	I			■	■	■	45	115.5	90	–25 … +70	787-1664/000-080	516
	4	3.8 LPS	M	■		■	■		45	115.5	90	–25 … +70	787-1664/004-1000 [1]	513
	4	0.5 … 6	M	■		■	■	■	45	115.5	90	–25 … +70	787-1664/006-1000	512
	4	1 … 6	M			■	■	■	45	115.5	90	–25 … +70	787-1664/106-000	518
	4	1 … 6	N			■	■	■	45	115.5	90	–25 … +70	787-1664/106-011	524
	4	2 … 12	M	■		■	■	■	45	115.5	90	–25 … +70	787-1664/212-1000	514
	4	0.5 … 6	P	■	□	■	■	■	45	115.5	90	–25 … +70	787-1664/006-1054	515
24 VDC	8	2 … 10	M			■	■	■	42	142.5	127	–25 … +70	787-1668	528
	8	2 … 10	M			■	■	■	42	142.5	127	–25 … +70	787-1668/000-004	529
	8	2 … 10	P			■	■	■	42	142.5	127	–25 … +70	787-1668/000-054	530
	8	1 … 10	I			■	■	■	42	142.5	127	–25 … +70	787-1668/000-080	534
	8	0.5 … 6	M	■		■	■	■	42	142.5	127	–25 … +70	787-1668/006-1000	525
	8	1 … 6	M			■	■	■	42	142.5	127	–25 … +70	787-1668/106-000	527
	8	1 … 6	M		□	■	■	■	42	142.5	127	–25 … +70	787-1668/106-054	531
	8	1 … 6	P	■		■	■	■	42	142.5	127	–25 … +70	787-1668/006-1054	526
48 VDC	2	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1662/000-250	510
48 VDC	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664/000-200	521
	4	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1664/000-250	522
48 VDC	8	2 … 10	M			■	■	■	42	142.5	127	–25 … +70	787-1668/000-200	532
	8	2 … 10	P			■	■	■	42	142.5	127	–25 … +70	787-1668/000-250	533

■ Yes □ Pending
[1] NEC Class 2
S = Signal
N = Signal, low-side switching
P = Potential-free signal
I = IO-Link protocol
M = Manchester protocol

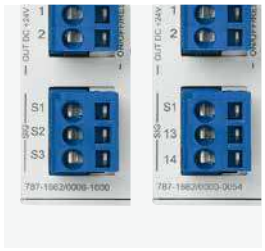
Pluggable CAGE CLAMP® Connection Technology
- Fast, vibration-proof, maintenance-free
- For solid, fine-stranded and ferruled conductors
- 100% protected against mismating
- With marking



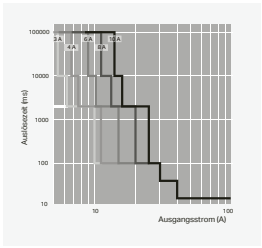
Rotary Switch
- Nominal current can be individually adjusted for each channel
- The setting is visible, even when no voltage is applied
- Transparent cover can be sealed and marked



Intuitive Status Indication
- Each output channel has backlit buttons for switching on/off, as well as acknowledgement
- Integrated, multi-color LEDs indicate the operating status of each channel

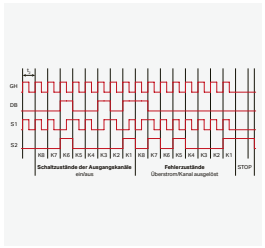


Communication 1.0
- Remote digital input S1 resets all tripped channels
- Digital output S3 transmits a simple group message indicating whether one of the channels was triggered by an overcurrent.
- Optional isolated signal contact 13/14 as group signal



Trip Characteristics
- Reliable and precise disconnection in case of overcurrent or short circuit
- Nominal currents can be set separately for each channel in 1 A increments
- Tripping time can be configured in defined increments
- Optional, active short circuit current limitation to 1.5 times the nominal current prevents a voltage drop in other current paths

*Only for 787-166x/xxxx-1xxx

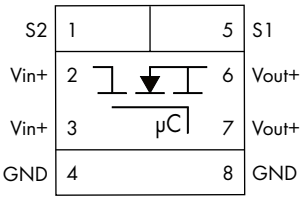


Communication 2.0
- Remote digital input (S1) switches certain channels on and off via pulse sequence.
- Digital output (S2) transmits the current status (on/off/tripped/overcurrent) of each individual channel
- Optional transmission of input voltage and output/nominal current value for each channel

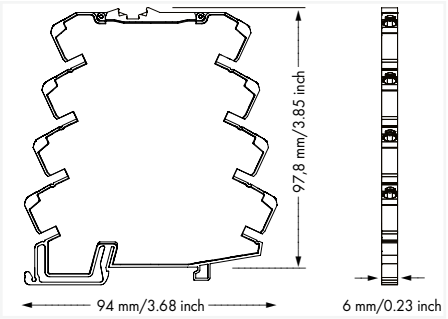
Marking
- Device identification via WMB Markers or TOPJOB® S Marking Strips
- Label individual channels via marking strips that can be inserted into the rotary switch cover from the outside

Communication 3.0
- IO-Link interface
- Read the status, the set nominal current, current voltage values and current values per channel
- Set the rated current as well as switch on/off and reset individual channels

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 0.5 A; Signal contact
787 Series



	Item No.	PU
	787-3861/050-000	1
NEC Class 2	787-3861/050-1000	1

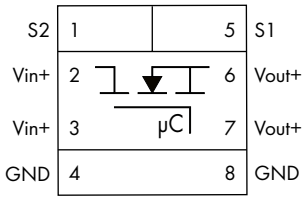


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

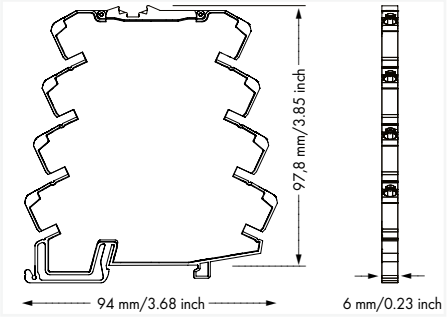
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 40 mV
Nominal output current $I_{o\,nom}$	1 x 0.5 A (fixed setting)
Default setting	Switched off
Switch-on capacity	787-3861/050-000: > 50.000 µF; 787-3861/050-1000: < 5.000 µF
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Current limitation	No
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	787-3861/050-000: T 8 A; 787-3861/050-1000: T 4 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 1 A; Signal contact
787 Series



	Item No.	PU
	787-3861/100-000	1
NEC Class 2	787-3861/100-1000	1

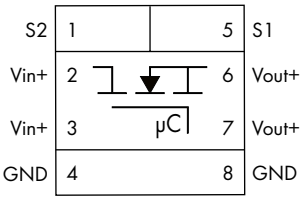


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

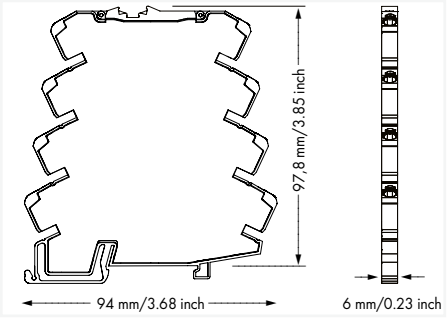
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 24 AWG (1 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage Uo nom	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 80 mV
Nominal output current $I_{o\,nom}$	1 x 1 A (fixed setting)
Default setting	Switched off
Switch-on capacity	787-3861/100-000: > 50.000 µF; 787-3861/100-1000: < 6.000 µF
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	787-3861/100-000: T 8 A; 787-3861/100-1000: T 4 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 2 A; Signal contact
787 Series



	Item No.	PU
	787-3861/200-000	1
NEC Class 2	787-3861/200-1000	1

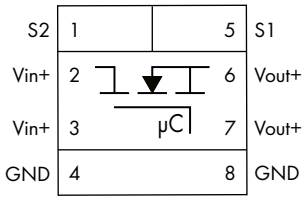


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

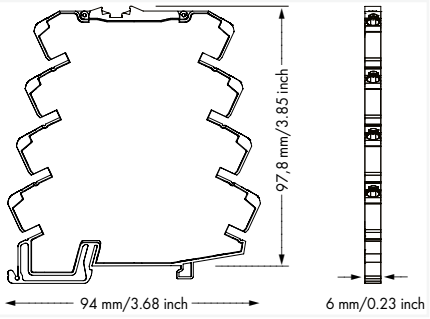
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 22 AWG (2 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 160 mV
Nominal output current $I_{o\,nom}$	1 x 2 A (fixed setting)
Default setting	Switched off
Switch-on capacity	787-3861/200-000: > 50.000 µF; 787-3861/200-1000: < 6.000 µF
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	787-3861/200-000: T 8 A; 787-3861/200-1000: T 4 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 4 A; Signal contact
787 Series



	Item No.	PU
	787-3861/400-000	1
NEC Class 2	787-3861/400-1000	1

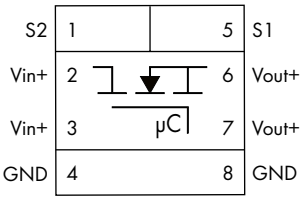


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

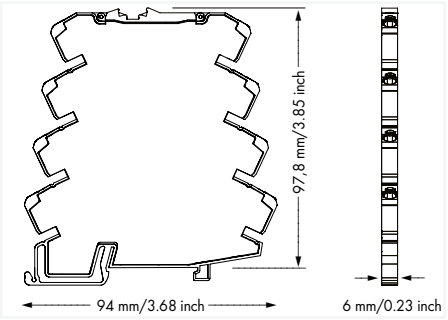
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 20 AWG (4 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 320 mV
Nominal output current $I_{o\,nom}$	1 x 4 A (fixed setting)
Default setting	Switched off
Switch-on capacity	787-3861/400-000: > 50.000 µF; 787-3861/400-1000: < 7.000 µF
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	787-3861/400-000: T 8 A; 787-3861/400-1000: T 4 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 6 A; Signal contact
787 Series



	Item No.	PU
	787-3861/600-000	1

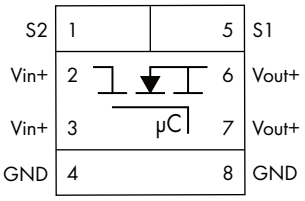


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

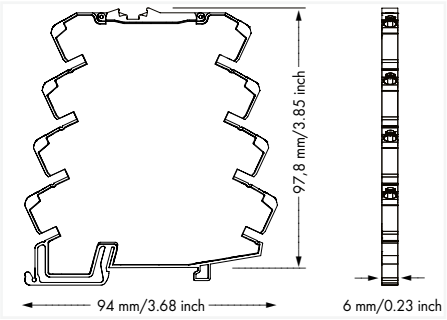
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 18 AWG (6 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 180 mV
Nominal output current $I_{o\,nom}$	1 x 6 A (fixed setting)
Default setting	Switched off
Switch-on capacity	> 50000 µF (see instruction manual)
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	T 8 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 8 A; Signal contact
787 Series



	Item No.	PU
	787-3861/800-000	1

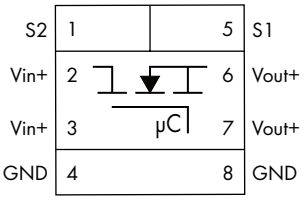


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

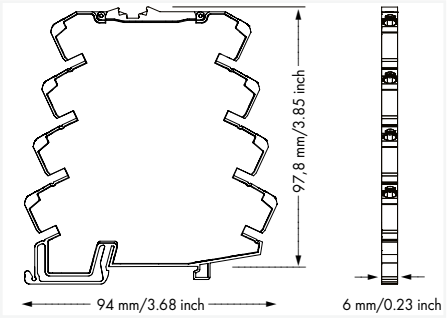
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 16 AWG (8 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 240 mV
Nominal output current $I_{o\,nom}$	1 x 8 A (fixed setting)
Default setting	Switched off
Switch-on capacity	> 50000 µF (see instruction manual)
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	T 10 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1.168.394 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 1 … 4 A; Signal contact
787 Series



	Item No.	PU
	787-3861/004-020	1
NEC Class 2	787-3861/004-1020	1

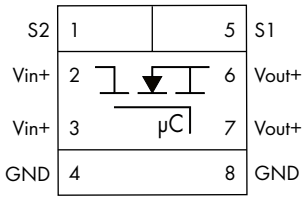


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

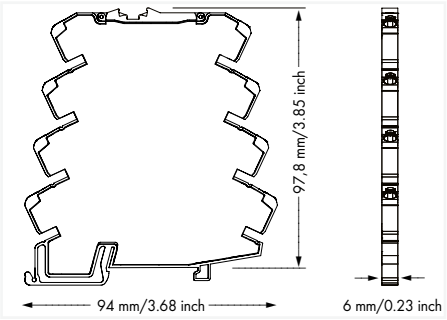
Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 24 AWG (1 A / 1.5 A); 22 AWG (2 A / 2.5 A); 20 AWG (3 A / 3.5 A / 4 A)

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 40 mV (0.5 A); ≤ 80 mV (1 A); ≤ 120 mV (1.5 A); ≤ 160 mV (2 A); ≤ 200 mV (2.5 A); ≤ 240 mV (3 A); ≤ 280 mV (3.5 A); ≤ 320 mV (4 A)
Nominal output current $I_{o\,nom}$	1 x 0.5 / 1 / 1.5 / 2 / 2.5 / 3 / 3.5 / 4 A (adjustable)
Default setting	DC 0.5 A; switched off
Switch-on capacity	787-3861/004-020: > 50.000 µF; 787-3861/004-1020: < 7.000 µF
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Current limitation	No
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	787-3861/200-000: T 8 A; 787-3861/200-1000: T 4 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	807.840 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 26 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 1 … 8 A; Signal contact
787 Series



	Item No.	PU
	787-3861/108-020	1



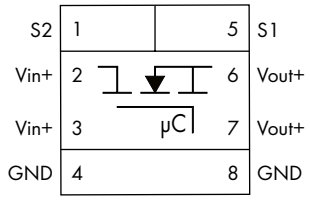
Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Note:
The device is designed for use in SELV circuits.
Depending on the output current, please use the approved minimum conductor cross-sections:
26 AWG (0.5 A); 24 AWG (1 A); 22 AWG (2 A);
20 AWG (3 A / 4 A); 18 AWG (5 A / 6 A); 16 AWG (7 A / 8 A)

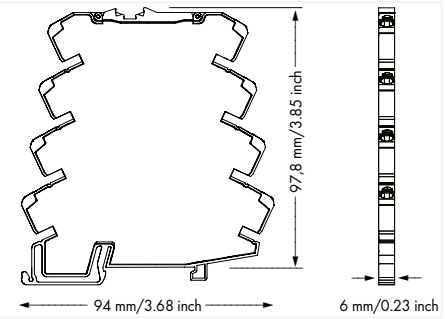
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC (SELV)
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_e – voltage drop)
Voltage drop	≤ 80 mV (1 A); ≤ 160 mV (2 A); ≤ 240 mV (3 A); ≤ 320 mV (4 A); ≤ 150 mV (5 A); ≤ 180 mV (6 A); ≤ 210 mV (7 A); ≤ 240 mV (8 A)
Nominal output current $I_{o\,nom}$	1 x 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 A (adjustable)
Default setting	DC 1 A; switched off
Switch-on capacity	> 50000 µF (see instruction manual)
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 0 ms/max. 500 ms)
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red); 1 x Signal output (18 … 30 VDC, max. 0.015 A), Default setting: triggered
Operation status indicator	Green LED (channel OK); Red LED (channel switched off)
Remote input	1 x Control input (15 … 30 VDC (active high); -3 … 5 VDC (active low); max. 0.015 A)
Efficiency/power losses	
Power loss P_l	≤ 0.4 W (no load)
Efficiency (typ.)	98 %
Circuit protection	
Internal fuse	T 10 A
Safety and protection	
Protection class	III
Protection type	IP20; per EN 60529
Reverse voltage protection	No
Overvoltage category	II
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	807.840 h
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 857 Series
Solid conductor	0.08 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inches
Depth	94 mm / 3.701 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	53.6 g
Environmental requirements	
Ambient temperature (operation at U_N)	-25 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Operating altitude	≤ 2000 m (a.s.l.)
Standards and specifications	
Conformity marking	CE; UKCA
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV; UL 2367

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 0.5 A; Signal contact
787 Series

Similar to pictured device



	Item No.	PU
	787-2861/050-000	1

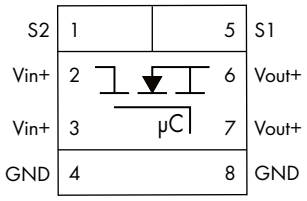


Features:

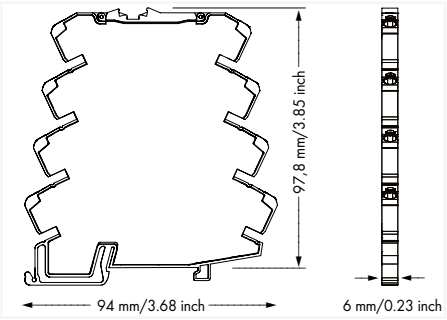
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 50 mV
Nominal output current $I_{o\,nom}$	1 x 0.5 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,263,074 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 1 A; Signal contact
787 Series



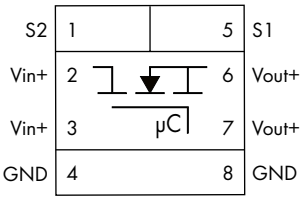
	Item No.	PU
	787-2861/100-000	1



Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (1 A)
Nominal output current $I_{o\,nom}$	1 x 1 A (fixed setting)
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,263,074 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 2 A; Signal contact
787 Series



	Item No.	PU
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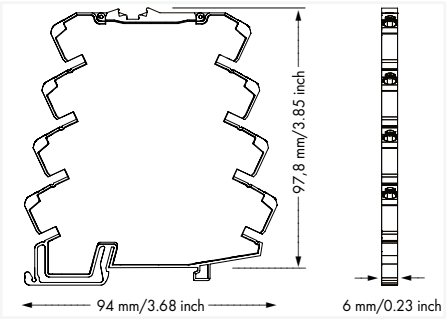
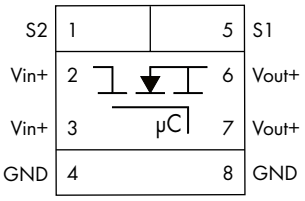


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (2 A)
Nominal output current $I_{o\,nom}$	1 x 2 A (fixed setting)
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 4 A; Signal contact
787 Series



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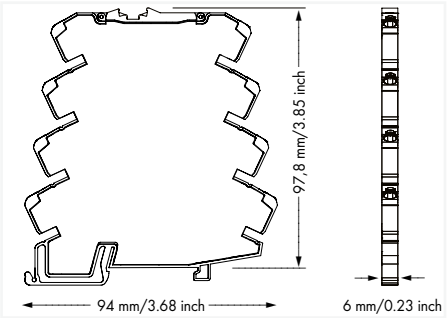
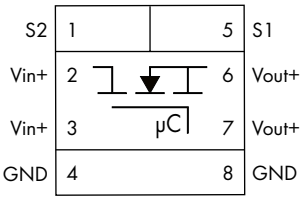


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (4 A)
Nominal output current $I_{o\,nom}$	1 x 4 A (fixed setting)
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,258,733 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 6 A; Signal contact
787 Series



	Item No.	PU
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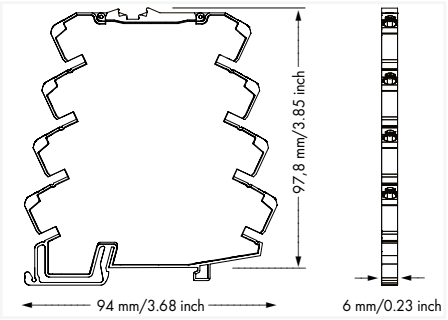
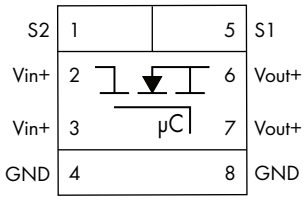


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (6 A)
Nominal output current $I_{o\,nom}$	1 x 6 A (fixed setting)
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,253,313 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (Device starts at −40 °C (type-tested); derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; 8 A; Signal contact
787 Series



	Item No.	PU
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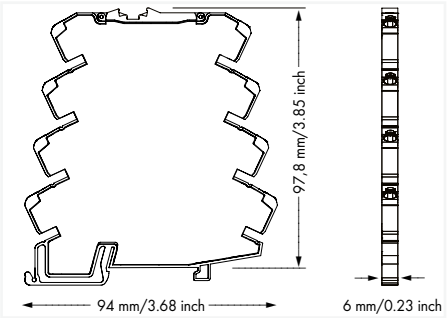
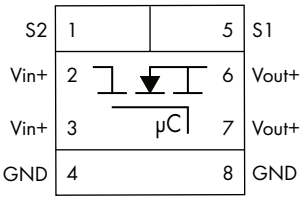


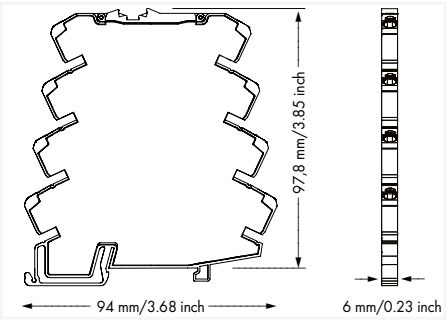
Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (8 A)
Nominal output current $I_{o\,nom}$	1 x 8 A (fixed setting)
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	no
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,245,816 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +65 °C (Device starts at −40 °C (type-tested); derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	34 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 1-channel; 24 VDC input voltage; Adjustable: 1 … 8 A; Signal contact
787 Series



	Item No.	PU
	787-2861/108-020	1

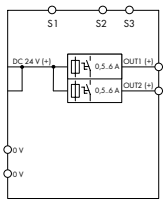


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 25 mV (8 A)
Nominal output current $I_{o\,nom}$	1 x 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 A (adjustable)
Default setting	DC 1 A; switched off
Trip time	4 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and communication	
Signaling	1 x Status LED (green/yellow/red/blue/violet); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/power losses	
Power loss P_l	≤ 0.36 W
Efficiency (typ.)	96 %
Circuit protection	
Internal fuse	T 15 A
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Ambient temperature (operation at U_N)	-25 … +70 °C (Device starts at −40 °C (type-tested); derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Connection data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	6 x 97.8 x 94; Height from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	37g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 61010-2-201; DNV

Electronic circuit breaker; 2-channel; 24 VDC input voltage; Adjustable: 0.5 … 6 A; Active current limitation; Communication capability

787 Series



	Item No.	PU
	787-1662/006-1000	1

Features:

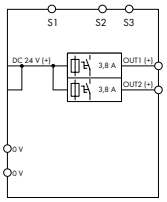
- Space-saving ECB with two channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 145 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.55 W; ≤ 2.5 W (2 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III /IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 2-channel; 24 VDC input voltage; 3.8 A; Active current limitation; NEC Class 2; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1662/004-1000	1

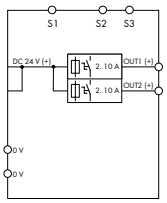
Features:

- Space-saving ECB with two channels
- Nominal current is fixed at 3.8 A for each channel
- Each output complies with NEC Class 2
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	DC 20 … 28.8 V
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	DC 20 … 28.8 V (U_i – voltage drop)
Voltage drop	≤ 125 mV (3.8 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 3.8 A (Fixed setting; NEC Class 2 at 20 … 24 VDC); 2 x 3.2 A (NEC Class 2 (at 28 VDC))
Default setting	DC 3.5 A; switched on
Trip time	16 ms … 4.7 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	3.8 A (3.2 A at U_o > 25 VDC); LPS per NEC Class 2
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.65 W; ≤ 1.6 W (2 x 3.8 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	No
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	200 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367

Electronic circuit breaker; 2-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability

787 Series



	Item No.	PU
	787-1662	1

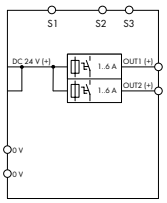
Features:

- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.85 W; ≤ 5.5 W (2 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² /0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	200 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 2-channel; 24 VDC input voltage; Adjustable: 1 … 6 A; Communication capability

787 Series



	Item No.	PU
	787-1662/106-000	1

Features:

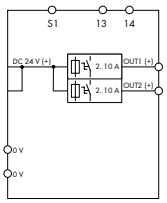
- Space-saving ECB with two channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 120 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.85 W; ≤ 2.5 W (2 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 2-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Signal contact; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1662/000-054	1

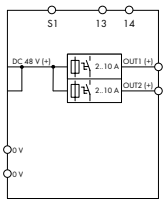
Features:

- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch); Factory preset: 2 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped and switched off message (common group signal) via isolated contact, ports 13/14
- Remote input resets all tripped channels

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 2 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 5.5 W (2 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III /IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	161 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 2-channel; 48 VDC input voltage; Adjustable: 2 … 10 A; Signal contact
787 Series

Similar to pictured device



	Item No.	PU
	787-1662/000-250	1

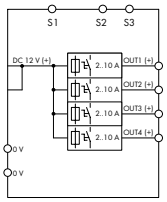
Features:
- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (common group signal) via isolated contact (13/14)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 48 V
Input voltage range	DC 32 … 58 V
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x DC 48 V
Output voltage range	DC 32 … 58 V (U_i – voltage drop)
Voltage drop	≤ 175 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 4.5 W (2 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (68 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; Nominal input voltage: 12 VDC; Adjustable: 2 … 10 A; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/000-100	1

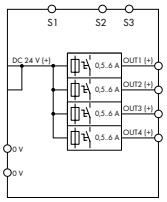
Features:

- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 12 V
Input voltage range	DC 10 … 16 V
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x DC 12 V
Output voltage range	DC 10 … 16 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 9 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.53 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 0.5 … 6 A; Active current limitation; Communication capability

787 Series



	Item No.	PU
	787-1664/006-1000	1

Features:

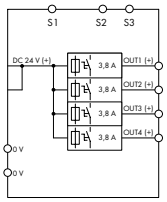
- Space-saving ECB with four channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 145 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.77 W; ≤ 4.3 W (4 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; 3.8 A; Active current limitation; NEC Class 2; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/004-1000	1

Features:

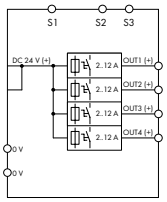
- Space-saving ECB with four channels
- Nominal current is fixed at 3.8 A for each channel
- Each output complies with NEC Class 2
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	DC 20 … 28.8 V
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 20 … 28.8 V (U_i – voltage drop)
Voltage drop	≤ 150 mV (3.8 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 3.8 A (Fixed setting; NEC Class 2 at 20 … 24 VDC); 4 x 3.2 A (NEC Class 2 (at 28 VDC))
Default setting	DC 3.8 A; switched on
Trip time	16 ms … 4.7 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	3.8 A (3.2 A at U_o > 25 VDC); LPS per NEC Class 2
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.82 W; ≤ 3.1 W (4 x 3.8 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	No
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	205 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 2 … 12 A; Active current limitation; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/212-1000	1

Features:

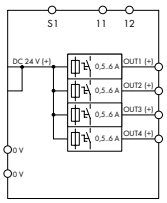
- Space-saving ECB with four channels
- Nominal current: 2 … 12 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 240 mV (12 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 4 / 6 / 8 / 10 / 12 A (adjustable for each channel via selector switch)
Default setting	DC 12 A; switched on
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.77 W; ≤ 12.3 W (4 x 12 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 0.5 … 6 A; Active current limitation; Signal contact; Specialty configuration

787 Series

Similar to pictured device



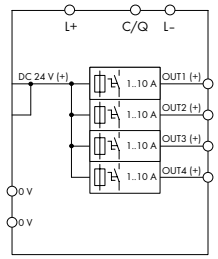
	Item No.	PU
	787-1664/006-1054	1

Features:

- Space-saving ECB with four channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch); Factory preset: 0.5 A (when switched off)
- Active current limitation
- Switch-on capacity > 58000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Tripped and switched off message (common group signal) via isolated contact, ports 11/12
- Reactivation of all tripped channels via S1 remote input

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 145 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 0.5 A; switched off
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 58000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.3 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.77 W; ≤ 4.3 W (4 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 1 … 10 A; IO-Link
787 Series



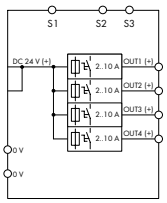
	Item No.	PU
	787-1664/000-080	1

Features:
- Space-saving ECB with four channels
- Nominal current: 1 … 10 A (adjustable for each channel via sealable selector switch or IO-Link interface)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Status message and current measurement of each individual channel via IO-Link interface
- Switch on/off each channel separately via IO-Link interface

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via IO-Link interface; 1, 2, 4, 6, 10 A adjustable for each channel via selector switch)
Default setting	DC 10 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x IO-Link interface
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Switching on/off any number of channels via IO-Link interface
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability

787 Series



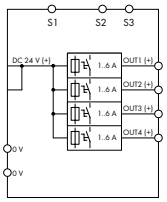
	Item No.	PU
	787-1664	1

Features:

- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 1 … 6 A; Communication capability
787 Series



	Item No.	PU
	787-1664/106-000	1

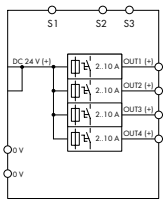
Features:
- Space-saving ECB with four channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 120 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 4.2 W (4 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	187 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/000-004	1

Features:

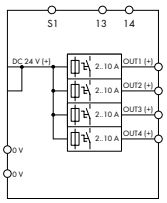
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch); Factory preset: 2 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped and switched off message (common group signal S3)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 2 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	161 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Signal contact; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/000-054	1

Features:

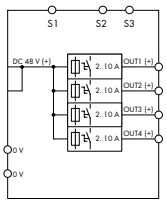
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch); Factory preset: 2 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped and switched off message (common group signal) via isolated contact, ports 13/14
- Remote input resets all tripped channels

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 2 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 48 VDC input voltage; Adjustable: 2 … 10 A; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1664/000-200	1

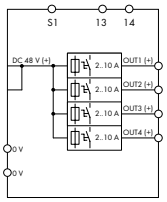
Features:

- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 48 V
Input voltage range	DC 32 … 58 V
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x DC 48 V
Output voltage range	DC 32 … 58 V (U_i – voltage drop)
Voltage drop	≤ 175 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 8 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (68 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 48 VDC input voltage; Adjustable: 2 … 10 A; Signal contact
787 Series

Similar to pictured device



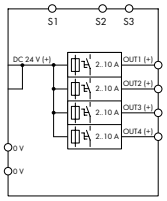
	Item No.	PU
	787-1664/000-250	1

Features:
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 48 V
Input voltage range	DC 32 … 58 V
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x DC 48 V
Output voltage range	DC 32 … 58 V (U_i – voltage drop)
Voltage drop	≤ 175 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 8 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (68 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	199 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability; NPN signaling

787 Series



	Item No.	PU
	787-1664/000-011	1

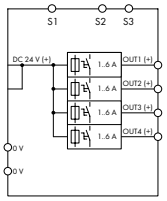
Features:

- ECB with four channels (parametrizable)
- Signal and control contacts with inverted logic (low-side switching signal outputs)
- Time-delayed switching of channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Message reports status for each channel via pulse sequence
- Group signal reports “channel switched off” and “tripped channel”
- Remote control input for switching on/off any number of channels via pulse sequence
- Remote control input for resetting all tripped channels

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input with inverted logic (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 10 W (4 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 4-channel; 24 VDC input voltage; Adjustable: 1 … 6 A; Communication capability; NPN signaling

787 Series



	Item No.	PU
	787-1664/106-011	1

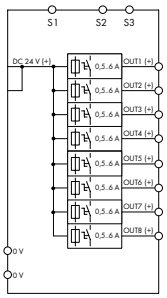
Features:
- ECB with four channels (parametrizable)
- Signal and control contacts with inverted logic (low-side switching signal outputs)
- Time-delayed switching of channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Message reports status for each channel via pulse sequence
- Group signal reports “channel switched off” and “tripped channel”
- Remote control input for switching on/off any number of channels via pulse sequence
- Remote control input for resetting all tripped channels

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 120 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	4 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input with inverted logic (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 4.2 W (4 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	45 x 90 x 115,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	170 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 0.5 … 6 A; Active current limitation; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/006-1000	1

Features:

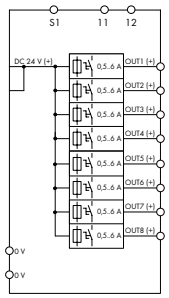
- Space-saving ECB with eight channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 155 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 1.15 W; ≤ 8.6 W (8 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 0.5 … 6 A; Active current limitation; Signal contact; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/006-1054	1

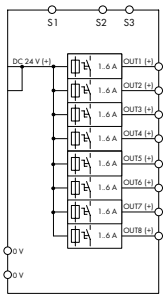
Features:

- Space-saving ECB with eight channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 11/12 reports “channel switched off” and “tripped channel” – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 155 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 0.5 A; switched off
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 58000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.3 x $I_{o\,nom}$ (typ.)
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 1.15 W; ≤ 8.6 W (8 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 1 … 6 A; Communication capability
787 Series

Similar to pictured device



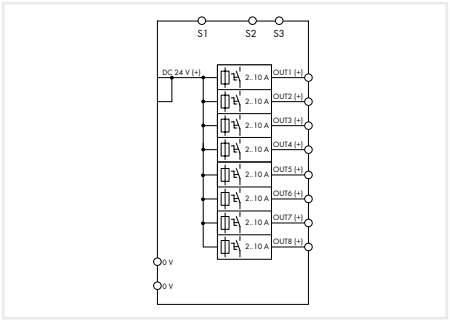
	Item No.	PU
	787-1668/106-000	1

Features:
- Space-saving ECB with eight channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 120 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 6 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 1.32 W; ≤ 8 W (8 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	490 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability
787 Series

Similar to pictured device



	Item No.	PU
	787-1668	1

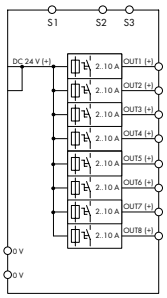
Features:
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 1.3 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Communication capability; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/000-004	1

Features:

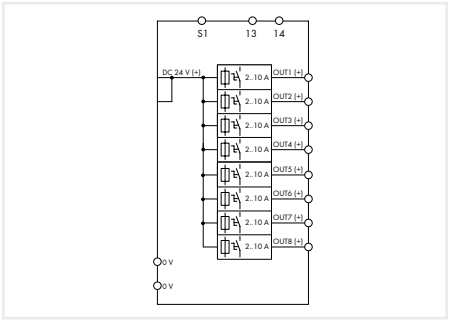
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch); Factory preset: 2 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped and switched off message (common group signal S3)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Default setting	DC 2 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 1.3 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	420 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 2 … 10 A; Signal contact; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/000-054	1

Features:

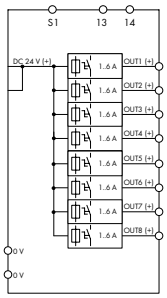
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch); Factory preset: 2 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; 70 A (max.) in total)
Default setting	DC 2 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 1.32 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 1 … 6 A; Signal contact; Specialty configuration

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/106-054	1

Features:

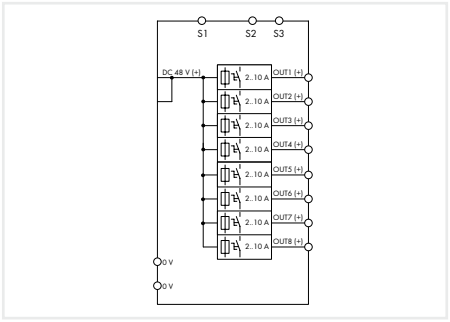
- Space-saving ECB with eight channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch); Factory preset: 1 A (when switched off)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13/14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 120 mV (6 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Default setting	DC 1 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 0.84 W; ≤ 8 W (8 x 6 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; DNV
Standards/specifications (pending)	UL 508; UL 2367

Electronic circuit breaker; 8-channel; 48 VDC input voltage; Adjustable: 2 … 10 A; Communication capability

787 Series

Similar to pictured device



	Item No.	PU
	787-1668/000-200	1

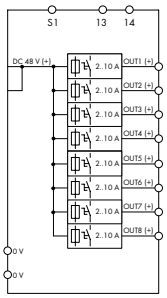
Features:

- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 48 V
Input voltage range	DC 32 … 58 V
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x DC 48 V
Output voltage range	DC 32 … 58 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; 70 A (max.) in total)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/power losses	
Power loss P_l	≤ 1.3 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (68 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 48 VDC input voltage; Adjustable: 2 … 10 A; Signal contact
787 Series

Similar to pictured device

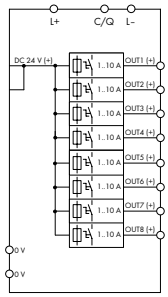


	Item No.	PU
	787-1668/000-250	1

Features:
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (common group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	DC 48 V
Input voltage range	DC 32 … 58 V
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x DC 48 V
Output voltage range	DC 32 … 58 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; 70 A (max.) in total)
Default setting	DC 10 A; switched on
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1)
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/power losses	
Power loss P_l	≤ 1.3 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (68 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

Electronic circuit breaker; 8-channel; 24 VDC input voltage; Adjustable: 1 … 10 A; IO-Link
787 Series



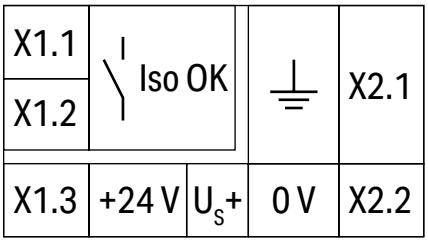
	Item No.	PU
	787-1668/000-080	1

Features:
- Space-saving ECB with eight channels
- Nominal current: 1 … 10 A (adjustable for each channel via sealable selector switch or IO-Link interface)
- Switch-on capacity > 50000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Status message and current measurement of each individual channel via IO-Link interface
- Switch on/off each channel separately via IO-Link interface

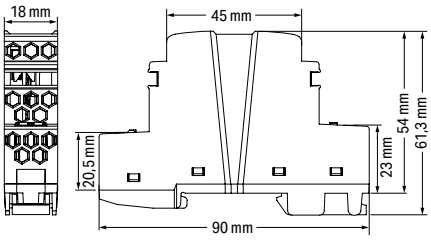
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	DC 18 … 30 V (U_i – voltage drop)
Voltage drop	≤ 200 mV (10 A) (Input (+))
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via IO-Link interface; 1, 2, 4, 6, 10 A adjustable for each channel via selector switch)
Default setting	DC 10 A; switched off
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and communication	
Signaling	8 x LED (green/red/orange); 1 x IO-Link interface
Operation status indicator	Green LED (channel OK); Red LED (tripped channel)
Remote input	Switching on/off any number of channels via IO-Link interface
Efficiency/power losses	
Power loss P_l	≤ 1.3 W; ≤ 20 W (8 x 10 A)
Efficiency (typ.)	99 %
Circuit protection	
Internal fuse	T 15 A per channel
Safety and protection/Environmental requirements	
Protection class/Protection type	III / IP20; per EN 60529
Reverse voltage protection	No
Pollution degree	2
Transient suppression (primary)	Suppressor diode (33 V)
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Ambient temperature (operation at U_N)	-25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ 50 °C (see instruction manual)
Connection data	
Connection technology	Push-in CAGE CLAMP®; CAGE CLAMP®
Input (+) (Solid/Fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (Solid/Fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Physical data/Mechanical data/Material data	
Width x Height x Depth [mm]	42 x 127 x 142,5; Depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail
Weight	440 g
Standards and specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508; UL 2367; DNV

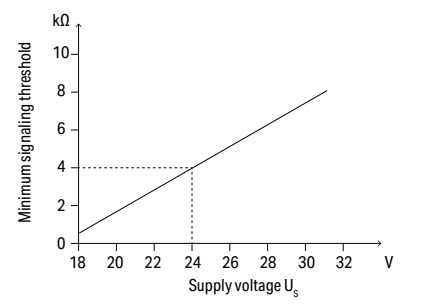
Ground resistance signaling module; Ground fault alarm via digital output; Supply voltage: 24 VDC; Module width: 18 mm

789 Series

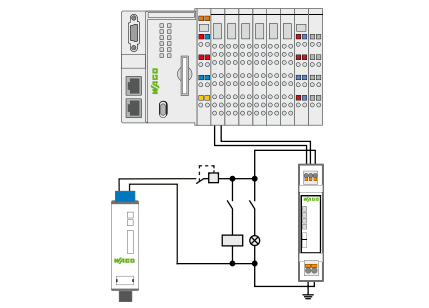


Item No.	PU
789-665	1





Signaling threshold characteristic



Supply	
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range (DC)	DC 18 … 31.2 V
Power loss P_l	≤ 1.7 W
Current at ground fault (24 VDC) max.	56 mA
Signaling	
Operation status indicator	1 x LED “Status OK” (green)
Signaling	1 x LED “Iso Alarm” (red); 1 x LED “Iso Alarm” 24 V – Ground (yellow); 1 x LED “Iso Alarm” 0 V – Ground (yellow); 1 x Signal output “Iso OK”
Iso OK contact	
Switching voltage (max.)	48 VDC (SELV)
Continuous current (max.)	500 mA (for general use)
Number of Iso OK contacts connected in series (max.)	25 (Limit value type: 1); 32 (Limit value type: 2 and 3) (per IEC 61131)
Function	1 make contact (NO); closed with applied power supply and insulation resistance > limit value
Circuit protection	
Backup fusing (required)	The fuse must be placed in the output circuit of the power supply. The fuse must be adapted to the power supply used and must trip safely in case of a short circuit. The module is designed for use with a 10 A (max.) fuse or with a 10 ADC (max.) circuit breaker (characteristic B or C).
Safety and protection	
Pollution degree	2
Overvoltage category	II
Protection type	IP20
Test voltage (supply/Iso OK contact)	1.5 kVAC; 50 … 60 Hz; 1 min
MTBF	> 600,000 h (per MIL-HDBK-217F2)
Mode: Ungrounded circuit	
Response value for alarm at nominal voltage	4 kΩ (at U_S = 24 V; for other U_S values, see diagram for signaling threshold)
Response time	1 s
Hysteresis (typ.)	1 kΩ
Mode: Grounded circuit	
Response value for alarm at nominal voltage	4 kΩ (at U_S = 24 V; for other U_S values, see diagram for signaling threshold)
Response time	10 s
Hysteresis (typ.)	1 kΩ
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	3000 m
Connection data	
Connection type 1	X1.x
Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® eCOM
Solid conductor	0.25 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.25 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule	0.25 … 0.75 mm²
Fine-stranded conductor; with uninsulated ferrule	0.25 … 1.5 mm²
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Connection type 2	X2.x
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	*picoMAX*® eCOM
Solid conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 2.5 mm² / 24 … 14 AWG
Fine-stranded conductor; with insulated ferrule 2	0.25 … 1.5 mm²
Fine-stranded conductor; with uninsulated ferrule 2	0.25 … 2.5 mm²
Strip length 2	9 … 10 mm / 0.35 … 0.39 inches

Short description:
- WAGO's module signals a value falling below a non-adjustable, asymmetric isolation resistance between +24 V or 0 V of the supply voltage and ground with a potential-free (Iso OK) contact and status LED. The Iso OK contact can be evaluated via a PLC.
- This status is maintained until the next measurement interval.

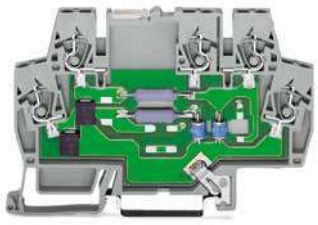
Operation with Grounded Control Circuit (Functional Potential Equalization)
- The module establishes an internal connection between the 0 V (X2.2) and ground (X2.1) connections via a semiconductor switch.
- At 10 s intervals, this connection between 0 V and ground is interrupted for 0.5 s, and the isolation resistance between +24 V (X1.3) or 0 V (X2.2) of the supply voltage and earth (X2.1) is determined.
- The grounding connection on the module does not meet the requirements of a protective earth terminal (PE). It serves as a functional ground. The measurement method does not involve the module establishing any permanent connection between 0 V and ground.

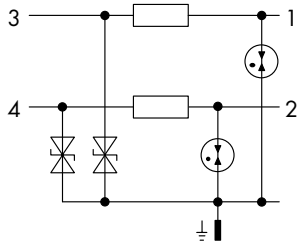
Operation with Ungrounded Control Circuit
- In this operating mode, the semiconductor switch to establish a connection between 0 V (X2.2) and ground (X2.1) is deactivated. At 1 s intervals, the isolation resistance offset is determined for 0.5 s.
- The module does not meet the requirements of an isolation monitoring device per EN 61557-8.

"Iso OK" Contact
- The potential-free contact serves the purpose of supporting evaluation (e.g., via a PLC) of looming isolation faults.
- This contact must not be used to switch safety-related products that could cause the circuit to switch off.

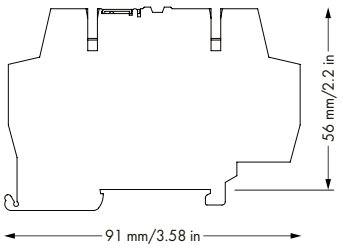
Physical data	
Width	18 mm / 0.71 inches
Height	90 mm / 3.54 inches
Depth from upper-edge of DIN-rail	51 mm / 2.01 inches
Mechanical data	
Mounting type	DIN-35 rail
Material data	
Weight	47 g
Standards and specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3; EN 61000-6-4
Standards/specifications	UL 61010-2-201

Surge suppression module for signal technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for unbalanced interfaces; Two-stage; Width: 6 mm
792 Series





Nominal Voltage	Item No.	PU
24 VDC	792-800	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

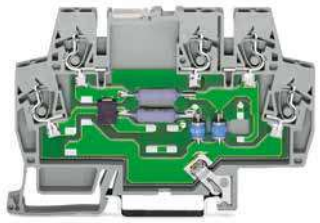
Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

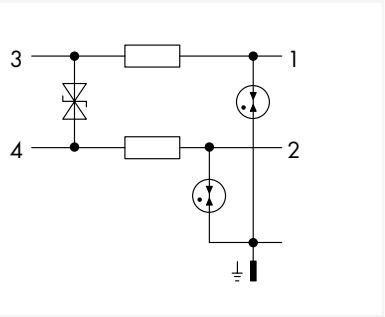
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

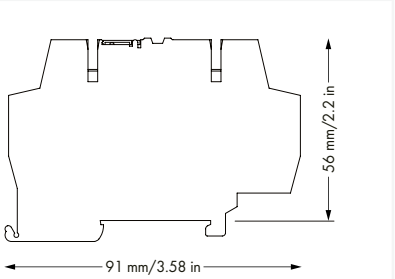
Electrical data	
Nominal operating voltage	24 VDC
Highest continuous voltage	23 VAC / 33 VDC
Nominal current	0.5 A
Nominal discharge current (8/20 µs) (line)	5 kA
Nominal discharge current (8/20 µs) (total)	10 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 110 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 65 V
Protection level (line/line) (cat. C3 at I_N)	≤ 90 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 45 V
Limit frequency (line/line)	6 MHz
Limit frequency (line/protected ground)	6 MHz
Impedance	1.8 Ω
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	38.8 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

Surge suppression module for signal technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; Two-stage; Width: 6 mm
792 Series





Nominal Voltage	Item No.	PU
24 VDC	792-801	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

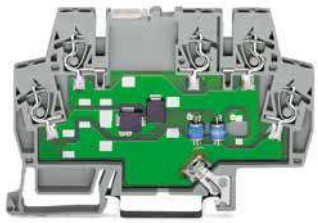
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

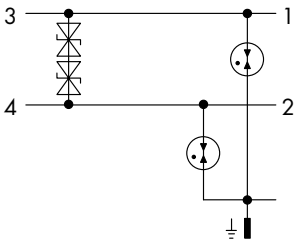
Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

Electrical data	
Nominal operating voltage	24 VDC
Highest continuous voltage	23 VAC / 33 VDC
Nominal current	0.5 A
Nominal discharge current (8/20 µs) (line)	5 kA
Nominal discharge current (8/20 µs) (total)	10 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 50 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 750 V
Protection level (line/line) (cat. C3 at I_N)	≤ 45 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 650 V
Limit frequency (line/line)	6 MHz
Limit frequency (line/protected ground)	6 MHz
Impedance	1.8 Ω
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	38.7 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

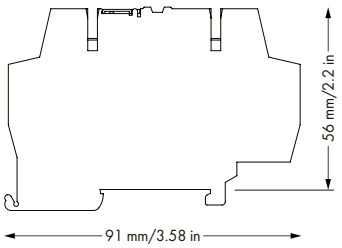
Surge suppression module for signal technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for supply lines; Single-stage; Width: 6 mm

792 Series





Nominal Voltage	Item No.	PU
24 VDC	792-802	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

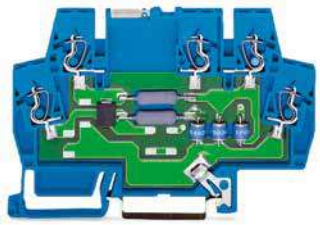
Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

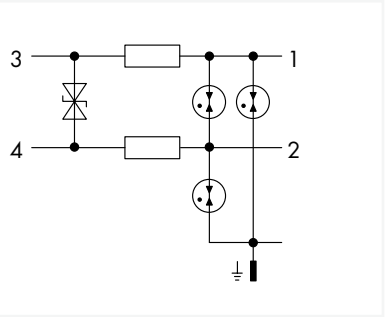
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

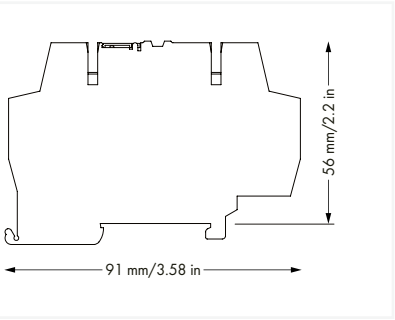
Electrical data	
Nominal operating voltage	24 VDC
Highest continuous voltage	23 VAC / 33 VDC
Nominal current	10 A
Nominal discharge current (8/20 µs) (line)	300 A
Nominal discharge current (8/20 µs) (total)	5 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 50 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 750 V
Protection level (line/line) (cat. C3 at I_N)	≤ 45 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 650 V
Limit frequency (line/line)	7 MHz
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	38 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

Surge suppression module for signal technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; Two-stage; protects intrinsically safe circuits; Width: 6 mm
792 Series





Nominal Voltage	Item No.	PU
24 VDC	792-803	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

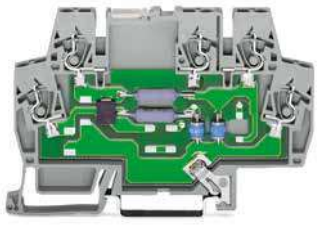
Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

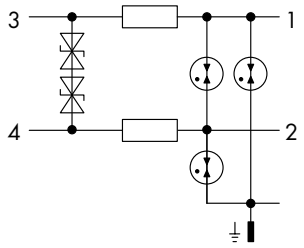
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

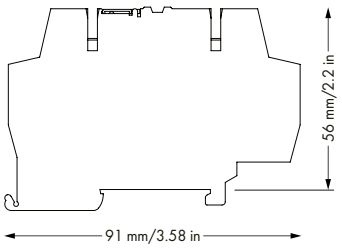
Electrical data	
Nominal operating voltage	24 VDC
Highest continuous voltage	23 VAC / 33 VDC
Input voltage (max.) per EN 50020 U_i	30 V
Nominal current	0.5 A
Input current (max.) per EN 50020 I_i	0.5 A
Nominal discharge current (8/20 µs) (line)	5 kA
Nominal discharge current (8/20 µs) (total)	10 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 50 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 1.5 kV
Protection level (line/line) (cat. C3 at I_N)	≤ 45 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 1.4 kV
Limit frequency (line/line)	6 MHz
Impedance	1.8 Ω
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	46 g
Environmental requirements	
Ambient temperature (operation at UN)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

Surge suppression module for signal technology; Nominal voltage: 48 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; Two-stage; Width: 6 mm
792 Series





Nominal Voltage	Item No.	PU
48 VDC	792-804	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

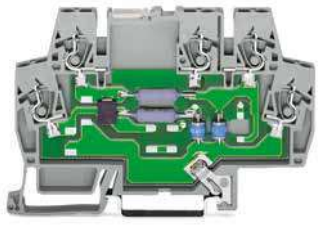
Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

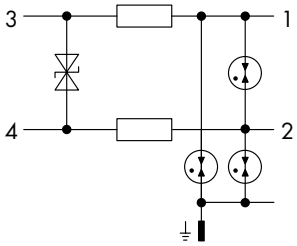
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

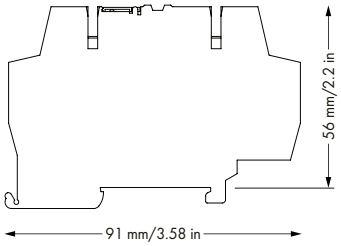
Electrical data	
Nominal operating voltage	48 VDC
Highest continuous voltage	38.5 VAC / 55 VDC
Nominal current	1.7 A
Nominal discharge current (8/20 µs) (line)	5 kA
Nominal discharge current (8/20 µs) (total)	10 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 100 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 750 V
Protection level (line/line) (cat. C3 at I_N)	≤ 70 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 650 V
Limit frequency (line/line)	10 MHz
Impedance	0.4 Ω
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	39.4 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

Surge suppression module for signal technology; Nominal voltage: 5 VDC; for 2 signal paths with common surge arrester; for interfaces with high baud rate; Two-stage; Width: 6 mm
792 Series





Nominal Voltage	Item No.	PU
5 VDC	792-805	1



Short description:
Provides surge protection for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage).

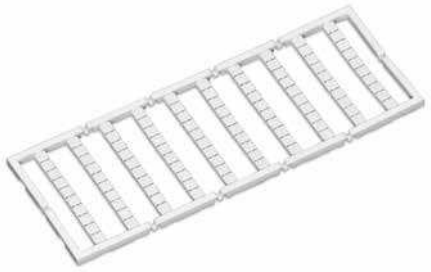
Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

Electrical data	
Nominal operating voltage	5 VDC
Highest continuous voltage	4.2 VAC / 6 VDC
Nominal current	0.1 A
Nominal discharge current (8/20 µs) (line)	5 kA
Nominal discharge current (8/20 µs) (total)	10 kA
Protection level (line/line) (cat. C2 at I_N)	≤ 27 V
Protection level (line/protected ground) (cat. C2 at I_N)	≤ 50 V
Protection level (line/line) (cat. C3 at I_N)	≤ 14 V
Protection level (line/protected ground) (cat. C3 at I_N)	≤ 14 V
Limit frequency (line/line)	250 MHz
Limit frequency (line/protected ground)	180 MHz
Impedance	1 Ω
Safety and protection	
Protection type	IP00; IP20 with end and intermediate plate
Connection data	
Connections (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inches
Physical data	
Width	6 mm / 0.236 inches
Height from upper-edge of DIN-rail	56 mm / 2.205 inches
Depth	91 mm / 3.583 inches
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	38 g
Environmental requirements	
Ambient temperature (operation at U_N)	-40 … +80 °C
Surrounding air temperature (storage)	-40 … +80 °C
Standards and specifications	
Standards/specifications	IEC 61643-21

Accessories



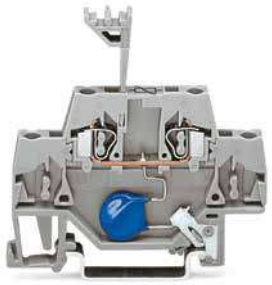
End and intermediate plate; 1 mm thick		
	Item No.	PU
	859-525	100

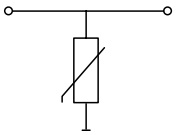
Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	PU
2-way	**859-402**	200
3-way	**859-403**	200
4-way	**859-404**	200
5-way	**859-405**	200
6-way	**859-406**	100
7-way	**859-407**	100
8-way	**859-408**	100
9-way	**859-409**	100
10-way	**859-410**	100
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
Blue	**... /000-006**	

Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	**Item No.**	PU
plain	**248-501**	50
1 ... 10 (10 x)	**248-502**	5
11 ... 20 (10 x)	**248-503**	5
21 ... 30 (10 x)	**248-504**	5
31 ... 40 (10 x)	**248-505**	5
41 ... 50 (10 x)	**248-506**	5
1 ... 50 (2 x)	**248-566**	5
K1 ... K10	**248-450**	50
K11 ... K20	**248-451**	50
K100	**248-452**	50
U1 ... U10	**248-453**	50
U11 ... U20	**248-454**	50
U100	**248-455**	50

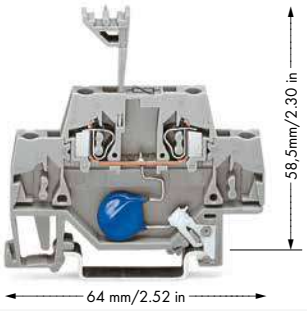
Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-502/281-609	50



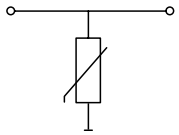
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	60 A
Discharge current (max.)	0.25 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 1.25 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.4 g

Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

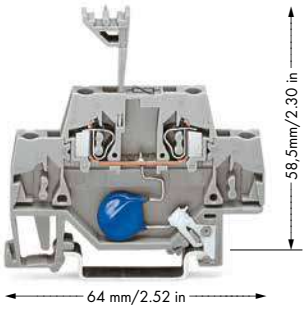
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series



U_{BN}	Item No.	PU
48 VDC	280-502/281-610	50



Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	65 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 0.5 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

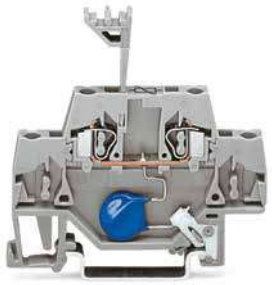
Material Data	
Weight	8.5 g

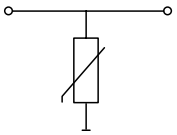
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

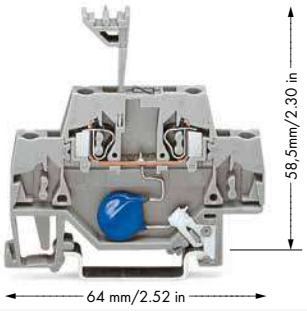
Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
60 VDC	280-502/281-611	50



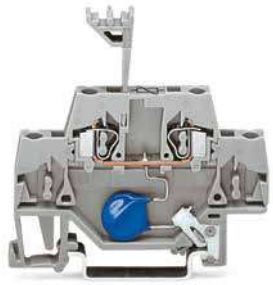
Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 0.48 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.5 g

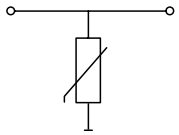
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

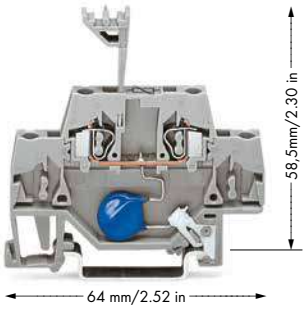
Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
110 VDC	280-502/281-612	50



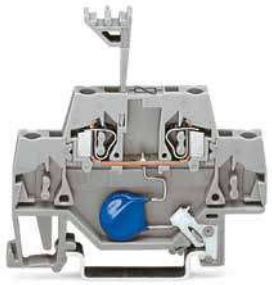
Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.22 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.7 g

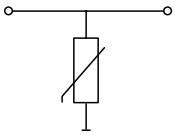
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

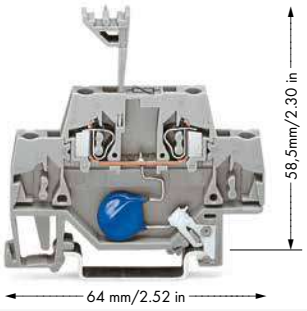
Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-502/281-613	50



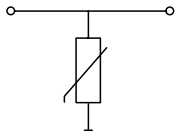
Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	60 A
Discharge current (max.)	0.25 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 1.05 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.4 g

Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

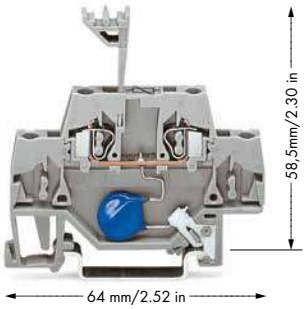
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series



U_{BN}	Item No.	PU
115 VAC	280-502/281-614	50



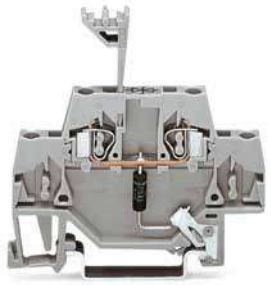
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	140 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 360 VAC
Capacitance	≤ 0.18 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.6 g

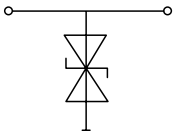
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

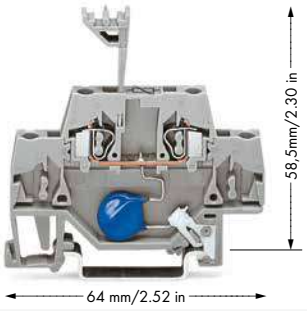
Component terminal block; double-deck; with P6KE36C TVS diode; 24 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-502/281-602	50



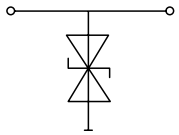
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	30.8 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	12 A
Voltage protection level (10/1000 µs)	≤ 50 VDC
Capacitance	≤ 1 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.3 g

Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

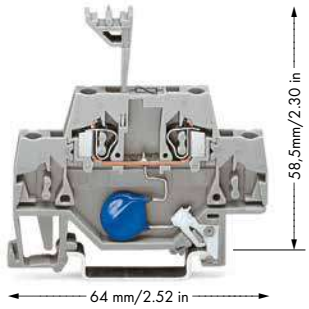
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with P6KE68C TVS diode; 48 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series



U_{BN}	Item No.	PU
48 VDC	280-502/281-603	50



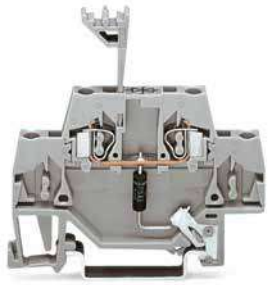
Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	58 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	6.5 A
Voltage protection level (10/1000 µs)	≤ 92 VDC
Capacitance	≤ 0.63 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.2 g

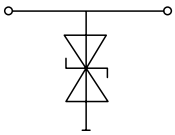
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with P6KE91C TVS diode; 60 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

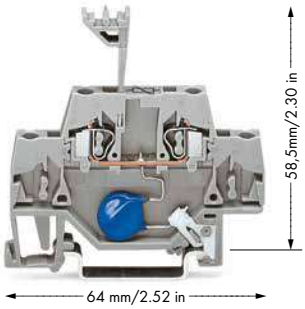
280 Series





Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	77 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	4.8 A
Voltage protection level (10/1000 µs)	≤ 125 VDC
Capacitance	≤ 0.55 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.5 g

U_{BN}	Item No.	PU
60 VDC	280-502/281-604	50



Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

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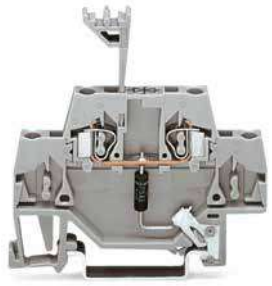
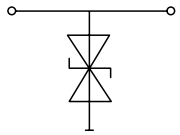
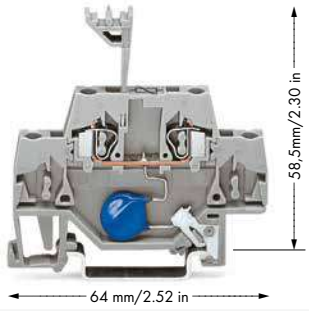
Component terminal block; double-deck; with BZW06-B TVS diode; 110 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
110 VDC	280-502/281-605	50



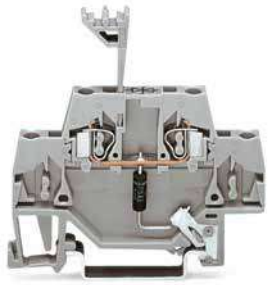
Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	136 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	2.7 A
Voltage protection level (10/1000 µs)	≤ 219 VDC
Capacitance	≤ 0.4 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.1 g

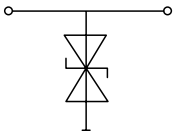
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

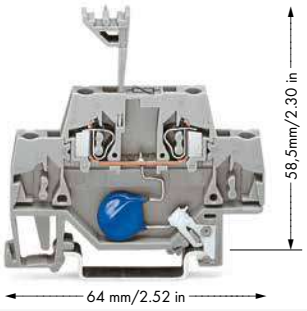
Component terminal block; double-deck; with BZW06-40B TVS diode; 24 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-502/281-606	50



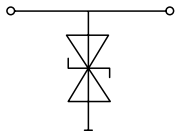
Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	28 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	9.3 A
Voltage protection level (10/1000 µs)	≤ 65 VAC
Capacitance	≤ 0.8 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.2 g

Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

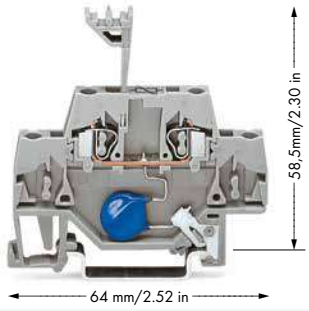
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with BZW06-B TVS diode; 115 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series



U_{BN}	Item No.	PU
115 VAC	280-502/281-607	50



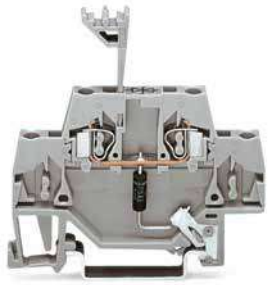
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	1.7 A
Voltage protection level (10/1000 µs)	≤ 384 VAC
Capacitance	≤ 0.36 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.1 g

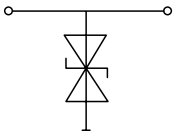
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

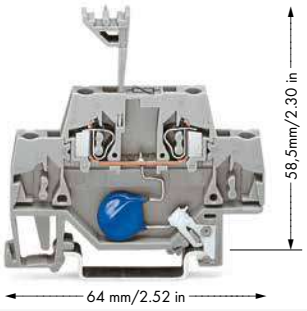
Component terminal block; double-deck; with BZW06-B TVS diode; 110 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC	280-502/281-608	50



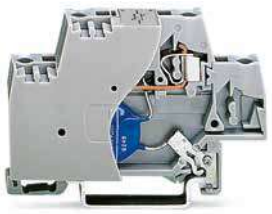
Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	1.1 A
Voltage protection level (10/1000 µs)	≤ 548 VAC
Capacitance	≤ 0.36 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	8.3 g

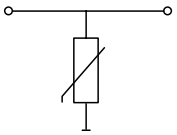
Short description:
This component terminal block with surge suppression device and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

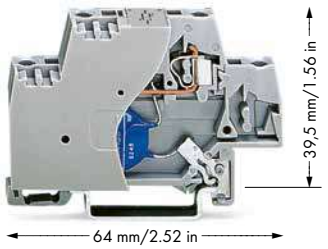
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-502/281-582	25



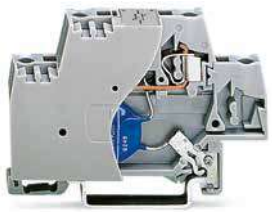
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 4.6 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.8 g

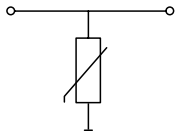
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

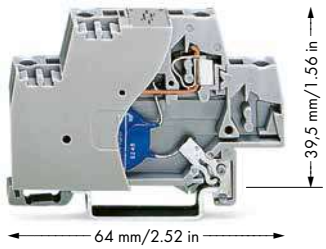
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
48 VDC	280-502/281-583	25



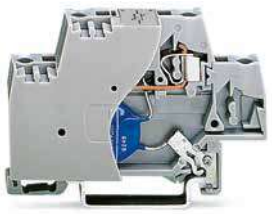
Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	56 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 2.8 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	13.4 g

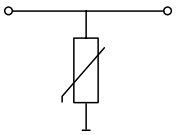
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

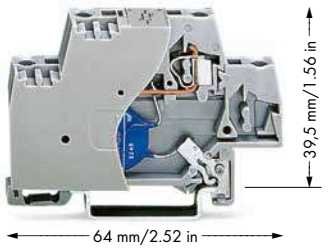
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
60 VDC	280-502/281-584	25



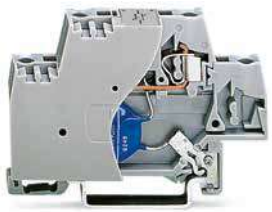
Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 1.7 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.7 g

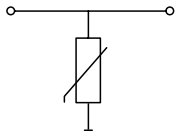
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

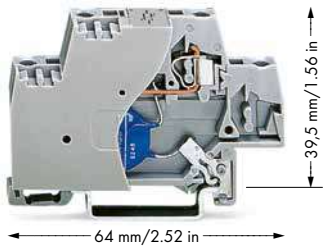
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
110 VDC	280-502/281-585	25



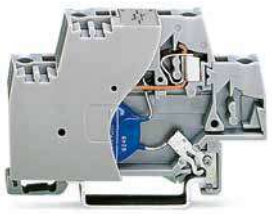
Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.8 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.5 g

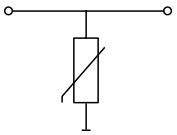
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

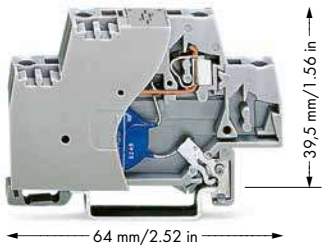
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-502/281-586	25



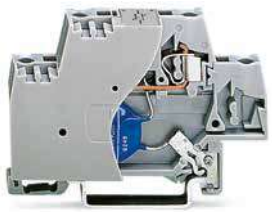
Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 3.5 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	13.1 g

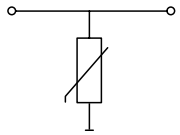
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

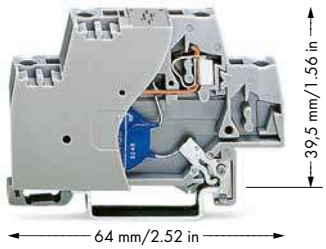
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
115 VAC	280-502/281-587	25



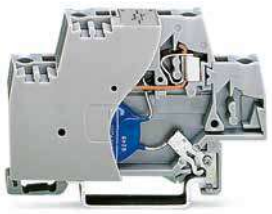
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	150 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 395 VAC
Capacitance	≤ 0.57 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.6 g

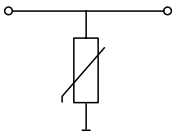
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

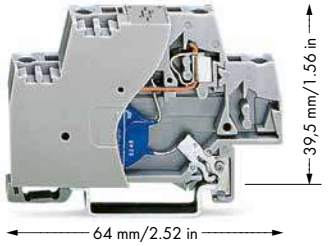
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC	280-502/281-588	25



Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	275 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 710 VAC
Capacitance	≤ 0.32 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	13.1 g

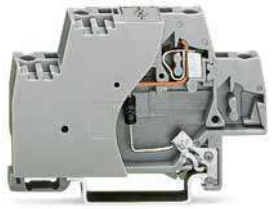
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a varistor.

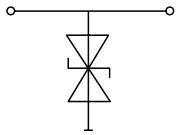
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

9

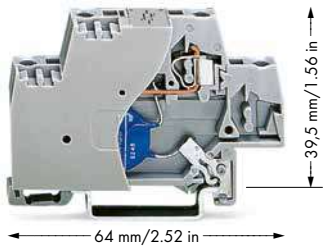
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE33C TVS diode; 24 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-502/281-589	25



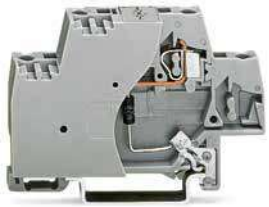
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	28 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	169 A
Voltage protection level (8/20 µs)	≤ 59 VDC
Capacitance	≤ 2.7 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	11.9 g

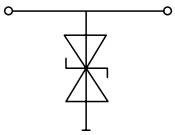
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

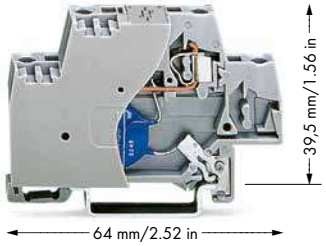
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE62C TVS diode; 48 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
48 VDC	280-502/281-590	25



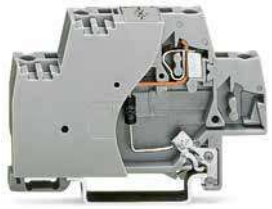
Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	53 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	90 A
Voltage protection level (8/20 µs)	≤ 111 VDC
Capacitance	≤ 1.7 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12 g

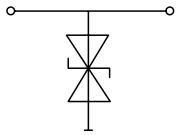
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

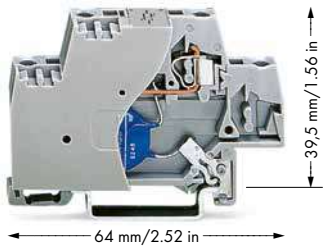
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE82C TVS diode; 60 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
60 VDC	280-502/281-591	25

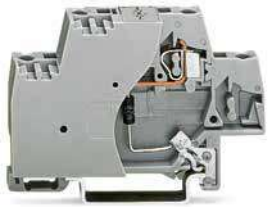


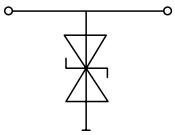
Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	70 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	69 A
Voltage protection level (8/20 µs)	≤ 146 VDC
Capacitance	≤ 1.35 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.1 g

Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

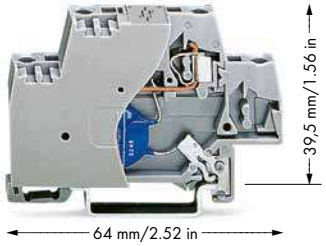
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE150C TVS diode; 110 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®
280 Series





U_{BN}	Item No.	PU
110 VDC	280-502/281-592	25



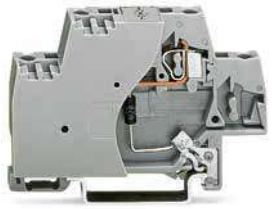
Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	128 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	38 A
Voltage protection level (8/20 µs)	≤ 265 VDC
Capacitance	≤ 0.85 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.2 g

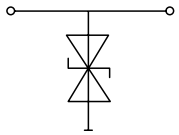
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

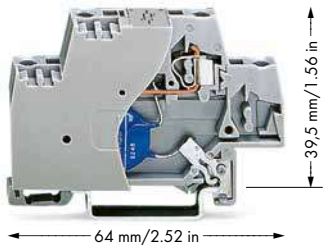
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE39CA TVS diode; 24 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-502/281-593	25



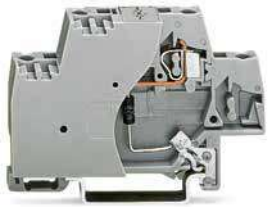
Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	26 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	143 A
Voltage protection level (8/20 µs)	≤ 70 VAC
Capacitance	≤ 2.4 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.1 g

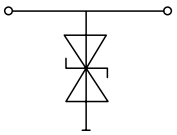
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

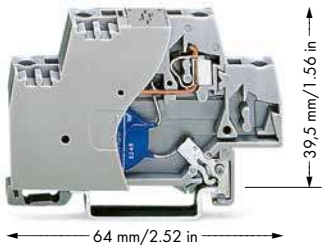
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE-C TVS diode; 115 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
115 VAC	280-502/281-594	25



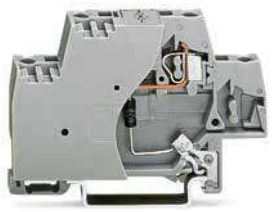
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	26 A
Voltage protection level (8/20 µs)	≤ 388 VAC
Capacitance	≤ 0.63 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12 g

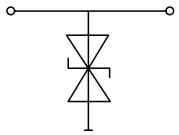
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

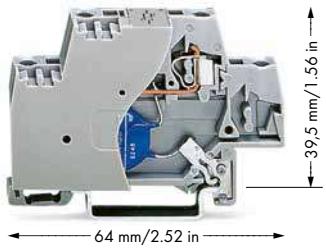
Component terminal block; double-deck; with end plate and direct connection to DIN-rail; with 1.5KE-C TVS diode; 230 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC	280-502/281-595	25



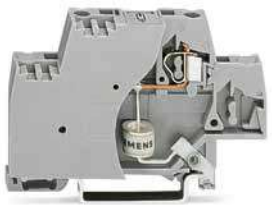
Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	14 A
Voltage protection level (8/20 µs)	≤ 706 VAC
Capacitance	≤ 0.4 nF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.1 g

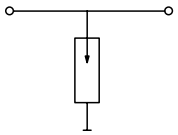
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

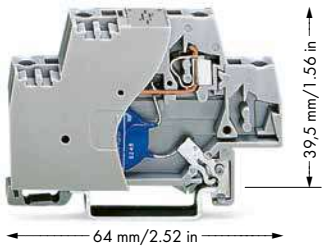
Component terminal block; double-deck; with end plate; with gas-filled surge arrester; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC/VDC	280-503/281-579	25



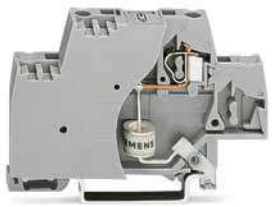
Electrical Data	
Nominal operating voltage	24 VAC/DC
Maximum continuous operating voltage	70 VAC / 90 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 600 VAC
Capacitance	≤ 2 pF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	13 g

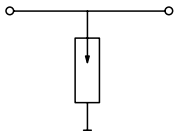
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a gas-filled surge.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

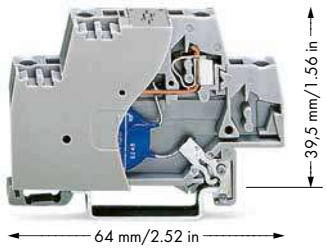
Component terminal block; double-deck; with end plate; with gas-filled surge arrester; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
115 VAC/VDC	280-503/281-580	25



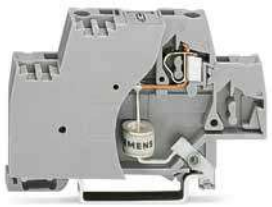
Electrical Data	
Nominal operating voltage	115 VAC/DC
Maximum continuous operating voltage	180 VAC / 230 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 650 VAC
Capacitance	≤ 2 pF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.3 g

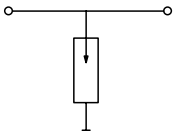
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a gas-filled surge.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

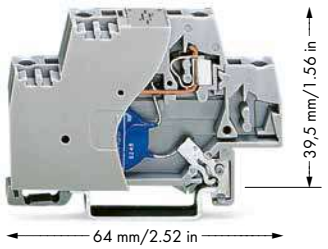
Component terminal block; double-deck; with end plate; with gas-filled surge arrester; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC/VDC	280-503/281-581	25



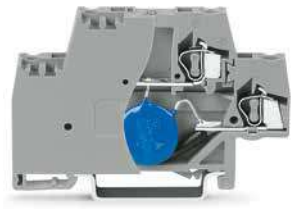
Electrical Data	
Nominal operating voltage	230 VAC/DC
Maximum continuous operating voltage	450 VAC / 600 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 1100 VAC
Capacitance	≤ 2 pF
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	12.7 g

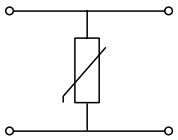
Short description:
This component terminal block with surge suppression device, end plate and direct connection to the DIN-35 rail is equipped with a gas-filled surge.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

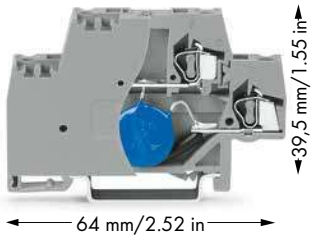
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-504/281-582	25



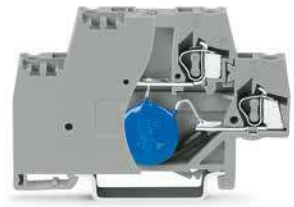
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 4.6 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.5 g

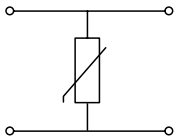
Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

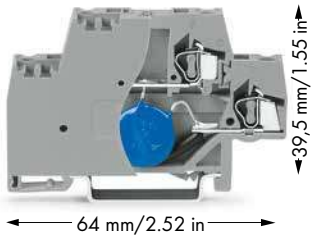
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
48 VDC	280-504/281-583	25



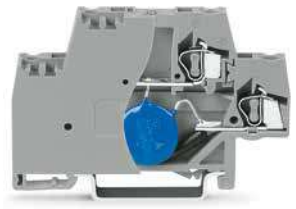
Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

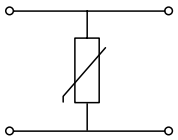
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	56 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 2.8 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	16 g

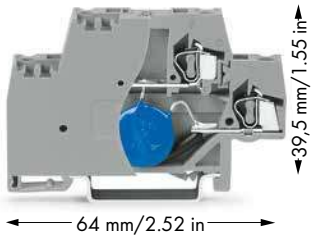
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
60 VDC	280-504/281-584	25



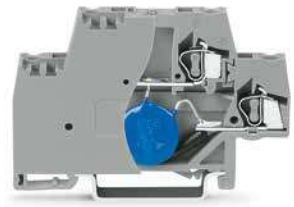
Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 1.7 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.2 g

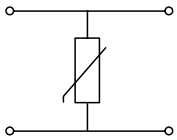
Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

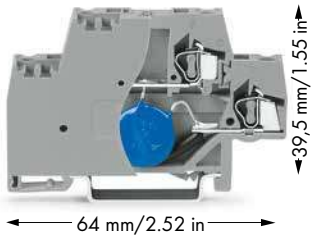
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
110 VDC	280-504/281-585	25



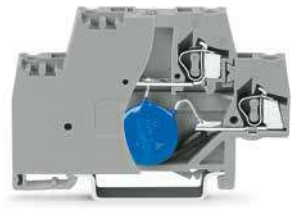
Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

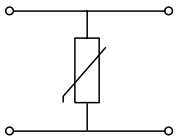
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.8 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.2 g

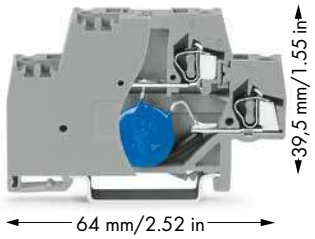
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-504/281-586	25



Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 3.5 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.5 g

Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

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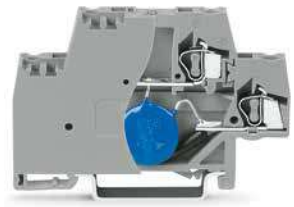
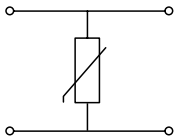
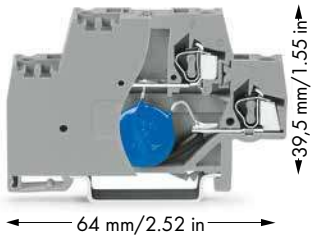
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
115 VAC	280-504/281-587	25



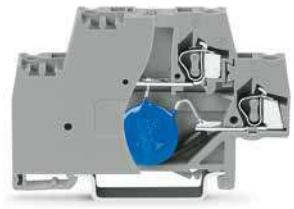
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	150 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 395 VAC
Capacitance	≤ 0.57 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.9 g

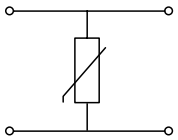
Short description:
This component terminal block with surge suppression device and end plate is equipped with a varistor.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

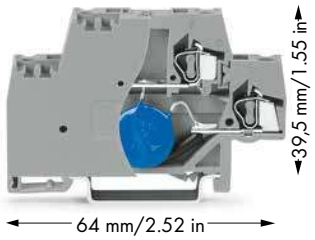
Component terminal block; double-deck; with end plate; with varistor; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC	280-504/281-588	25



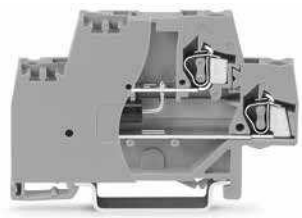
Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	275 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 710 VAC
Capacitance	≤ 0.32 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	15.8 g

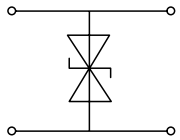
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

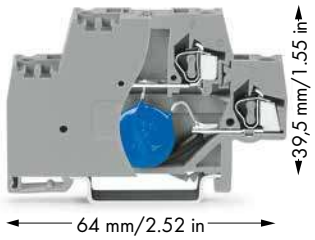
Component terminal block; double-deck; with end plate; with 1.5KE33C TVS diode; 24 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VDC	280-944/281-589	25



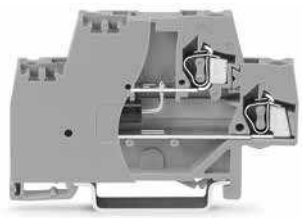
Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	28 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	169 A
Voltage protection level (8/20 µs)	≤ 59 VDC
Capacitance	≤ 2.7 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	13.6 g

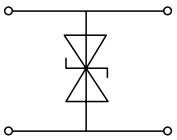
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

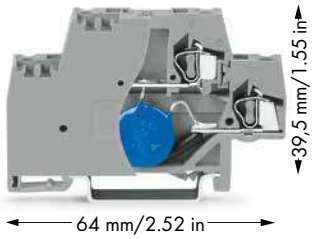
Component terminal block; double-deck; with end plate; with 1.5KE62C TVS diode; 48 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
48 VDC	280-944/281-590	25



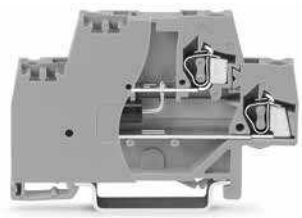
Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	53 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	90 A
Voltage protection level (8/20 µs)	≤ 111 VDC
Capacitance	≤ 1.7 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14 g

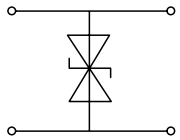
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

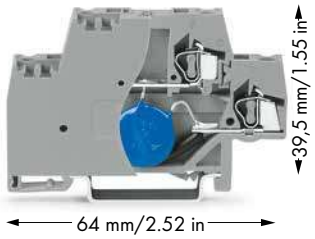
Component terminal block; double-deck; with end plate; with 1.5KE82C TVS diode; 60 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
60 VDC	280-944/281-591	25



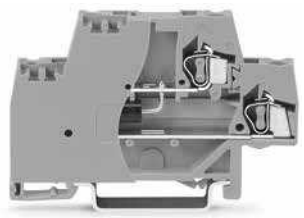
Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	70 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	69 A
Voltage protection level (8/20 µs)	≤ 146 VDC
Capacitance	≤ 1.35 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14.2 g

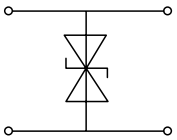
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

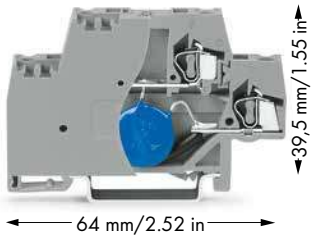
Component terminal block; double-deck; with end plate; with 1.5KE150C TVS diode; 110 VDC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
110 VDC	280-944/281-592	25



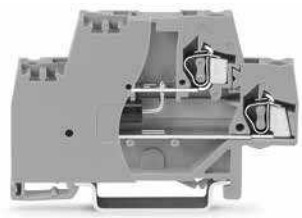
Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	128 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	38 A
Voltage protection level (8/20 µs)	≤ 265 VDC
Capacitance	≤ 0.85 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14.2 g

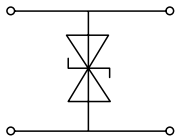
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

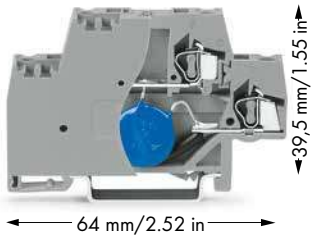
Component terminal block; double-deck; with end plate; with 1.5KE39CA TVS diode; 24 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
24 VAC	280-944/281-593	25



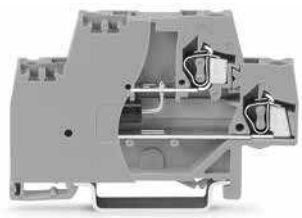
Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	26 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	143 A
Voltage protection level (8/20 µs)	≤ 70 VAC
Capacitance	≤ 2.4 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14.2 g

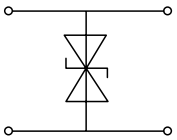
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

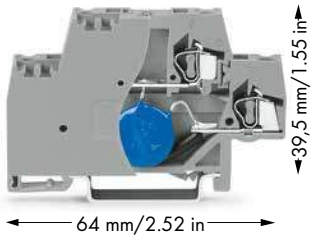
Component terminal block; double-deck; with end plate; with 1.5KE-C TVS diode; 115 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
115 VAC	280-944/281-594	25



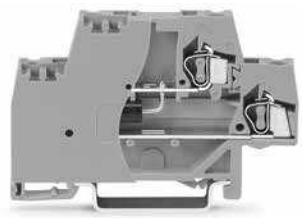
Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	26 A
Voltage protection level (8/20 µs)	≤ 388 VAC
Capacitance	≤ 0.63 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14 g

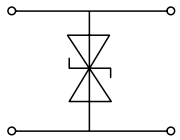
Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

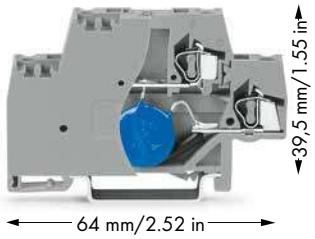
Component terminal block; double-deck; with end plate; with 1.5KE-C TVS diode; 230 VAC; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm²; CAGE CLAMP®

280 Series





U_{BN}	Item No.	PU
230 VAC	280-944/281-595	25



Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	14 A
Voltage protection level (8/20 µs)	≤ 706 VAC
Capacitance	≤ 0.4 nF
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	14.1 g

Short description:
This component terminal block with surge suppression device and end plate is equipped with a TVS diode.

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Accessories

End and intermediate plate; 2.5 mm thick		
Color	Item No.	PU
orange	280-341	100
gray	280-340	100

Insulation stop; 5 pcs/strip			
Color	Diameter	Item No.	PU
white	0.08 … 0.2 mm²	280-470	200
light gray	0.25 … 0.5 mm²	280-471	200
black	0.75 … 1 mm²	280-472	200

Comb-style jumper bar; insulated; I_N = I_N of terminal block		
	Item No.	PU
2-way	280-482	200
3-way	280-483	200
10-way	280-490	50

Accessories

Alternate comb-style jumper bar; insulated; I_N = I_N of terminal block		
	Item No.	PU
2-way	**280-492**	200

WAGO Accessories and WAGO Tools

WAGO Accessories and WAGO Tools

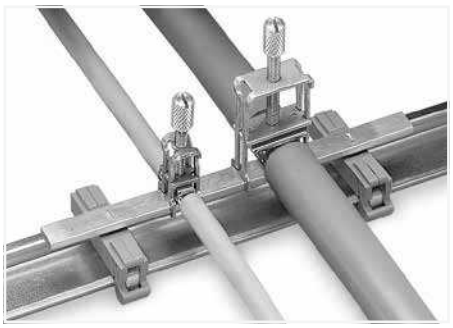
Shield Connection System
790 Series
Installation

Carrier with grounding foot* (790-113),
45 mm long, busbar 90° to the rail

*for all shield clamping saddle sizes

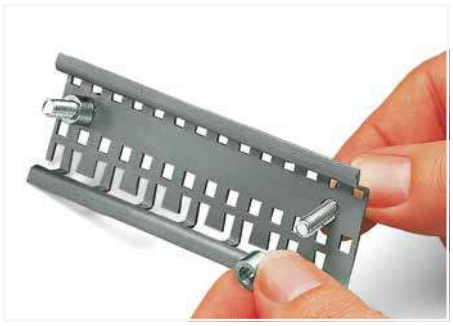
Carrier with grounding foot* (790-114),
45 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes



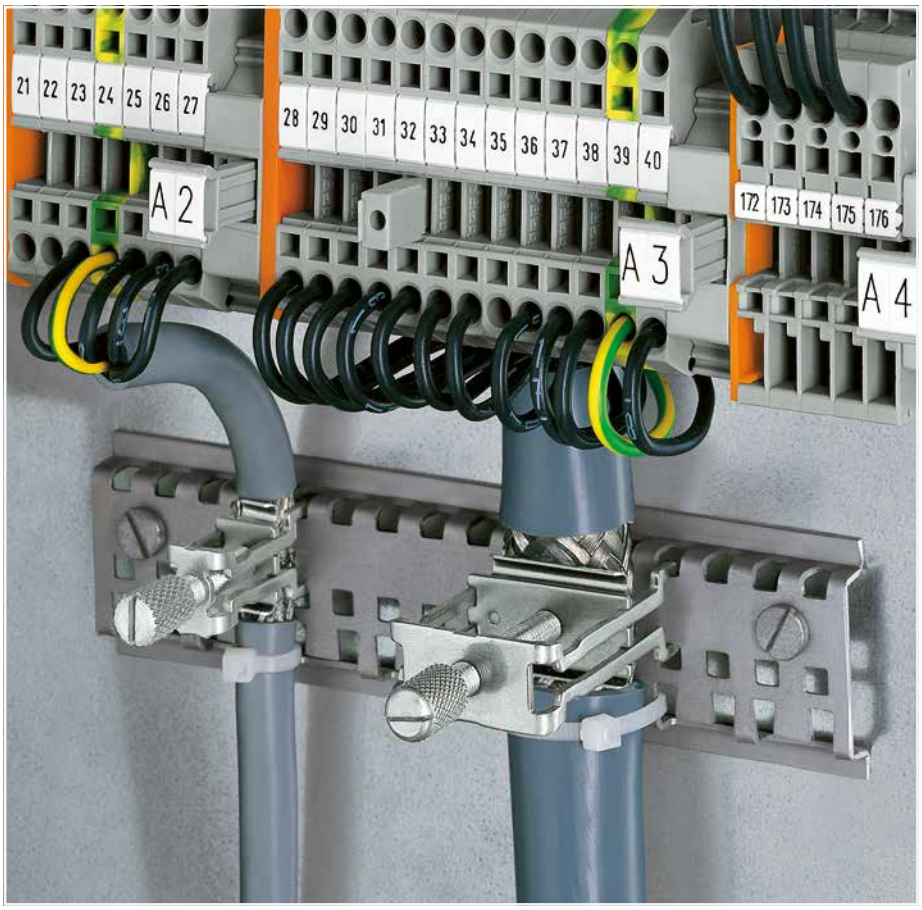
Carrier with grounding foot* (790-115),
125 mm long, busbar parallel to the rail

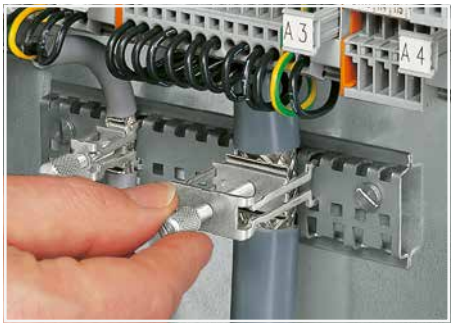
*for all shield clamping saddle sizes



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

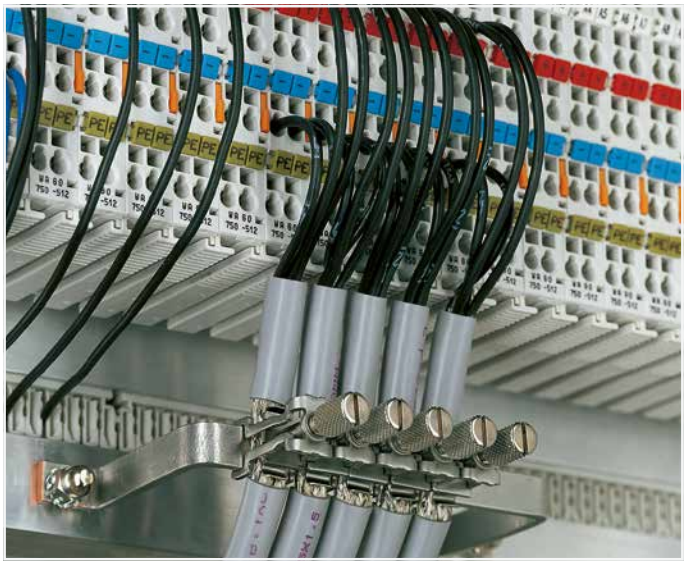
To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.

10

Shield Connection System
790 Series
Installation

Carrier with grounding foot – busbar parallel to the rail

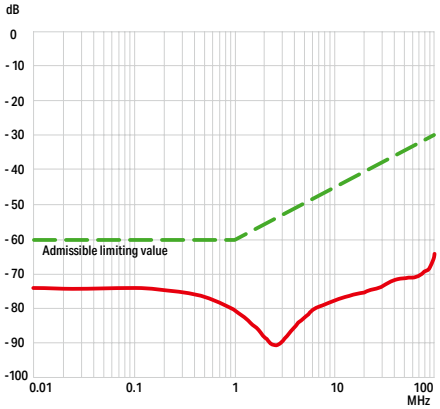
Insulated mounting carriers for a common shield reference potential, independent of housing potential



U-shaped (10 x 3) mm copper busbar

Snap shield clamping saddles into any metal plate (max. thickness: 3 mm).

Negative Shield Attenuation

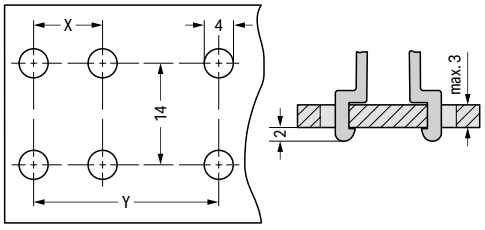


The shield connection system is highly effective because the clamping unit can be brought very close to the unshielded part of the cable.

Hole Dimensions for Panel Mounting

Shield (screen) clamping saddle size

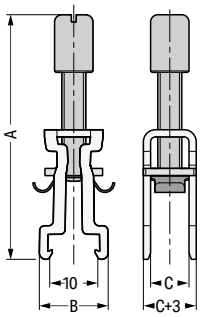
Distance	X
11 mm	9.5 mm
Distance	Y
19 mm	17.5 mm
27 mm	25.5 mm
43 mm	41.5 mm



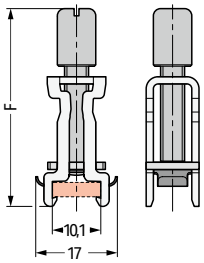
Additionally, the spring material is part of the clamping saddle, providing a good electrical connection (the system also acts as a partial strain relief). The spring element integrated in the shield clamping saddle compensates for deformation and settling that results from a connected shield.

Shield Clamping Saddles
790 Series

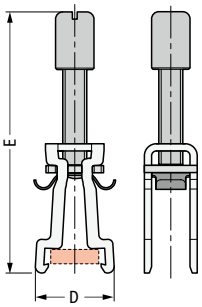
Installation position (delivery state)



Closed position



Removal 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

Shield clamping saddle; 11 mm wide; Connectable shield diameter: 3 … 8 mm
Note: Cannot be used for connecting ground conductors!

Item No.	PU
790-108	50 (10)

Shield clamping saddle; 19 mm wide; Connectable shield diameter: 7 … 16 mm
Note: Cannot be used for connecting ground conductors!

Item No.	PU
790-116	50 (10)

Shield clamping saddle; 27 mm wide; Connectable shield diameter: 6 … 24 mm
Note: Cannot be used for connecting ground conductors!

Item No.	PU
790-124	50 (10)

Accessories; for Shield Clamping Saddles

Carrier with grounding foot; Busbar parallel to the rail; 15 mm long; Copper (10 x 3) mm; 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; 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; 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; for shield clamping saddles (790 Series) and shield clamps (791 Series)

790-114 25

Carrier with two grounding feet; Busbar parallel to the DIN-rail; 125 mm long; Copper (10 x 3) mm

790-115 25

DIN-rail; specialty slotted; 1000 mm long; tin-plated

790-145

Spacer sleeve; steel; for DIN-rail; specialty slotted; for M5-size screw;

790-144 200 (100)

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)

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

U-shaped busbar; Copper (10 x 3) mm; for 5 I/O; for 750 Series I/O Modules

790-190 25 (5)

U-shaped busbar; Copper (10 x 3) mm; for 8 I/O; for 750 Series I/O Modules

790-191 25

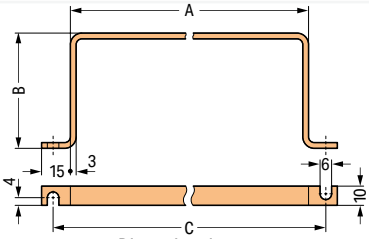
U-shaped busbar; Copper (10 x 3) mm; for 5 I/O; for 750 Series I/O Modules

790-192 25

U-shaped busbar; Copper (10 x 3) mm; for 8 I/O; for 750 Series I/O Modules

790-193 25

10



Dimensions in mm

Item No.	A	B	C	Item No.	A	B	C
for I/O module series 750 (5 E/A)							
790-190	63	60	83	**790-192**	63	35	83
for I/O module series 750 (8 E/A)							
790-191	100	60	118	**790-193**	100	35	118

Shield clamping saddle; 43 mm wide; Connectable shield diameter: 22 … 40 mm
Note: Cannot be used for connecting ground conductors!

	Item No.	PU
	790-140	50 (10)

Carrier with grounding foot* (790-114), 45 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes

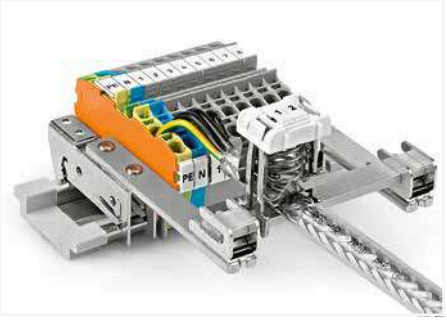
Carrier with grounding foot* (790-115), 125 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes

10

Spring-Equipped Shield Clamping Saddles
790 Series
Installation

Shield clamping saddles are available in three different sizes for shield diameters ranging from 3 to 20 mm.



Application example

Compress the clamping saddle until fully engaged.

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).

Labeling using a marking strip.

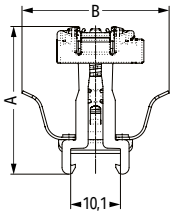
Labelling using WMB markers.

10

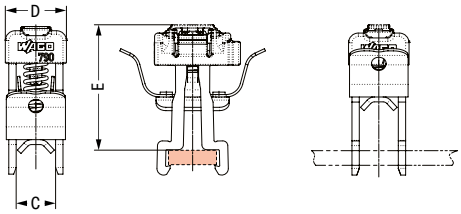
Spring-Equipped Shield Clamping Saddles
790 Series



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 clamping saddle; 12.4 mm wide; Connectable shield diameter: 3 … 8 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	PU
790-208	50

Shield clamping saddle; 21.8 mm wide; Connectable shield diameter: 6 … 16 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	PU
790-216	25

Shield clamping saddle; 30 mm wide; Connectable shield diameter: 6 … 20 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	PU
790-220	25

Accessories; for Shield Clamping Saddles

Carrier with grounding foot; Busbar parallel to the rail; 15 mm long; Copper (10 x 3) mm; 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; 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; 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; for shield clamping saddles (790 Series) and shield clamps (791 Series)

790-114 25

Carrier with two grounding feet; Busbar parallel to the DIN-rail; 125 mm long; Copper (10 x 3) mm

790-115 25

DIN-rail; specialty slotted; 1000 mm long; tin-plated

790-145

Spacer sleeve; steel; for DIN-rail; specialty slotted; for M5-size screw;

790-144 200 (100)

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

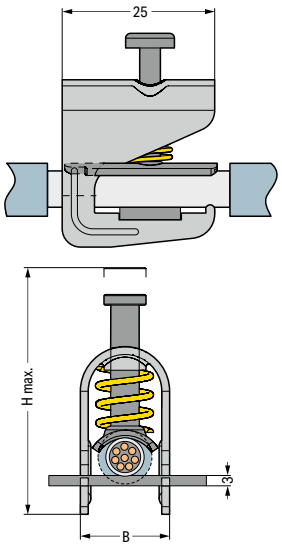
790-134 20

10

Shield Clamp and Shield Termination
791 and 709 Series

Insert the shield termination into the female plug using the operating tool.

Dimensions in mm



Fit the shield termination to the shield cable.

Shield clamp; Connectable shield diameter: 1.5 … 6.5 mm; Height (max.): 40 mm; 10 mm wide Note: Cannot be used for connecting ground conductors!		
	Item No.	PU
	791-107	50

Shield clamp; Connectable shield diameter: 5 … 11 mm; Height (max.): 47 mm; 17 mm wide Note: Cannot be used for connecting ground conductors!		
	791-111	50

Shield clamp; Connectable shield diameter: 10 … 17 mm; Height (max.): 63 mm; 23 mm wide Note: Cannot be used for connecting ground conductors!		
	791-117	50

Shield clamp; Connectable shield diameter: 16 … 24 mm; Height (max.): 78 mm; 30 mm wide Note: Cannot be used for connecting ground conductors!		
	791-124	50

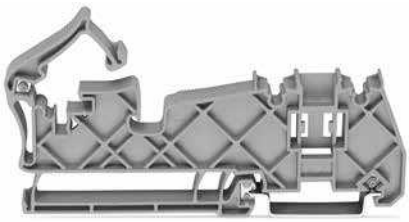
Shield termination; includes cable ties for 5 … 10 mm shield diameter; 60 mm long		
	Item No.	PU
	709-350	100 (25)

Shield termination; includes cable ties for 5 … 10 mm shield diameter; 150 mm long		
	709-352	100 (25)

Secure both shield cable and shield termination to the strain relief plate using cable ties.

Shield termination connected to an X-COM® female plug

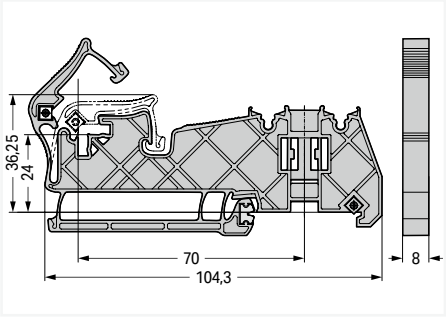
Busbar Carriers
790 Series



Dimensions in mm

Snapping the busbar carrier onto DIN-35 rail.

Vertical mounting position of the busbar

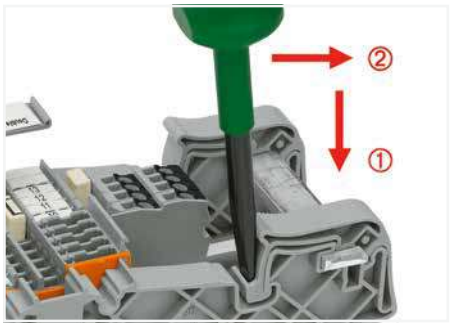


Busbar carrier; for (10 x 3) mm copper busbars; no contact to DIN-rail; insulated		
	Item No.	PU
	790-400	20

Place the busbar in the carrier holder.

Horizontal mounting position of the busbar

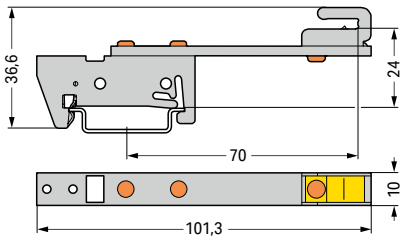
Snap the mounting bracket into position.



Release the mounting bracket by pushing the operating tool down ① and then forward ②.

Busbar Carriers
790 Series

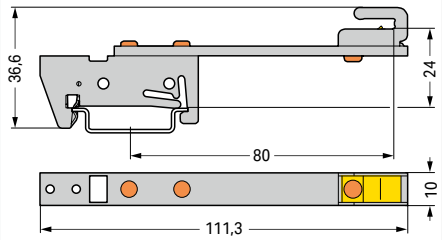
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; 70 mm between center of DIN-rail and busbar carrier

Item No.	PU
790-300	10

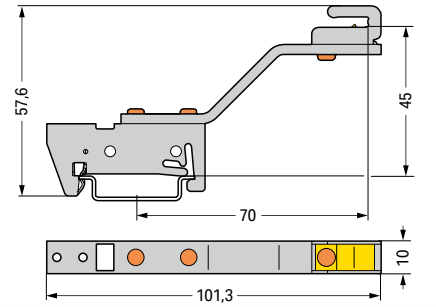
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; 80 mm between center of DIN-rail and busbar carrier

Item No.	PU
790-302	10

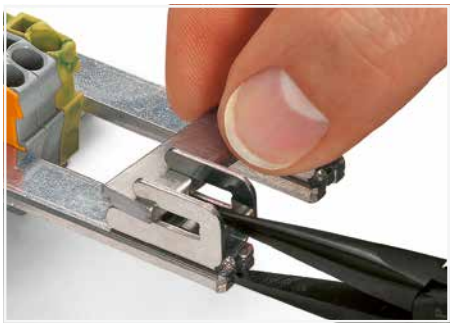
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; single side; angled; 70 mm between center of DIN-rail and busbar carrier

Item No.	PU
790-301	10

Remove the busbar carrier using an operating tool (type 3, 5.5 x 0.8 mm blade).



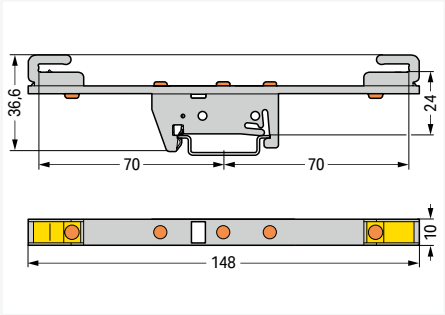
To remove the busbar, compress the spring using pliers.

Place the busbar in the busbar carrier.

10

Busbar Carriers
790 Series

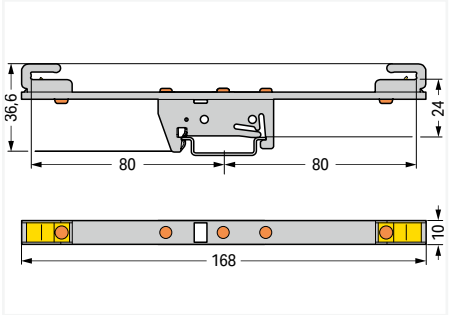
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; 70 mm between center of DIN-rail and busbar carrier

Item No.	PU
790-310	10

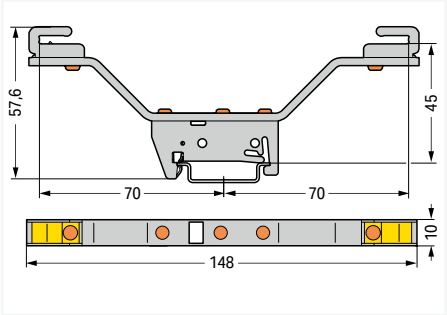
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; 80 mm between center of DIN-rail and busbar carrier

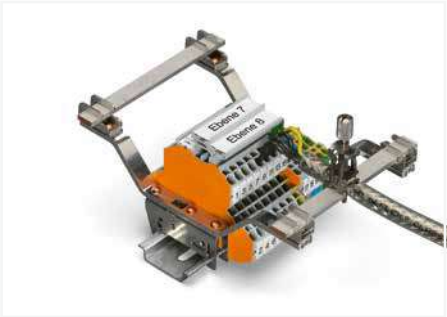
Item No.	PU
790-312	10

Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; angled; 70 mm between center of DIN-rail and busbar carrier

Item No.	PU
790-311	10



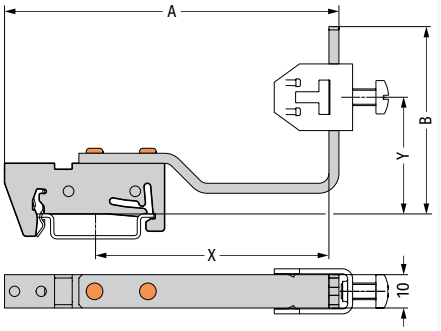
Application example

Busbar Carrier with a T-Connector (Flexible) and T-Connector
790 Series

Horizontal mounting position of the busbar

Dimensions in mm

	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



Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 70 mm between center of DIN-rail and busbar carrier; 56 mm high

Item No.	PU
790-350/790-398	12

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 70 mm between center of DIN-rail and busbar carrier; 99 mm high

Item No.	PU
790-352/790-398	12

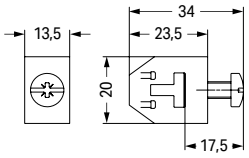
Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 85 mm between center of DIN-rail and busbar carrier; 56 mm high

Item No.	PU
790-360/790-398	12

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 85 mm between center of DIN-rail and busbar carrier; 99 mm high

Item No.	PU
790-362/790-398	12

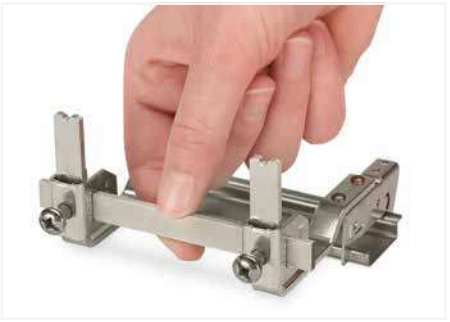
Dimensions in mm



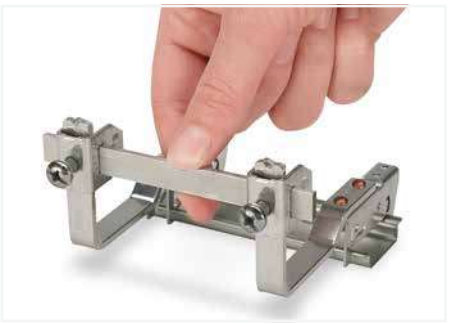
T-connector; connects two (10 x 3) mm copper busbars

Item No.	PU
790-398	

Vertical mounting position of the busbar



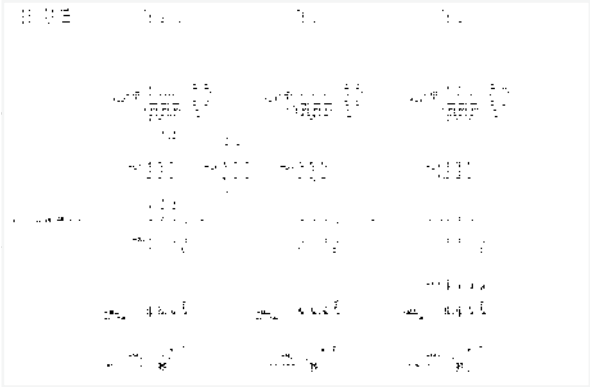
The height of the busbar can be adjusted.



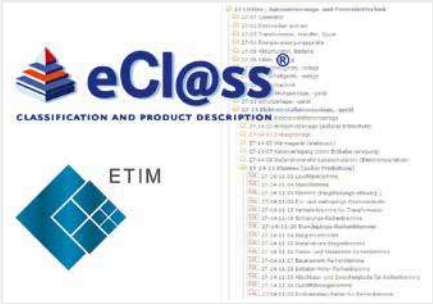
Secure the busbar by tightening the screws at the required position.

Smart Data
Supports Workflow from Control Cabinet Planning to Installation

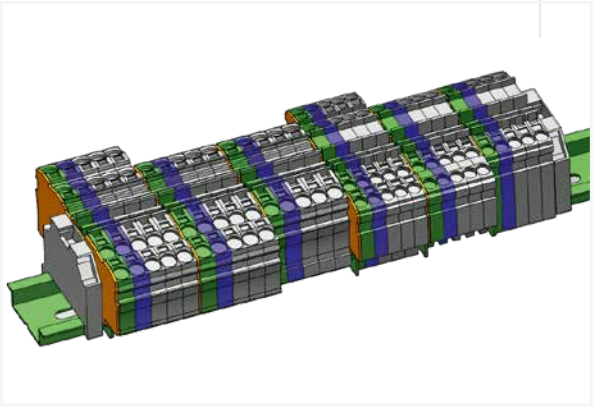
Electrical Planning
Directly import data from a CAE circuit diagram into the Smart Designer engineering software or output marking data on Smart Printer



Technical and Commercial Item Data
Classified by ETIM and eCl@ss – also in Advanced Format

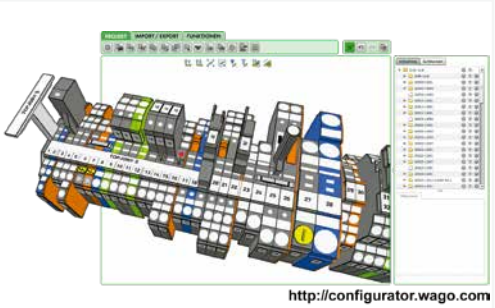


Mechanical Planning
CAD export into all standard CAD formats and in different granularities



10

Smart Designer
- Free online configuration and ordering software for all electrical interconnect and automation components
- No installation required
- Available worldwide – 24 hours a day
- Item data is always updated
- Auto-audit feature checks product compatibility via programed database
- Design in full 3-D



Smart Script
- XML-based software for all WAGO labeling materials
- Data import from CAE systems
- Font size check
- Material selection wizard

Configuration made easy – http://configurator.wago.com

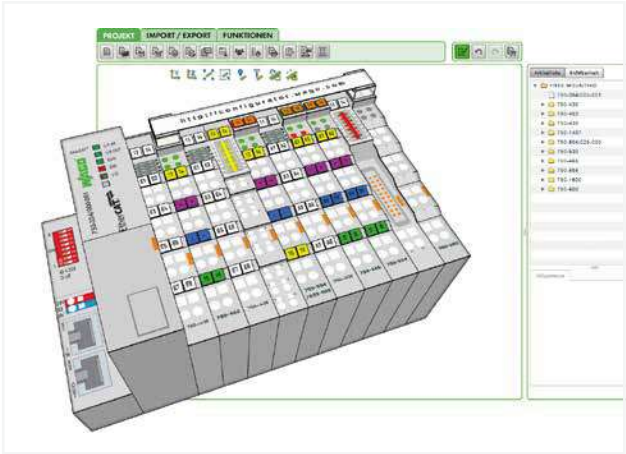
Smart Printer

The Fastest Marking System

Smart Script

Smart Script
Import from CAE systems or create customized marking.

Smart Designer

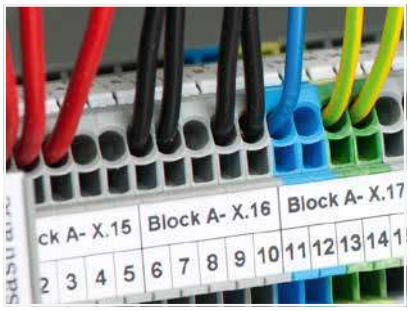


Smart Designer
After designing, print labeling materials directly from the project via Smart Printer

10

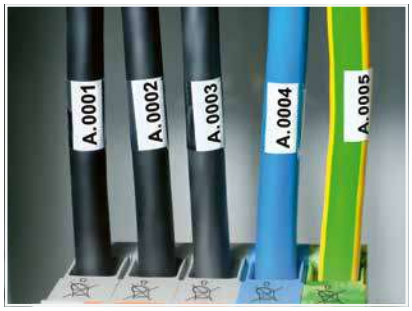
Smart Printer
- Compact and easy-to-use
- Quickly print and install marking strips
- Cost-effective marking from beginning to end

Terminal Block Marking



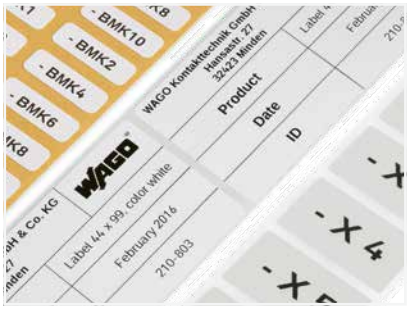
Multi-line marking strips for clear, detailed control cabinet labels
- WMB Inline markers on a reel are suitable for various terminal block sizes – just one marker size for all standard applications
- Same profile across all WAGO Rail-Mount Terminal Blocks TOPJOB® S ensures quick labeling

Cable and Conductor Marking



Different versions available:
- Marking sleeves, self-laminating labels, conductor markers for thread-on mounting or shrink tubes
- Large variety of marking surface sizes

Device Marking



Broad selection of label types (e.g., printable fabric), push-button markers and type plates optimizes marking for devices and control cabinets
- Labels and markers are available in a variety of colors and sizes

Thermal Transfer Printer
Smart Printer


Open the printer.


Printer – open


Accessories for unwinding material


Insert the ink ribbon.


Prepare the marking material.


Insert and secure the appropriate roller into the printer.


Printer has several interfaces:
USB, ETHERNET, serial COM port


Fast, cost-effective and easy to use –
printing WMB Inline markers via Smart Printer

Thermal transfer printer; Smart Printer; for complete control cabinet marking; 300 dpi; With marking material

Smart Printer

Thermal transfer printer; Smart Printer; for complete control cabinet marking; 300 dpi; With marking material

	Item No.	PU
	258-5000	1

Smart Printer
including:
- Power supply + cable
- 2 x roller (258-5006 + 258-5007)
- 1 x roll holder
- 1 x ink ribbon (258-5005)
- Smart Script marking software and driver
- USB cable
- external unwinder, 2 x empty cardboard roller core
- 1 x roll of marking strips (2009-110) and WMB Inline markers (2009-115) each

Technical data	
Marking method	Thermal transfer
Print head	Glass layer, spring-mounted
Print resolution	300 dpi (12 pixels/mm)
Print speed (max.)	max. 127 mm/s (WAGO recommends 50.8 mm/s)
Print width	47 mm
Print length (max.)	762 mm
See-through/reflective sensor	Yes, centrally fixed
Memory	8 MB
Marking software	Smart Script
Interfaces	USB, RS-232, ETHERNET 10/100 Mbps
Operating voltage	100 … 240 VAC, 50 … 60 Hz (automatic adjustment)
Safety approvals	CE (EMC)
Operating display	Color TFT LCD with navigation button
Ink ribbon width	50 mm / 1.969 inch
Ink ribbon length	74 m / 360.9
Ink ribbon external roll diameter	33 mm / 1.299 inch
Ink ribbon internal core diameter	12.5 mm / 0.492 inch

Cutter; for Smart Printer; for marking strips, equipment markers, conductor and cable markers; Durable; High accuracy

	Item No.	PU
	258-5030	1

Hardware requirements:
- Printer model: Smart Printer
- From manufacturing month/year: 0814 – August 2014
- Firmware version: 1.UW7i
- Printer driver: Version 7.4.2

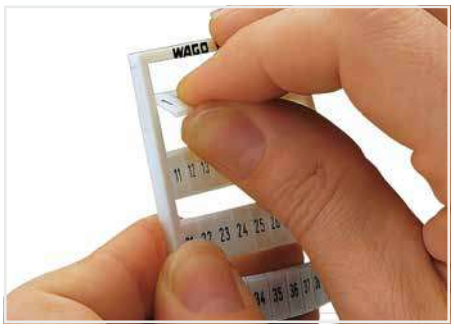
Software requirements:
- WAGO Marking Software Smart Script: Version 4.2 or higher
- WAGO printer settings: Version 2.4.0.0 or higher

Approved print material to be cut:
- Marking Strips: 2009-110, 709-177, 709-178, 757-901/000-005
- Self-Adhesive Marking Strips: 210-702, 210-870 … -882/000-002
- Cable Tie Markers: 211-835 … -836, 211-836/000-002
- Self-Laminating Labels: 211-855 … -857
- Wire Markers for Thread-On Mounting: 211-861 … -863
- Type Labels: 210-801 … -804, 210-812
- Continuous Labels: 210-831 … -834
- Label for Circuit Identification: 210-813

Dimensions of printing materials:
- Width (max.): 46 mm
- Thickness (max.): 250 µm

Technical data	
Width	60 mm
Height	107 mm
Depth	131 mm
Weight	1050 g

Marking Systems
Description and Installation

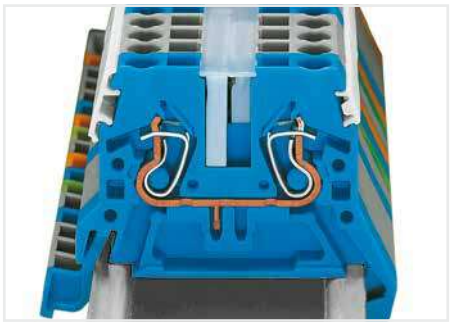


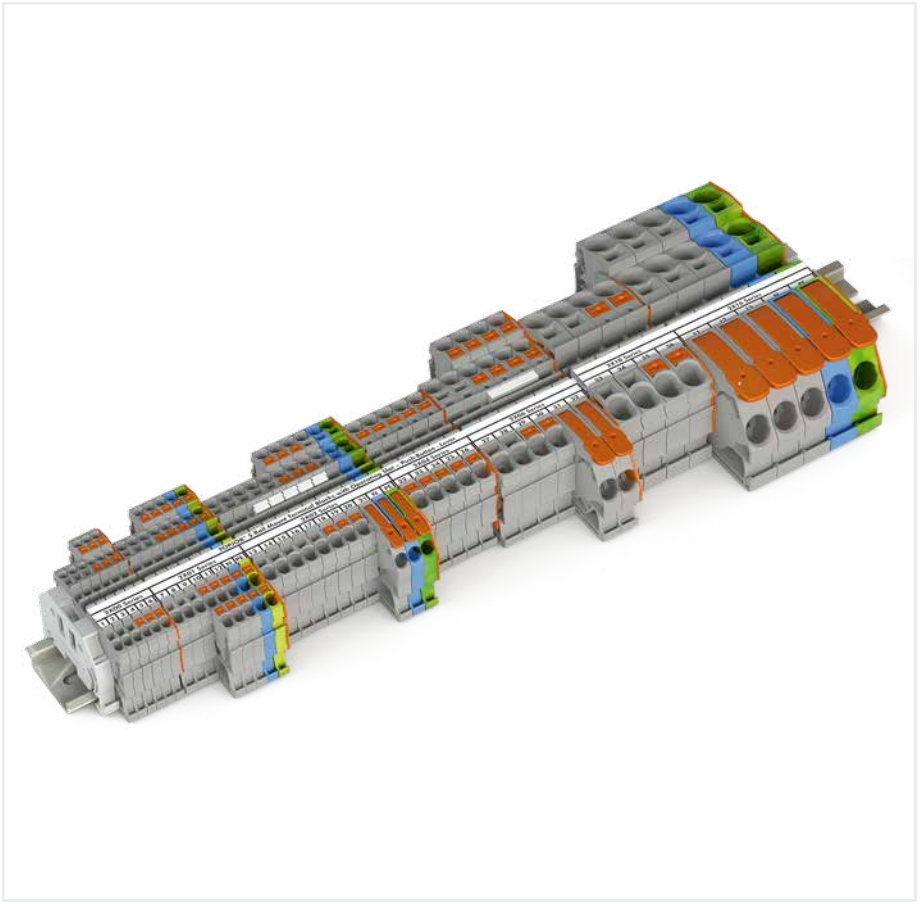
Separating a strip from the WMB or WMB marker card.


Stretching a WMB marker strip.

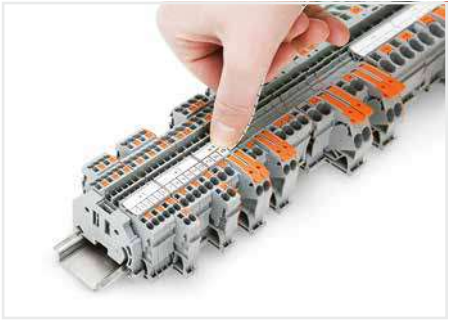

Separating an individual marker from the strip – for larger terminal blocks.

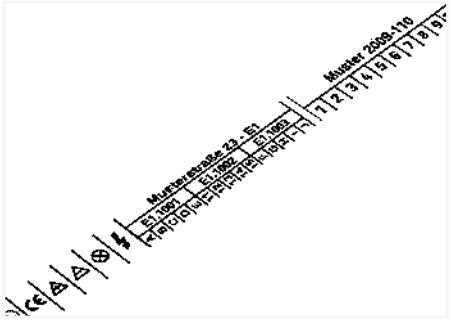
Marking via Mini-WSB Quick Marking System.


WMB markers in Mini-WSB marker slots
Translucent marking strip
Mini-WSB markers




Printing a marking strip (2009-110) via Smart Printer.


Snapping a marking strip into the marker slot.

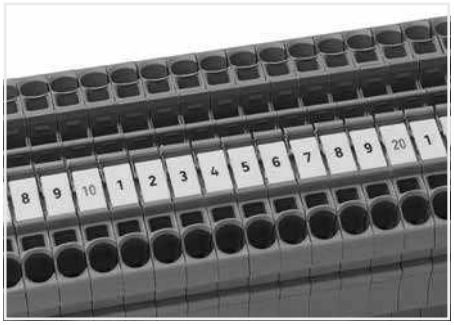


Marking strip – multi-line printing

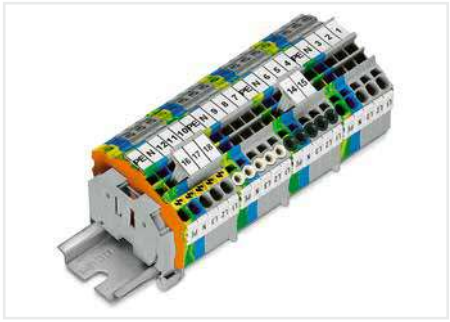
10

Snapping a marking strip into the marker slot.

Snapping a WMB marker strip into the marker slot of the double marker carrier.



WMB "decade" marking

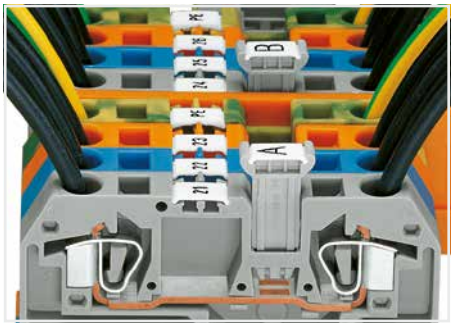


Group marker carriers for WAGO Rail-Mount Terminal Blocks TOPJOB® S – can be snapped into jumper slots.

Double- and triple-deck marker carriers can be retrofitted into the jumper contact slot of double- and triple-deck terminal blocks.

Height adjustable group marker carrier (2009-163) for marking strips (2009-110)

Height-adjustable group marker carrier



Additional group marking

Marking System

Terminal Block Width: 3.5 mm, 4 … 4.2 mm and from 5 mm

Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
3.5 mm	2000, 2020	-
4 … 4.2 mm	279, 2001	-
5 … 5.2 mm	270, 280, 780, 869, 870, 880, 2002, 2003, 2022	Terminal blocks with spacing > 5 … 5.2 mm
5 … 17.5 mm	270, 280, 780, 869, 870, 880	281 … 285, 781 … 785, 2002, 2004, 2005, 2006, 2007, 2010, 2016, 2022

WMB marker card; plain; 10 strips with 10 markers/card					
Color	5 mm Item No.	5 … 5.2 mm Item No.	4 … 4.2 mm Item No.	3.5 mm Item No.	PU
white	793-501	793-5501	793-4501	793-3501	5
yellow	793-501/000-002	793-5501/000-002	793-4501/000-002		5
red	793-501/000-005	793-5501/000-005	793-4501/000-005		5
blue	793-501/000-006	793-5501/000-006	793-4501/000-006		5
gray	793-501/000-007	793-5501/000-007	793-4501/000-007		5
orange	793-501/000-012	793-5501/000-012	793-4501/000-012		5
light green	793-501/000-017	793-5501/000-017	793-4501/000-017		5
green	793-501/000-023	793-5501/000-023	793-4501/000-023		5
violet	793-501/000-024	793-5501/000-024	793-4501/000-024		5

Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
3.5 mm	2000, 2020	-
4 … 4.2 mm	279, 2001	-
5 … 5.2 mm	270, 280, 780, 869, 870, 880, 2002, 2003, 2022	Terminal blocks with spacing > 5 … 5.2 mm

WMB Inline; plain; 2,300 WMB markers (3.5 mm)/reel		
Color	3.5 mm Item No.	PU
white	2009-113	1

WMB Inline; plain; 2,000 WMB markers (4 mm)/reel; stretchable 4 … 4.2 mm		
Color	4 … 4.2 mm Item No.	PU
white	2009-114	1

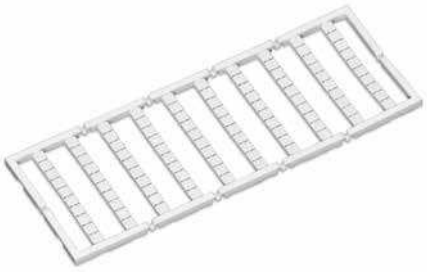
WMB Inline; plain; 1,500 WMB markers (5 mm)/reel; stretchable 5 … 5.2 mm		
Color	5 … 5.2 mm Item No.	PU
white	2009-115	1

Use	
	Can be snapped onto the following terminal block series
	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2010, 2016, 2020, 2022

Marking strip; plain; 11 mm wide; 50 m reel		
Color	Item No.	PU
white	2009-110	1

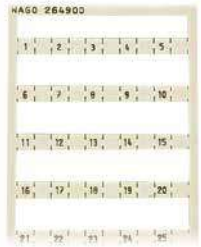
10

Mini-WSB Quick Marking System
Terminal Block Width: 5 mm



Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
5 mm	264, 270, 869, 880, 769, 870, 218, 233 ... 236, 243, 250, 252 ... 257, 735 ... 742, 745, 746, 804, 805, 806, 816, 831, 750, 753, 2002, 2003, 2022	745, 746, 2004, 2006, 2007, 2010, 2016

Mini-WSB marker card; plain; 10 strips with 10 markers/card		
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



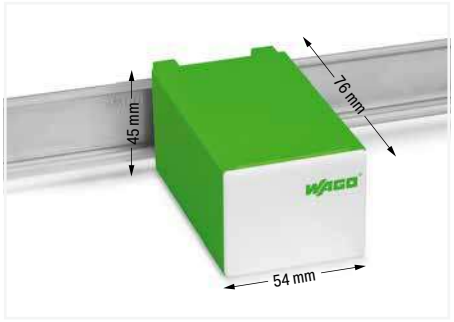
Mini-WSB marker card; with marking; not stretchable; horizontal marking; snap-on type		
Marking	Item No.	PU
1, , 2, , 3, , 4, , 5, ; to 46, , 47, , 48, , 49, , 50, ; (each 1x)	264-900	5
U, , V, , W, , N, , GND, ; (10x)	264-901	5
L1, , L2, , L3, , N, , GND, ; (10x)	264-902	5
1, , 1, , 1, , 1, , 1, ; (10x)	264-903	5
2, , 2, , 2, , 2, , 2, ; (10x)	264-904	5
3, , 3, , 3, , 3, , 3, ; (10x)	264-905	5

Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
5 mm	264, 270, 869, 880, 769, 870, 218, 233 ... 236, 243, 250, 252 ... 257, 735 ... 742, 745, 746, 804, 805, 806, 816, 831, 750, 753, 2002, 2003, 2022	745, 746, 2004, 2005, 2006, 2007, 2010, 2016

Mini-WSB Inline; plain; 1,700 markers (5 mm)/reel; stretchable 5 ... 5.2 mm		
Color	Item No.	PU
white	2009-145	1

10

Control Cabinet Outlet and Switch Cabinet Drawer
709 Series



Safety information:
- Installation must be performed by a qualified electrician.
- During the insulation resistance test, the active conductors must be connected. The integrated status indicator in the control cabinet outlet must be protected against transient overvoltages. Overvoltage protection in low-voltage systems must be observed.

Technical Data		
Ratings per	DIN VDE 0620-1	
Voltage type	AC	
Rated voltage	250 V	
Rated surge voltage	2 kV	
Rated current	16 A	

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Actuation type	Type 2 (3.5 x 0.5) mm blade
Actuation direction	Operation parallel to conductor entry
Connectable conductor materials	Copper
Solid conductor	0.2 … 2.5 mm / 24 … 14 AWG
Stranded conductor	0.2 … 2.5 mm / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Number of poles	3

Mechanical Data	
Mounting type	DIN-35 rail
Protection type	IP20
Potential marking	L GND N

Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Sn

Environmental Requirements	
Continuous operating temperature from	–35 °C
Continuous operating temperature up to	85 °C

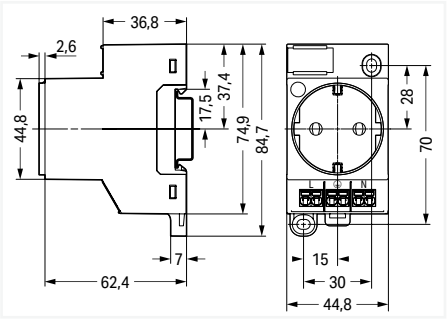
10

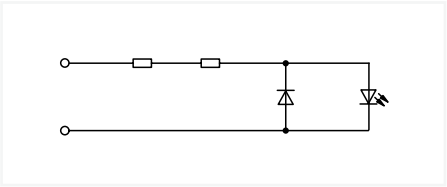
❶ The outlets are available in three colors to identify different circuits:
- 709-581 gray (standard)
- 709-582 yellow (permanently energized)
- 709-583 red (UPS)

Approvals and corresponding ratings, visit www.wago.com

Control Cabinet Outlet and Switch Cabinet Drawer
709 Series

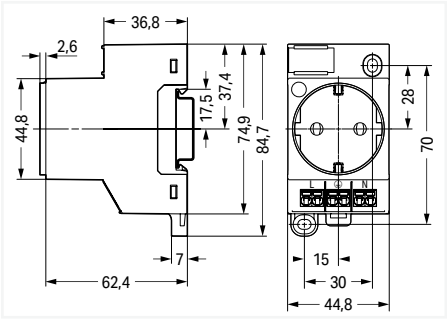
Dimensions in mm

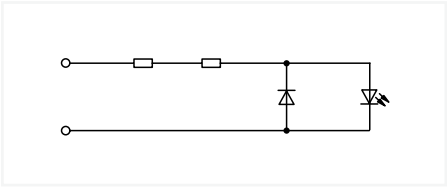




Color	Item No.	PU
light gray	709-581	1

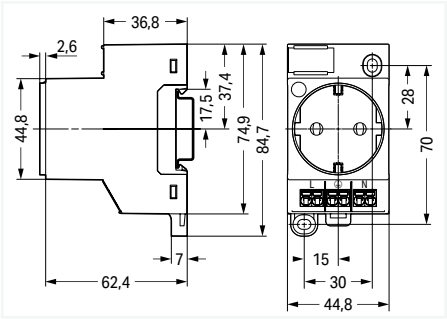
Dimensions in mm

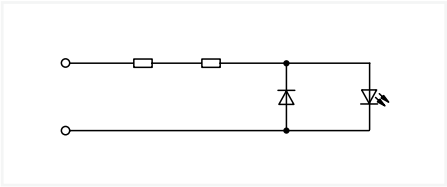




Color	Item No.	PU
yellow	709-582	1

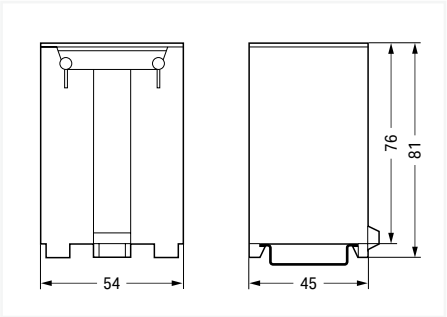
Dimensions in mm





Color	Item No.	PU
red	709-583	1

Dimensions in mm

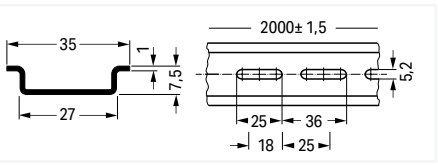


Switchgear cabinet drawer; DIN-35 rail-mount drawer	
Item No.	PU
709-591	1

10

DIN-Rail; Rail End Cap; Angled Support Bracket and Collective Jumper Carrier

Dimensions in mm



Steel DIN-rail; I_N 76 A (based on 1 m length); 35 x 7.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-113**	10 (1)

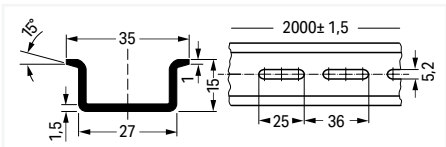
Hole width: 25 mm; Hole spacing: 36 mm

slotted	**210-112**	10 (1)

Hole width: 18 mm; Hole spacing: 25 mm

slotted	**210-115**	1

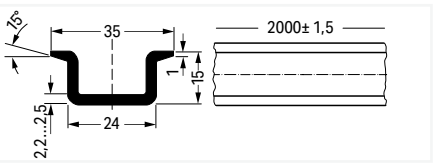
Dimensions in mm



Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 1.5 mm thick; 2 m long; similar to EN 60715

	Item No.	PU
unslotted	**210-114**	10 (1)
slotted	**210-197**	10 (1)

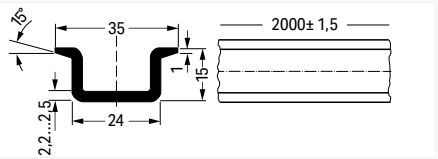
Dimensions in mm



Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 2.3 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-118**	10 (1)

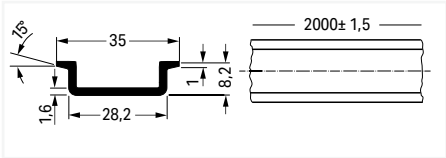
Dimensions in mm



Copper DIN-rail; I_N 309 A (based on 1 m length); 35 x 15 mm; 2.3 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-198**	10 (1)

Dimensions in mm



Aluminum DIN-rail; I_N 76 A (based on 1 m length); 35 x 8.2 mm; 1.6 mm thick; 2 m long; similar to EN 60715

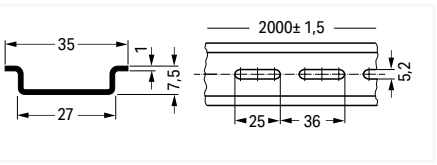
	Item No.	PU
unslotted	**210-196**	20 (1)

Rail end cap; for DIN-35 rail (7.5 mm high)

Color	Item No.	PU
gray	**209-109**	50 (25)

10

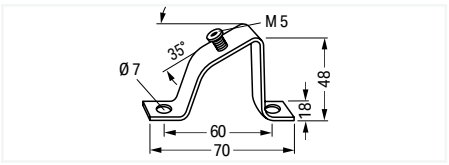
Dimensions in mm



Steel DIN-rail; I_N 76 A (based on 1 m length); 35 x 7.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-505**	1
slotted	**210-504**	1

Dimensions in mm

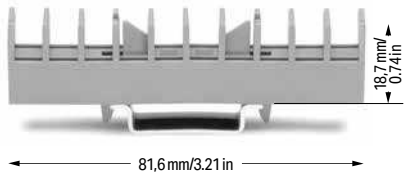


Angled support bracket; without screw

	Item No.	PU
	210-148	10

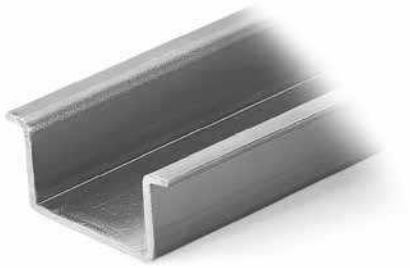
Screw M5 x 8

	Item No.	PU
	210-149	100 (20)

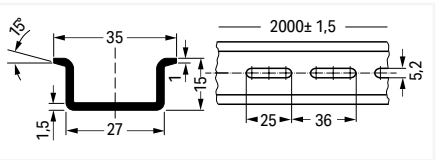


Collective jumper carrier; for DIN-35 rail; compatible with jumpers for transverse switching terminal block (282-811) and longitudinal switching disconnect terminal block (282-821)
The collective carrier can be snapped onto DIN-35 rails. It stores jumpers during maintenance.

Color	Item No.	PU
gray	**282-369**	25

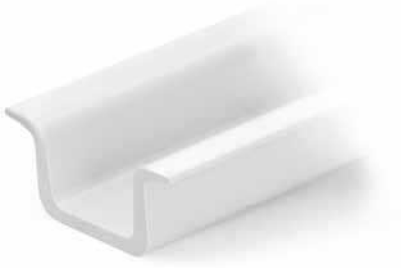


Dimensions in mm

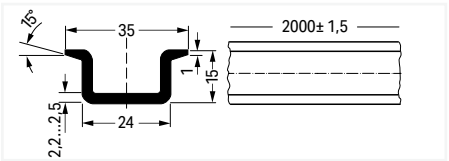


Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 1.5 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-506**	1
slotted	**210-508**	1

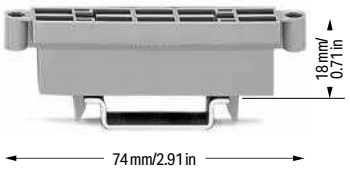


Dimensions in mm



Carrier rail; plastic
Not suited for use with ground terminal blocks!

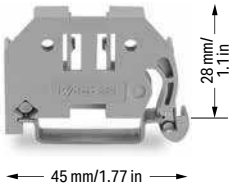
	Item No.	PU
	210-509	10 (1)



Collective carrier for adjacent jumpers; for DIN-35 rail; for adjacent jumpers (279 to 284 Series); for banana plugs (215 Series)
The collective carrier can be snapped onto DIN-35 rails. It stores adjacent jumpers and banana plugs during maintenance.

Color	Item No.	PU
gray	**209-100**	50 (25)

Screwless End Stop; for DIN-35 Rail
249 Series

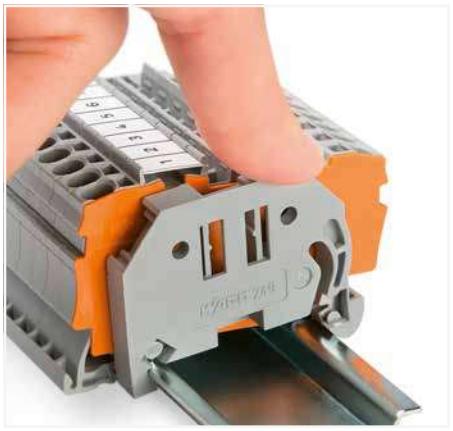


Screwless end stop; for DIN-35 rail; 6 mm wide		
Color	Item No.	PU
gray	249-116	100 (25)

Screwless end stop; for DIN-35 rail; 10 mm wide		
gray	249-117	50 (25)

Screwless end stop; for DIN-35 rail; 14 mm wide		
Color	Item No.	PU
gray	249-197	10


Simply snap on – that's it!


Simply snap on – that's it!


Simply snap on – that's it!


Removing an end stop from the DIN-rail.

Snap on – that's it! Assembling the WAGO Screwless End Stop is as simple and quick as snapping a rail-mount terminal block onto the 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 60715 (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.

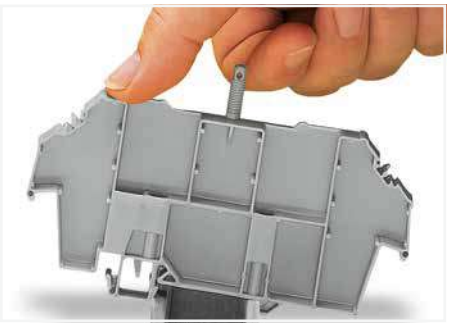
Additional benefit: Three marker slots for all WAGO Rail-Mount Terminal Block Marking Systems and one snap-in hole for WAGO's adjustable height group marker carriers offer individual marking options.

Mounting Foot

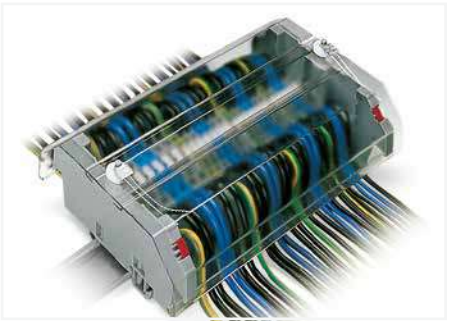
Mounting foot; for isolated DIN-35 rail mounting		
Color	Item No.	PU
gray	209-106	25

Isolated mounting of a carrier rail in a distribution box for protection class II

Sealable, Transparent Covers for Rail-Mount Terminal Blocks
709 Series
Description and Installation

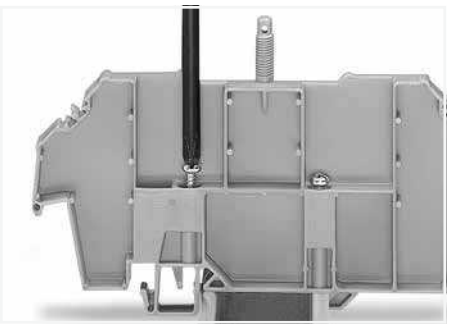


Snapping a cover carrier onto the DIN-rail.



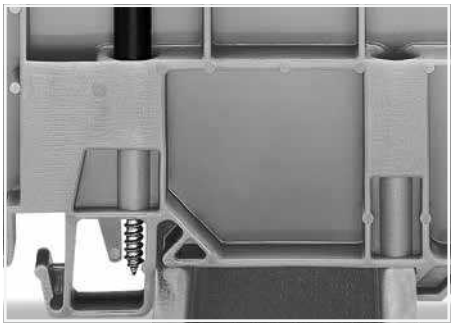
Application example:
Cover (type 1) without safety warning

Application example:
Cover (type 1) with safety warning

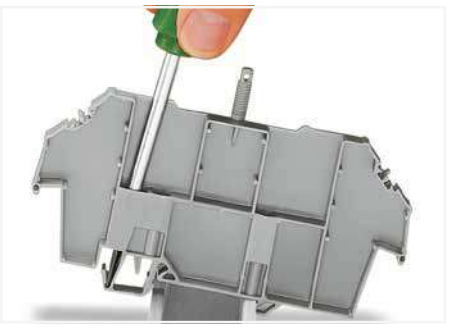


Tightening both securing screw (left) and mounting screw (right).

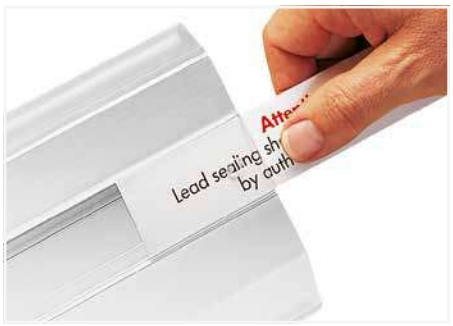
Application example:
Cover (type 2) with safety warning



Securing screw – prevents lifting off from the rail.
Mounting screw – prevents the cover carrier from being moved on the rail.



Removing a cover carrier from the DIN-rail.



Inserting a marking strip into the cover.

Cover with lead seals:
Using covers without lead seals,
the thread dome-head can be broken off.

10

Sealable, Transparent Cover; for Rail-Mount Terminal Blocks
709 Series

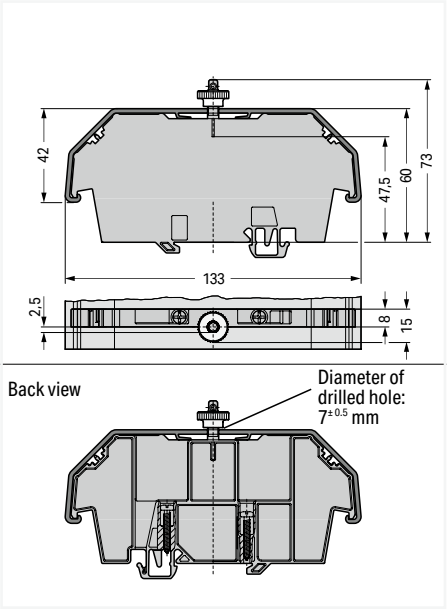
Cover; Type 1; for cover carrier (type 1); 1 m long		
Color	Item No.	PU
transparent	**709-153**	10

Cover; Type 2; for cover carrier (type 2); 1 m long		
Color	Item No.	PU
transparent	**709-154**	10

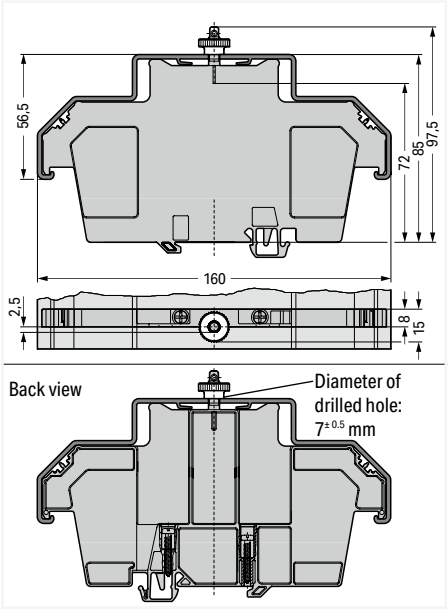
Cover carrier; Type 1; incl. mounting/securing screws and knurled nut; for rail-mount terminal blocks (279 to 282, 880 Series); for "Mini" rail-mount terminal blocks (264 Series); for sensor/actuator terminal blocks (270 Series)		
Color	Item No.	PU
gray	**709-167**	10

Cover carrier; Type 2; incl. mounting/securing screws and knurled nut; for rail-mount terminal blocks (283 to 285 Series); for double- and triple-deck terminal blocks (279 to 281 Series); for TOPJOB® rail-mount terminal blocks (780 to 785 and 775 Series); for sensor/actuator terminal blocks (280 Series); for disconnect/test terminal blocks for transformer circuits (282 Series)		
Color	Item No.	PU
gray	**709-168**	10

Dimensions in mm



Dimensions in mm



Accessories

Marking card; with 6 marking strips; for group marking or safety instructions			
	plain	**709-183**	1

Spare mounting/securing screw; for cover		
	**209-196**	200 (25)

Spare knurled nut; for cover		
	**210-549**	100 (25)

10

Sealable, Transparent Cover; for Rail-Mount Terminal Blocks
709 Series

Cover; Type 3; for cover carrier (type 3); 1 m long		
Color	Item No.	PU
transparent	**709-156**	10

Cover carrier; Type 3; for rail-mount terminal blocks (2000 to 2016 Series, 2102 to 2116 Series, 2200 to 2216 Series); for transformer terminal blocks (2007 Series)		
Color	Item No.	PU
gray	**709-169**	10

Accessories

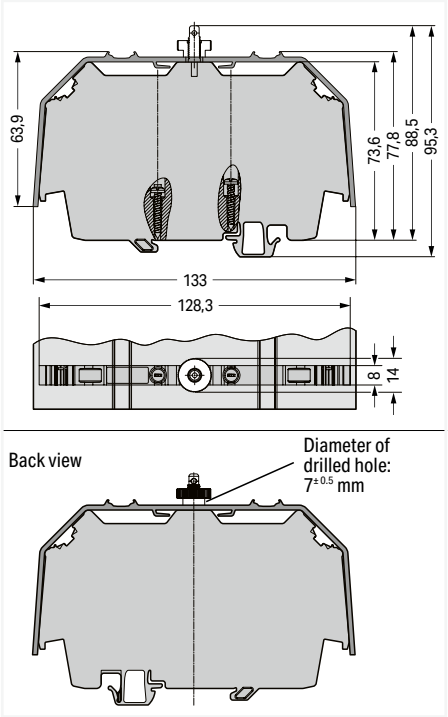
Marking card; with 6 marking strips; for group marking or safety instructions			
	plain	**709-183**	1

Marking strip; plain; 11 mm wide; 50 m reel			
„	white	**2009-110**	1

Spare mounting/securing screw; for cover		
	209-196	200 (25)

Spare knurled nut; for cover		
	210-549	100 (25)

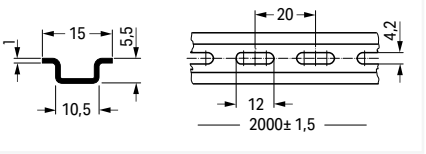
Dimensions in mm



10

DIN-Rail and End Stop; for DIN-15 Rail

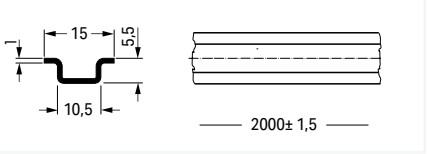
Dimensions in mm



Steel DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	PU
slotted	**210-111**	10 (1)

Dimensions in mm



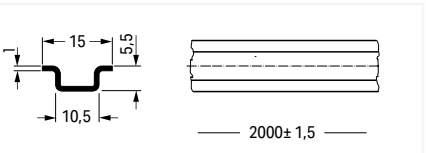
Aluminum DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; similar to EN 60715

	Item No.	PU
unslotted	**210-296**	10 (1)

Screwless end stop; for DIN-15 rail; 6 mm wide; for WMB markers

Color	Item No.	PU
gray	**249-101**	25

Dimensions in mm



Steel DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	PU
unslotted	**210-295**	1

Operating Tool

Operating tool with a partially insulated shaft; Type 1, (2.5 x 0.4) mm blade

Item No.	PU
210-719	50 (1)

Operating tool with a partially insulated shaft; Type 2, (3.5 x 0.5) mm blade

210-720	50 (1)

Operating tool with a partially insulated shaft; Type 3, (5.5 x 0.8) mm blade

210-721	25 (1)

Set of operating tools with a partially insulated shaft; Type 1, (2.5 x 0.4) mm blade; Type 2, (3.5 x 0.5) mm blade; Type 3, (5.5 x 0.8) mm blade

210-722	1

Operating tool; Blades: 3.5 mm and 2.5 mm; for installation terminal blocks (TOPJOB® S)

Item No.	PU
2009-309	50 (1)

Operating tool; Blades: 3.5 mm and 5.5 mm; for installation terminal blocks (TOPJOB® S)

2009-310	50 (1)

Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade; short

Item No.	PU
210-647	50 (1)

Operating tool with a partially insulated shaft; (2.5 x 0.4) mm blade; short; angled

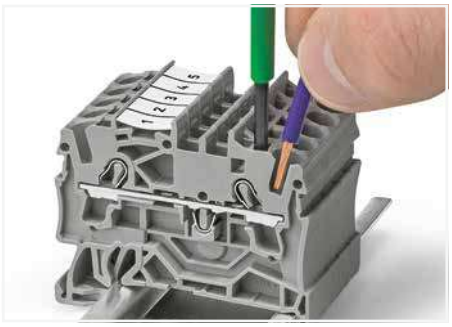
210-648	50 (1)

Operating tool with a partially insulated shaft; (3.5 x 0.5) mm blade; short

210-657	50 (1)

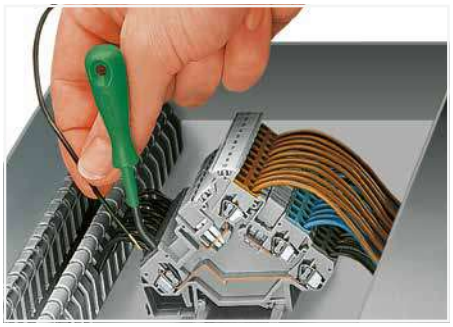
Operating tool with a partially insulated shaft; (3.5 x 0.5) mm blade; short; angled

210-658	50 (1)



The blade of this operating tool with a partially insulated shaft is ideal for operating front-entry terminal blocks.

Open the clamping unit using an operating tool.



This operating tool with blade dimensions per DIN 5264 is ideal for front-entry sensor/actuator terminal blocks (280 Series).

Set of operating tools in a box (210-722)

10

Operating Tool

Operating tool; insulated; for 279 Series		
	Item No.	PU
1-way	209-129	100 (1)
2-way	279-432	100 (1)
3-way	279-433	100 (1)
10-way	279-440	30 (1)

Operating tool; insulated; for 264 Series (1- and 2-way only), 280, 281 Series (up to 3-way only)		
1-way	209-130	100 (1)
2-way	280-432	100 (1)
3-way	280-433	100 (1)
4-way	280-434	40 (1)
5-way	280-435	40 (1)
6-way	280-436	30 (1)
7-way	280-437	30 (1)
8-way	280-438	30 (1)
9-way	280-439	30 (1)
10-way	280-440	30 (1)

Operating tool; insulated; for 281 Series		
5-way	281-440	40 (1)

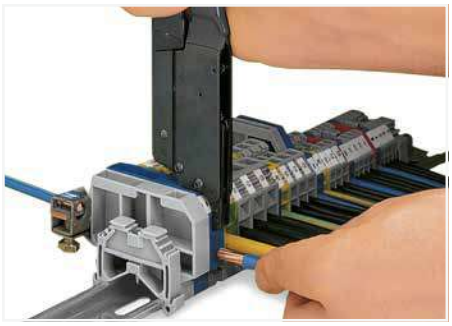
Operating pliers; for side-entry rail-mount terminal blocks (281, 282, 283 and 284 Series)		
	Item No.	PU
	210-141	1

Operating pliers; for side-entry rail-mount terminal blocks (279 and 280 Series)		
	210-143	1

T-wrench with a partially insulated shaft		
	Item No.	PU
	285-172	1

T-wrench with a partially insulated shaft and anti-rotation protection		
	285-173	1

Commoning front-entry disconnect terminal blocks via comb-style jumper bar using a 10-pole operating tool.



When operating the handles beyond the locked position, the ratchet allows the tool to open and be removed from the terminal block.
The operating pliers are placed into the upper operating slot of the rail-mount terminal block and the clamp is hooked into the lateral operating slot. The contact is fully opened by pressing the handles together until they engage. This will allow both hands to be used for wiring the terminal blocks.

T-wrench with a partially insulated shaft and anti-rotation protection (285-173)

Cable Knife

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

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.

Accessories

Spare inside blade

206-1418 1

Spare hook blade

206-1419 1

Strip large cross sections with the hook blade.

Release the fuse before using the hook blade.

10

Cable Stripper

In-socket cable stripper; for Ø 8 … 13 mm / 5/16 … 1/2 inch

	Item No.	PU
	206-1441	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 mm²/16 AWG … 5 x 2.5 mm²/14 AWG

Built-in handy knife

Universal cable stripper; for Ø 8 … 13 mm / 5/16 … 1/2 inch

	Item No.	PU
	206-1442	1

Sheath stripping: longitudinal cut

Product features:
- Secure grip achieved with soft padding for non-slip grips
- Technically improved 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

Stripping a cable sheath.

Stripping a conductor insulation.

Data cable stripper; for Ø 4.5 … 10 mm / 3/16 … 3/8 inch

	Item No.	PU
	206-1451	1

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

Cable Stripper

Stripping pliers; for sensor cables; for Ø 3.2 … 4.4 mm / 0.13 … 0.17 inch		
	Item No.	PU
	206-1481	1

Item-Specific Accessories

Replacement blade set; for Ø 3.2 … 4.4 mm / 0.13 … 0.17 inch		
	206-1491	1

Stripping pliers; for control cables; 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 4.4 … 7 mm / 0.17 … 0.27 inch		
	206-1492	1

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.

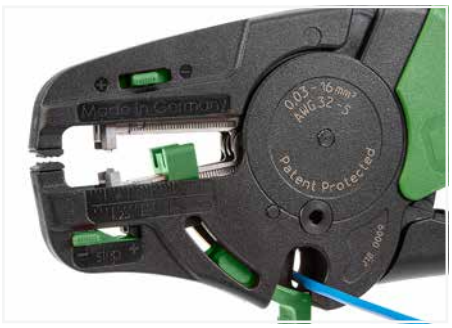
Suitable for:
- Halogen-free PUR sensor/actuator cables
- Highly flexible TPE-U cables
- Control cables
- PUR cables
- PUR/PVC cables
- PVC cables
- Multi-core cables
- Shielded and unshielded cables

Wire Stripper

Wire stripper "Quickstrip Vario"; 0.03 … 16 mm² / 34 … 6 AWG; with wire cutter		
	Item No.	PU
	206-1125	1

Accessories

Blade set; Standard; 0.03 … 16 mm² / 34 … 6 AWG		
	206-1126	1
Blade set; V-blade; 0.14 … 4 mm² / 24 … 12 AWG		
	206-1127	1
Blade set; Oval blade; 10 … 16 mm² / 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 cause no damage to 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 mm² (6 AWG)

Crimping Tool

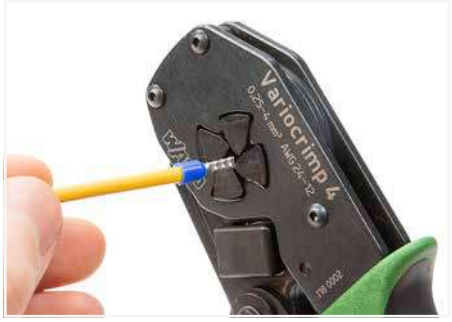
Crimping tool "Variocrimp 4"; for insulated and uninsulated ferrules; Crimping range: 0.25 … 4 mm² (24 … 12 AWG)		
	Item No.	PU
	206-1204	1

Crimping tool "Variocrimp 16"; for insulated and uninsulated ferrules; Crimping range: 6 mm² (10 AWG), 10 mm² (8 AWG) and 16 mm² (6 AWG)		
	Item No.	PU
	206-1216	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.

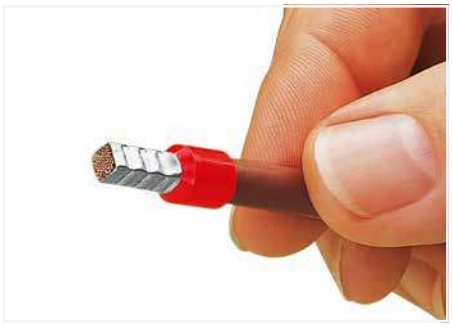
Item-Specific Accessories		
Spring clamp; large		
	**206-1205**	1
Spring clamp; small		
	**206-1206**	1

Item-Specific Accessories		
Spring clamp; small		
	**206-1206**	1



Insert the ferruled conductor into the crimping station.

Squeeze handles until ratchet mechanism is released.

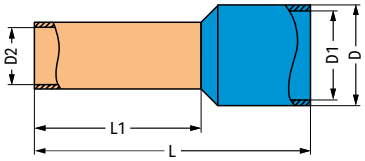


A perfect gas-tight crimp – both electrically and mechanically reliable

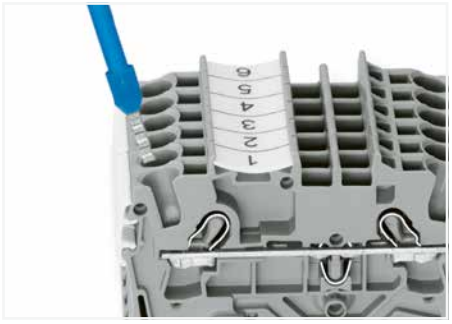
Only for "Variocrimp 16":
Adjust conductor cross section with crimping tool in open position.

10

Insulated Ferrule; for Rail-Mount Terminal Block TOPJOB® S

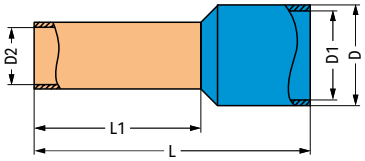


Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)									
Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	PU
0.5 mm² / 20 AWG	white	12 mm / 0.47 inch	16	10	3,1	2,6	1	216-241	1000
0.75 mm² / 18 AWG	gray	12 mm / 0.47 inch	16	10	3,3	2,8	1,2	216-242	1000
0.75 mm² / 18 AWG	gray	14 mm / 0.55 inch	18	12	3,3	2,8	1,2	216-262	1000
1 mm² / 18 AWG	red	12 mm / 0.47 inch	16	10	3,5	3	1,4	216-243	1000
1 mm² / 18 AWG	red	14 mm / 0.55 inch	18	12	3,5	3	1,4	216-263	1000
1.5 mm² / 16 AWG	black	12 mm / 0.47 inch	16	10	4	3,5	1,7	216-244	1000
1.5 mm² / 16 AWG	black	14 mm / 0.55 inch	18	12	4	3,5	1,7	216-264	1000
1.5 mm² / 16 AWG	black	20 mm / 0.79 inch	24	18	4	3,5	1,7	216-284	500
2.5 mm² / 14 AWG	blue	12 mm / 0.47 inch	17	10	4,7	4,2	2,2	216-246	1000
2.5 mm² / 14 AWG	blue	14 mm / 0.55 inch	19	12	4,7	4,2	2,2	216-266	1000
2.5 mm² / 14 AWG	blue	20 mm / 0.79 inch	25	18	4,7	4,2	2,2	216-286	500
4 mm² / 12 AWG	gray	14 mm / 0.55 inch	20	12	5,4	4,8	2,8	216-267	500
4 mm² / 12 AWG	gray	20 mm / 0.79 inch	26	18	5,4	4,8	2,8	216-287	100
6 mm² / 10 AWG	yellow	14 mm / 0.55 inch	20	12	6,9	6,3	3,5	216-208	100
6 mm² / 10 AWG	yellow	20 mm / 0.79 inch	26	18	6,9	6,3	3,5	216-288	100
10 mm² / 8 AWG	red	20 mm / 0.79 inch	28	18	8,4	7,6	4,5	216-289	100
16 mm² / 6 AWG	blue	23 mm / 0.91 inch	28	18	9,6	8,8	5,8	216-210	100

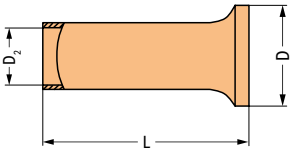


Fine-stranded conductors with ferrules from at least two sizes below the rated cross section up to the rated cross section can also be simply pushed in – without tools.

Insulated and Uninsulated Ferrules; for Chassis-Mount Terminal Strip

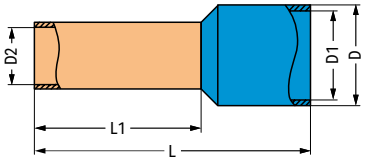


Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)									
Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	PU
0.5 mm² / 20 AWG	white	12 mm / 0.47 inch	16	10	3,1	2,6	1	216-241	1000
0.75 mm² / 18 AWG	gray	12 mm / 0.47 inch	16	10	3,3	2,8	1,2	216-242	1000
1 mm² / 18 AWG	red	12 mm / 0.47 inch	16	10	3,5	3	1,4	216-243	1000
1.5 mm² / 16 AWG	black	12 mm / 0.47 inch	16	10	4	3,5	1,7	216-244	1000



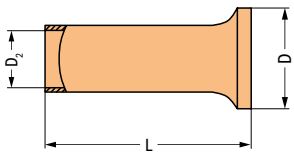
Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)						
Conductor Cross Section	Strip Length	L	D	D 2	Item No.	PU
0.5 mm² / 20 AWG	10 mm / 0.39 inch	10	2,1	1	216-141	5000 (1000)
0.75 mm² / 18 AWG	10 mm / 0.39 inch	10	2,3	1,2	216-142	5000 (1000)
1 mm² / 18 AWG	10 mm / 0.39 inch	10	2,5	1,4	216-143	5000 (1000)
1.5 mm² / 16 AWG	10 mm / 0.39 inch	10	2,8	1,7	216-144	5000 (1000)

Insulated and Uninsulated Ferrules



Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	PU
0.25 mm² / 24 AWG	yellow	7 mm / 0.28 inch	10	6	2,3	1,8	0,85	216-321	1000
0.25 mm² / 24 AWG	yellow	9 mm / 0.35 inch	12	8	2,3	1,8	0,85	216-301	1000
0.34 mm² / 22 AWG	green	7 mm / 0.28 inch	10	6	2,5	2	0,85	216-322	1000
0.34 mm² / 22 AWG	green	9 mm / 0.35 inch	12	8	2,5	2	0,85	216-302	1000
0.5 mm² / 20 AWG	white	7 mm / 0.28 inch	12	6	3,1	2,6	1	216-221	1000
0.5 mm² / 20 AWG	white	9 mm / 0.35 inch	14	8	3,1	2,6	1	216-201	1000
0.75 mm² / 18 AWG	gray	8 mm / 0.31 inch	12	6	3,3	2,8	1,2	216-222	1000
0.75 mm² / 18 AWG	gray	10 mm / 0.39 inch	14	8	3,3	2,8	1,2	216-202	1000
1 mm² / 18 AWG	red	8 mm / 0.31 inch	12	6	3,5	3	1,4	216-223	1000
1 mm² / 18 AWG	red	10 mm / 0.39 inch	14	8	3,5	3	1,4	216-203	1000
1.5 mm² / 16 AWG	black	8 mm / 0.31 inch	12	6	4	3,5	1,7	216-224	1000
1.5 mm² / 16 AWG	black	10 mm / 0.39 inch	14	8	4	3,5	1,7	216-204	1000
2.08 mm² / 14 AWG	yellow	10 mm / 0.39 inch	15	8	4,8	4,2	2,05	216-205	1000
2.5 mm² / 14 AWG	blue	10 mm / 0.39 inch	15	8	4,7	4,2	2,2	216-206	1000
4 mm² / 12 AWG	gray	12 mm / 0.47 inch	18	10	5,4	4,8	2,8	216-207	500
6 mm² / 10 AWG	yellow	14 mm / 0.55 inch	20	12	6,9	6,3	3,5	216-208	100
10 mm² / 8 AWG	red	16 mm / 0.63 inch	22	12	8,4	7,6	4,6	216-209	100
16 mm² / 6 AWG	blue	23 mm / 0.91 inch	28	18	9,6	8,8	5,8	216-210	100



Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Strip Length	L	D	D 2	Item No.	PU
0.25 mm² / 24 AWG	5 mm / 0.2 inch	5	1,7	0,75	216-151	1000
0.25 mm² / 24 AWG	7 mm / 0.28 inch	7	1,7	0,75	216-131	1000
0.34 mm² / 22 AWG	5 mm / 0.2 inch	5	1,8	0,85	216-152	1000
0.34 mm² / 22 AWG	7 mm / 0.28 inch	7	1,8	0,85	216-132	1000
0.5 mm² / 20 AWG	6 mm / 0.24 inch	6	2,1	1	216-121	1000
0.5 mm² / 20 AWG	8 mm / 0.31 inch	8	2,1	1	216-101	1000
0.75 mm² / 18 AWG	6 mm / 0.24 inch	6	2,3	1,2	216-122	1000
0.75 mm² / 18 AWG	8 mm / 0.31 inch	8	2,3	1,2	216-102	1000
1 mm² / 18 AWG	6 mm / 0.24 inch	6	2,5	1,4	216-123	1000
1 mm² / 18 AWG	8 mm / 0.31 inch	8	2,5	1,4	216-103	1000
1.5 mm² / 16 AWG	6 mm / 0.24 inch	6	2,8	1,7	216-124	1000
1.5 mm² / 16 AWG	8 mm / 0.31 inch	8	2,8	1,7	216-104	1000
2.5 mm² / 14 AWG	10 mm / 0.39 inch	10	3,4	2,2	216-106	1000
4 mm² / 12 AWG	10 mm / 0.39 inch	10	4	2,8	216-107	1000
6 mm² / 10 AWG	12 mm / 0.47 inch	12	4,7	3,5	216-108	500
10 mm² / 8 AWG	12 mm / 0.47 inch	12	5,8	4,5	216-109	500
16 mm² / 6 AWG	15 mm / 0.59 inch	15	7,5	5,8	216-110	500

Crimping Tool

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.

Crimping tool 25; for insulated and uninsulated ferrules; crimping range: 10 mm² (8 AWG), 16 mm² (6 AWG) and 25 mm² (4 AWG)

	Item No.	PU
	206-1225	1

Crimping tool 50; for insulated and uninsulated ferrules; crimping range: 35 mm² (2 AWG) and 50 mm² (1/0 AWG)

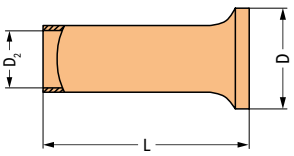
	Item No.	PU
	206-1250	1

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.

Uninsulated Ferrule



Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)						
Conductor Cross Section	Strip Length	L	D	D 2	Item No.	PU
25 mm² / 4 AWG	25 mm / 0.98 inch	25	9,5	7,3	**216-413**	50
35 mm² / 2 AWG	25 mm / 0.98 inch	25	11	8,3	**216-414**	50
35 mm² / 2 AWG	30 mm / 1.18 inch	30	11	8,3	**216-424**	50
50 mm² / 1/0 AWG	30 mm / 1.18 inch	30	13	10,3	**216-425**	50
50 mm² / 1/0 AWG	35 mm / 1.38 inch	35	13	10,3	**216-435**	50

Test and Measurement Devices
206 / 210 Series

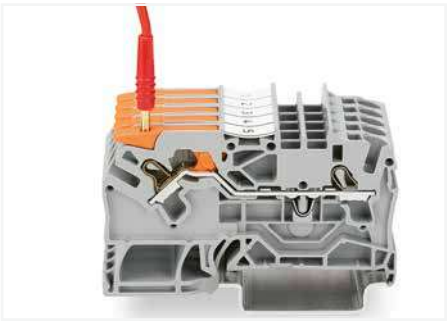
Testboy; with integrated flashlight, non-contact voltage tester

	Item No.	PU
	206-804	6 (1)

Test plug; 2 mm Ø; with 500 mm cable; Ø 2 mm; max. 42 V

Color	Item No.	PU
red	210-136	50 (1)

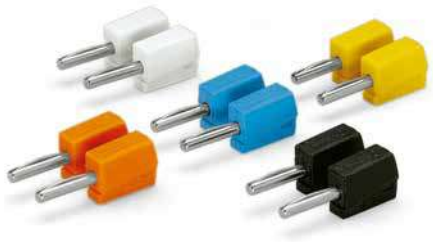
A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets and other installations.
Testboy can detect the following:
- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights



Testing with a 2 mm Ø test plug (max. 42 V).

Banana Plug (Only for Safety Extra-Low Voltage)
215 Series

Technical Data	
0.08 … 2.5 mm²	28 … 14 AWG
max. 42 V	
Test current: 20 A	
Measuring range category: CAT I	
9 … 11 mm / 0.35 … 0.43 inch	



Conductor termination: Press button fully, insert stripped conductor into square entry and release.

Testing via banana plug.
Picture shows a test plug adapter (209-170).

Banana plug; for 4 mm socket diameter; color mixed; 10 x orange, white, black, blue, yellow		
	Item No.	PU
	215-111	50

Banana plug; single

Banana plug; for 4 mm socket diameter			
	orange	215-211	50

Banana plug; for 4 mm socket diameter			
	red	215-212	50

Banana plug; for 4 mm socket diameter			
	black	215-311	50

Banana plug; for 4 mm socket diameter			
	green	215-411	50

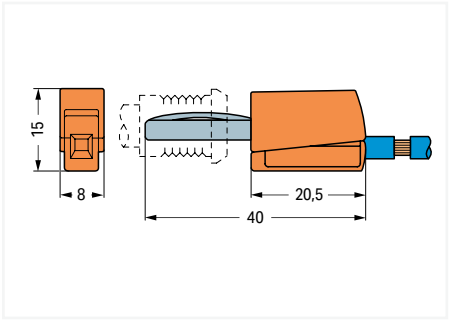
Banana plug; for 4 mm socket diameter			
	yellow	215-511	50

Banana plug; for 4 mm socket diameter			
	white	215-611	50

Banana plug; for 4 mm socket diameter			
	blue	215-711	50

Banana plug; for 4 mm socket diameter			
	gray	215-811	50

Banana plug; for 4 mm socket diameter			
	green-yellow	215-911	50



Dimensions in mm

Technical Section

Technical Section

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

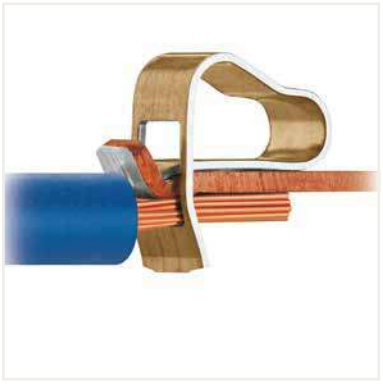
fine-stranded, with ferrule (gastight crimped)

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

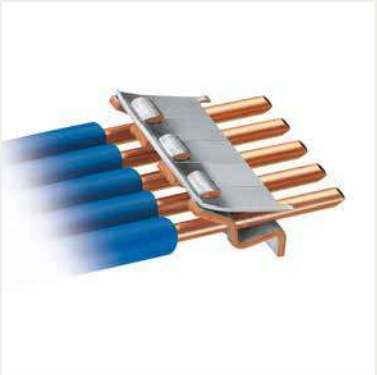
fine-stranded, with ferrule (gastight crimped)

The universal connection for conductors larger than 35 mm² (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.

Signal Conditioners

857 Series

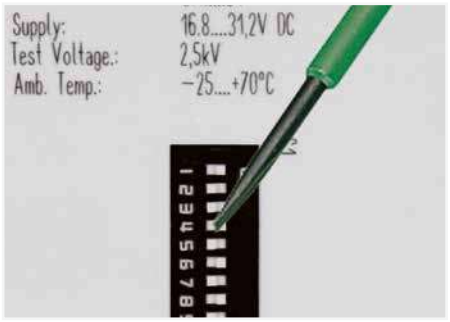
Housed in a 6 mm-wide package, the Signal Conditioners feature eight Push-in CAGE CLAMP® connections and a common profile. These features play a key role in forming the basis for a successful overall solution. Additional benefits include: "safe isolation," extended operating temperature range and calibrated, configurable signals. Combined with excellent technical specifications, these features lead to a line of advanced signal conditioning solutions that maximize panel space while reducing signal wiring and downtime.

Directly Connect:
Simple, push-in termination of solid and ferruled conductors – no operating tool needed.

PUSH-IN CAGE CLAMP®

Highest Safety:
All devices provide "safe isolation" with 2.5 kV test voltage according to DIN EN 61010-1.

Configuration Options

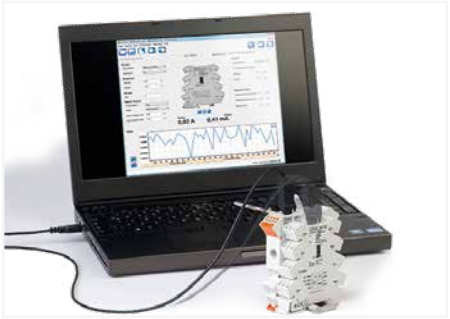


Configuration via DIP switch

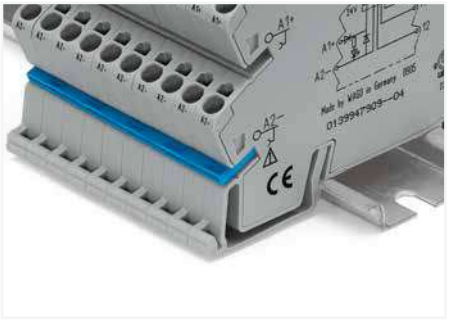
Industry's most compact –
"True" 6.0 mm (0.23 inch) width maximizes panel space.

Configuration via *JUMPFLEX*®-ToGo Smartphone App

For extreme applications –
Extended temperature range of –25 °C to +70 °C to support more applications.



Configuration via PC software

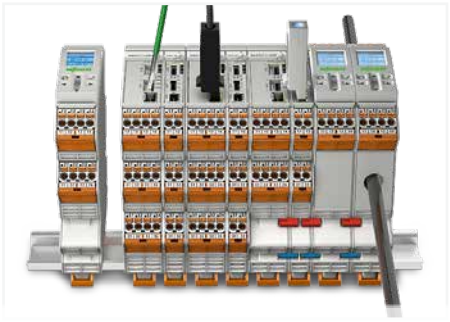


Commoning, not discrete wiring –
Same outline allows use of a single in-line, push-in jumper.

Configuration via push/slide switch

Signal Conditioners

2857 Series



The success of the 857 Series Signal Conditioners shaped the design of the new 2857 Series. Just like the 857 Series, usability and absolute reliability are at the core of the 2857 Series. However, the 2857 Series takes flexibility to new levels by providing several convenient configuration options. In addition to DIP switches, PC configuration software and a smartphone configuration app, there is also a touch panel display. Every aspect has been engineered for maximum flexibility – exactly what you'd expect from WAGO.

Directly Connect:
Simple, push-in termination of solid and ferruled conductors –no operating tool needed.

PUSH-IN CAGE CLAMP®

Highest Safety:
All devices provide "safe isolation" with 4 kV test voltage according to DIN EN 61010-1.

4 kV

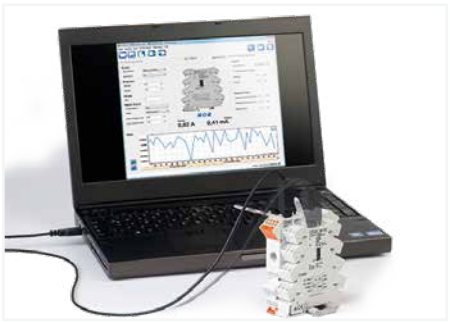
Configuration Options

Configuration via DIP switch

Commoning, not discrete wiring –
Same outline allows use of a single in-line, push-in jumper.

Configuration via *JUMPFLEX*®-ToGo Smartphone App

For extreme applications –
Extended temperature range of –40 °C to +70 °C to support more applications.



Configuration via PC software

Lock-out seal option

Configuration via touch panel – an innovative display

Pluggable connection technology

11

Isolation Amplifiers
with a Power Supply

Pre-Configured Isolation Amplifiers

Pre-configured isolation amplifiers convert, amplify, filter and electrically isolate analog standard signals (e.g., 0 … 10 V into 0 … 20 mA).

Configurable Isolation Amplifiers

For signal conditioners, and particularly two-wire signal conditioners, the measured signal is often in the 4 … 20 mA range as a current value. For the analog input card of a PLC, however, input voltages in the ranges of 0 … 10 V or 0 … 5 V are required.
Configurable isolation amplifiers support various standard signals at the input and output; the devices also convert, amplify, filter and electrically isolate analog standard signals. DIP switches accessible from the side can be used to configure the input and output signals. Measurement range configuration via DIP switch is calibrated.

Universal Isolation Amplifiers

In addition to the configurable isolation amplifiers, the universal isolation amplifiers can also be configured via PC configuration software or smartphone app. The configuration software also offers additional options, such as special input and output signal combinations with intermediate values or inversion of the analog output. An error message can be signaled via digital switching output.

Bipolar Isolation Amplifiers

Bipolar measurement signals often require processing, e.g., when motor currents are measured in both directions of rotation. Bipolar signals are also processed for recording distances or for better resolution of measurement signals.

Repeater Power Supplies

Repeater power supplies energize transmitters.
Two-wire transmitters regulate their own current consumption proportional to the measured value; the 4 … 20 mA connection provides auxiliary power for the transmitter and the magnitude of the current is the same as the output measured value.
Three-wire transmitters usually have an active current output for the measured value and additional connections for the supply voltage (auxiliary power).

Signal Splitters

Signal splitters divide a standard signal into two signals. The measured signal can be supplied to different downstream devices without interference.
Example: A signal conditioner supplies 4 … 20 mA input current. 20 mA.
Output 1 is configured to 4 … 20 mA and transmits the measured value to a controller.
Output 2 is configured to 0 … 20 mA and regulates a controller.

Isolation Amplifiers
without a Power Supply

Passive Isolators

Passive isolators draw their power from the input signal (4 … 20 mA) and require no additional wiring or auxiliary power.

Loop-Powered Isolation Amplifiers

Loop-powered isolation amplifiers draw their power from the output signal (4 … 20 mA) and require no additional wiring or auxiliary power.

Relay Modules

Relay Modules

Conveniently Interface Electronics and Peripheral Devices

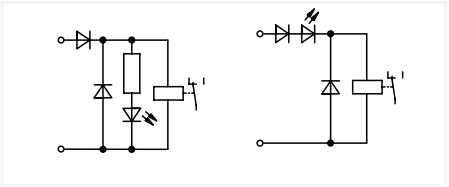
In modern automation systems, electromechanical relays safely connect process peripherals with electronic control, alarm and monitoring systems. For example, relays perform the following tasks:
Electrical isolation with high isolation levels between input and output circuits
Adjust different signal levels
Signal amplification and/or signal multiplication if varying potentials coexist
The comprehensive design of modern relays provides applications with the following benefits:
Immunity to electromagnetic interference and transient voltages
High, short-term overload capacity on both input and output sides
Minimal switching loss
A single module that switches both direct and alternating currents

WAGO offers a complete range of relay modules that perform these tasks for a wide range of applications. Depending on the task and application requirements, there is a choice of relay modules with differently rated voltages, contacts, contact materials, housings and designs. In addition to standard switching relays, other relay models are available including bistable, timer, latching and safety relays with force-guided contacts.

Definitions of Several Important Technical Terms

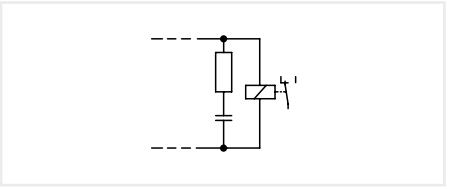
Coil-Side

The relays can be used within the stated temperature range with nominal voltage plus tolerance at 100% continuous rating. According to the type and application, the relays are triggered with a DC or AC signal. The DC versions (residual ripple ≤ 6%) are, unless otherwise stated, equipped with LED function indicators, a recovery diode and a reverse voltage protection diode. The functional details are shown in the wiring diagram.



Possible input circuits of relay modules

AC versions of select relays equipped with series connected rectifiers (refer to the wiring diagrams) can be triggered with AC and DC at the stated nominal voltage.
The free-wheel function is in this case actuated by the rectifier. The only input circuit on purely AC relays is the status display.
To guarantee safe operation, residual voltages (due to the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) must be lower than the release voltage of the relays. For DC relays, the release voltage is specified with ≤ 5 % of the nominal voltage; for AC relays, it is 15 % of the nominal voltage (per EN 61810).
The relay may not reset if a high residual voltage exists. Depending on the reason for the residual voltage, changing the cable routing or a parallel connection of an RC element of R = 100 … 220 Ω and C = 220 … 470 nF could remedy this situation.



Optionally, modules specially developed for this application are available, e.g., sockets with a miniature switching relay and integrated base load module (857-358/006-000).

Relay Modules

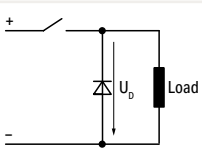
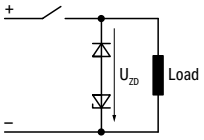
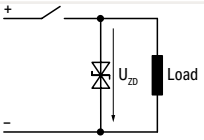
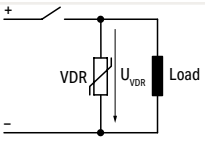
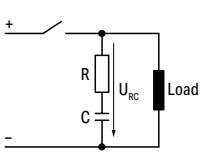
Contact Materials

For contact reliability, the contact resistance over the entire operating life of the relay should remain relatively low and constant. A variety of contact materials can be selected depending on the load type, switching current, switching voltage and the desired number of switching cycles. The accompanying table shows the materials, their properties and applications when used with WAGO relay modules.

Contact Material	Properties and Applications	Application Range
AgNi 0,15 + Au	Excellent corrosion resistance, low and constant contact resistances at extremely low switching power, for dry circuits	µV ... 30 V µA ... 0,2 A
AgNi 0,15	Good mechanical stability, low welding tendency and low contact resistance, universal use at moderate loads	≥ 12 V 5 mA ... 10 A
$AgSnO_2$	Low welding tendency, extremely high burn-off resistance at high switching power, suitable for circuits with high switch on/off loads, DC circuits	≥ 5 V / 100 mA ≥ 10 V / 10 mA ≥ 24 V / 1 mA

Contact Protective Circuit

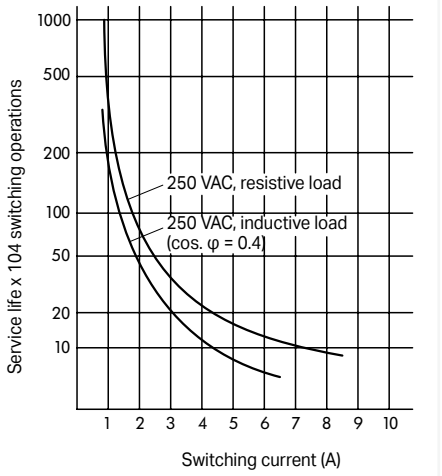
When switching off inductive loads, such as contactors and solenoid valves, transients occur with peak voltages up to several thousand volts. These transients often exceed the permissible EMC standard limits and must therefore be limited by external circuits. They also cause an electric arc at the switching contact, which can destroy the contact or can significantly diminish the relay's service life and reliability. The following protective circuits, which are outlined in the table, are connected directly to the source in parallel to the load and have proven to be successful.

Load Circuit	Additional Fall Delay	Defined Induction Voltage Limitation	Bipolar-Effective Attenuation		
Diode 	Large	Yes (U_D)	No	Advantages: Disadvantages	• Easy implementation • Cost-effective, reliable • Uncritical dimensioning • Small induction voltages • Attenuation only via load resistor
Diode/Zener Diode Series Circuit 	Medium to small	Yes (U_{ZD})	No	Advantages: Disadvantages	• Uncritical dimensioning • Attenuation only above U_{ZD}
Suppressor Diode 	Medium to small	Yes (U_{ZD})	Yes	Advantages: Disadvantages	• High energy absorption • Uncritical dimensioning • Suitable for AC voltage • Attenuation only above U_{VDR}
Varistor 	Medium to small	Yes (U_{VDR})	Yes	Advantages: Disadvantages	• High energy absorption • Uncritical dimensioning • Suitable for AC voltage • Attenuation only above U_{VDR}
R/C Combination 	Medium to small	No	Yes	Advantages: Disadvantages	• RF attenuation via power storage • Suitable for AC voltage • Level-independent attenuation • Accurate dimensioning required • High inrush current

Relay Modules

Service Life

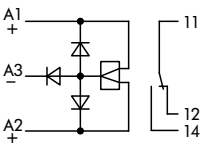
A distinction must be made between the mechanical life, which indicates the number of switching cycles without contact load, and the electrical service life at maximum load, which indicates the number of switching cycles with maximum switching power and resistive load. Reduced power increases the service life compared to the value of the maximum load. The following figure shows the typical curve between switching current and service life of a relay.



More details upon request

Description of Select Relays

Bistable Switching Relays



Bistable switching relays have three coil contacts. According to the wiring scheme, the relay is switched into "working condition" (contacts 11 ... 14 closed) by the common connection A3 and the connection A2 and into "rest position" (contacts 11 ... 14 opened) by the connection A1. After removing the control signal, the relay returns to its respective position and can only be switched over by a control signal circuit. The bistable switching relays are only available for direct voltage with positive or negative triggering.

Current Pulse Switching Relays

One current pulse is needed to change the relay from the rest position to the working position and vice versa. During the triggering process, one of two status indicators displays the actual contact position. The current pulse switching relay is available for direct and alternating voltage.

Safety Relays

Force-guided safety relays have become increasingly recommended and specified for self-regulated systems as they provide protection for personnel, machines and installations. Relays with force-guided contacts are an essential safety component for these circuits, particularly when defects occur. For these applications, WAGO offers specialty relay modules with force-guided contacts as based on EN 61810-3.

Optocouplers

Optocouplers – The Modern and Powerful Alternative

As a link between process peripherals and electronic control, alarm and monitoring systems, optocoupler modules boast the following advantages over electromechanical relays:

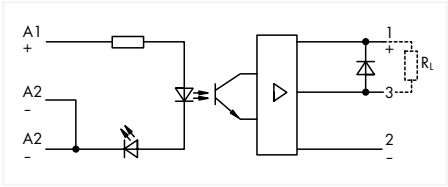
- Longer service life – no mechanical wear
- High switching frequency because of fast switching times
- Vibration resistance
- No contact bouncing
- "Noiseless" switching
- Low control power

WAGO provides a full range of optocouplers for all interfaces between control and load circuits in applications where the following advantages are needed:

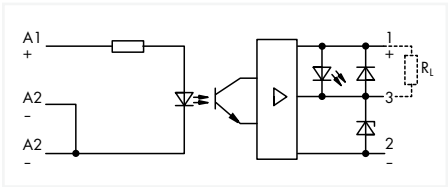
- Electrically isolate input and output circuits
- Adjust different signal levels
- Signal amplification

Input Circuit

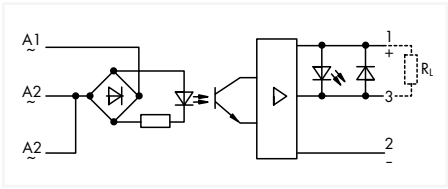
According to the type, triggering the optocoupler modules is performed via DC voltage (residual ripple RR <6%) or AC voltage (50 … 60 Hz).
In the DC type, a reverse voltage protection diode is always provided; in the AC type optocoupler element, a rectifier is included. The optocoupler modules are equipped with a LED function indication at either the input side or at the load side, as shown in the wiring diagram.



DC triggering with LED function indication in the triggering circuit



DC triggering with LED function indication in the load circuit



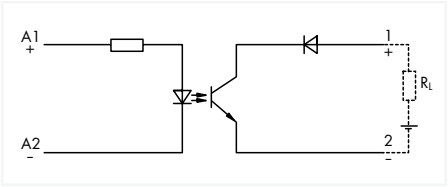
AC triggering with LED function indication in the load circuit

Due to the low threshold voltages, it must be ensured that interference and residual voltages (caused by the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) do not cause any malfunctions.

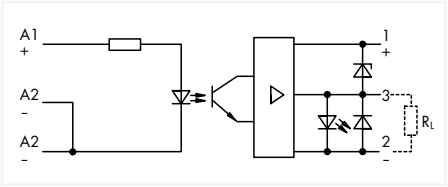
Output Circuit

Depending on the application, an optocoupler module for DC or AC voltage consumers can be selected on the load side. In the case of DC outputs, they can be:

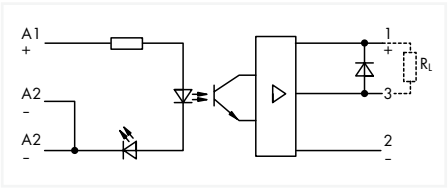
- 2-wire output
- 3-wire high-side switching output
- 3-wire low-side switching output



2-wire output

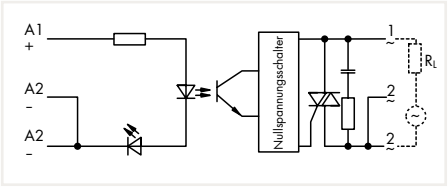


3-wire high-side switching output



3-wire low-side switching output

In addition to these different functional outputs, the output voltage range and the maximum switching current must be observed.
To ensure proper operation, the specified polarity must be observed.
In order to protect the output transistors, inductive loads must always be equipped with a protective circuit, e.g., a recovery diode. For other types of protective measures, the cut-off voltage peaks must be lower than the indicated cut-off voltage of the output transistors. For the AC outputs a Triac is used as the switching element.



In order to avoid high inrush currents, the AC output is equipped with a zero-voltage switch which turns on the load at the zero-voltage point. In the current zero-crossing, the Triac will cut off the load. Besides observing the maximum switching voltage and maximum switching current for inductive loads, ensure the provision of a protection circuit to cut-off peaks to a value below the reverse voltage.

Relay Modules and Optocouplers
Housings and Designs

Modern equipment design requires multiple components that can meet diverse challenges:
User- and maintenance-friendly, limited budgets, safety and availability, simplicity in design and usage.

WAGO offers relay and optocoupler modules in various designs to overcome any of the restraints posed by space requirements.

Sockets with a Miniature Switching Relay or a Solid-State Relay, 788 Series

Socket with a pluggable miniature switching relay

WAGO 788 Series Relay Sockets are an excellent platform for industrial and process automation switching relay applications. Featuring plug-and-play, miniature switching relays (1 or 2 changeover contacts), the 788 Series relays are ultra-compact, fitting where other relays won't.
A compact design (W x H x D: 15 x 53 x 86 mm) is just one of the 788 Series' unique and highly beneficial features.
A robust, easy-to-use lever lifts/ejects relays, simplifying replacement – even if relay modules are side-by-side.
For flexibility and the reduction of part numbers, the 788 Series can be ordered as: a fully equipped relay module, a relay and LED for switching status indication, or as individual components.

Relay and Optocoupler Modules, 857 Series

Relay module with plugged miniature switching relay

WAGO's 857 Series Relay and Optocoupler Modules are supplied in 6 mm-wide housing and share a common profile. The modules feature a single, flexible in-line jumper system, eliminating discrete wiring. The pluggable relays can simply be replaced from the top.

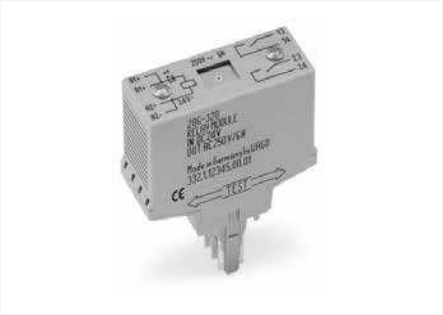
Relay and optocoupler modules

Relay Modules and Optocouplers
Housings and Designs

Pluggable Function Modules for Carrier Terminal Blocks, 286 Series

Pluggable function modules for carrier terminal blocks

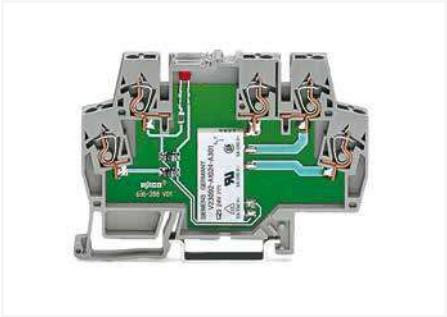
Pluggable modules for carrier terminal blocks maximize flexibility while simplifying maintenance.
The carrier terminal block is mounted on the DIN-rail and wired just like a standard terminal block.
For ease of maintenance, the modules are replaced in one step without altering the wiring. This intelligent design also saves space and reduces wiring costs.



Pluggable relay modules for carrier terminal blocks

A comprehensive range of function modules is available to complement these relay and optocoupler modules. The modules seamlessly integrate any required function into control cabinets via pluggable modules.

Rail-Mount Terminal Blocks with Relay and Optocoupler, 859 Series



Relay module

With a wide range of relays and optocouplers, the 859 Series will suit any industrial interface application.
The compact, 6 mm-wide housing is ideal for space-restricted control panels. Simple commoning at the control and load side streamlines looping through of common input and output potentials.

Sockets with an Industrial Relay, 858 Series

Socket with an industrial relay

A robust design and vibration-proof CAGE CLAMP® Spring Pressure Connection Technology ensure continuous and uninterrupted operation for any system. The right choice for applications requiring up to four changeover contacts. Dual conductor entries enable customized potential distribution.

Relay Modules in a DIN-Rail Mount Enclosure, 789 Series

Relay module in a DIN-rail-mount enclosure

WAGO 789 Series Switching Relays serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets.
Just 17.5 mm wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.
The relay modules with manual operation allow simple emergency operation to be implemented.

Interface Modules

Safe and Maintenance-Free Connections

Interface modules connect electronics to electrical systems at the control level and perform:
- signal transmission between control and field level (system, machine), as well as
- signal distribution between control and field level

and vice versa. Here, the control signals from pre-assembled, plug-in connections are applied to terminal block connections.
WAGO offers a wide range of interface modules for commonly used connector types. Using these interface modules, the following benefits are provided for system wiring:
- Simple and time-saving planning and calculation
- Quick wiring, commissioning and troubleshooting thanks to clearly laid-out wiring and highly legible pole markings – decrease wiring errors
- Safe and maintenance-free connection of signal lines using CAGE CLAMP® terminal strips
- Space-saving, high-density wiring

The interface modules can be delivered as standard, in a universal DIN-rail mounting carrier for the following connectors:

D-Subminiature Connector per DIN 41652

Interface modules for male and female connectors are available with 9, 15, 25, 37 or 50 contacts. Compared with the standard solder connection, the mating connector with IDC connection offers additional advantages.

Interface module with D-subminiature connector per DIN 41652

Pluggable Connector per DIN 41651

Interface modules with 10-, 14-, 16-, 20-, 26-, 34-, 40-, 50- and 64-pole pluggable connectors are available for ribbon cable connectors.

Interface module with pluggable connector per DIN 41651

RJ-45 Interface Modules

The RJ-45 interface modules are switchgear cabinet components for passive and structured network cabling. A range of DIN-rail-mount RJ-45 interface modules in different variants are available for the various applications:
- with shield clamping saddles
- as crossover
- with additional power contacts

RJ-45 Interface Modules

Overvoltage Protection

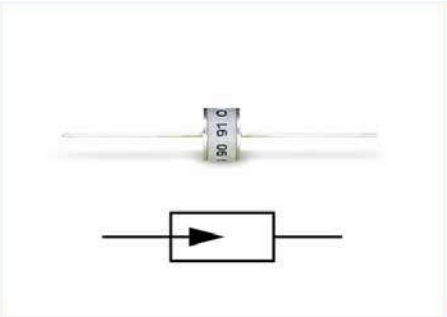
Overvoltage Protection to Increase Operational Safety and Availability

On-the-line overvoltages cause most operating failures for measuring, control, data and power lines. Failure of electronic and semiconductor components due to surges can cause operating interruptions. The overvoltage (also called transients) can be generated by switching electrical equipment on or off or by lighting discharges. Depending on the application, protective measures for systems and devices can be broken down into:

- Coarse protection
- Medium protection
- Fine protection

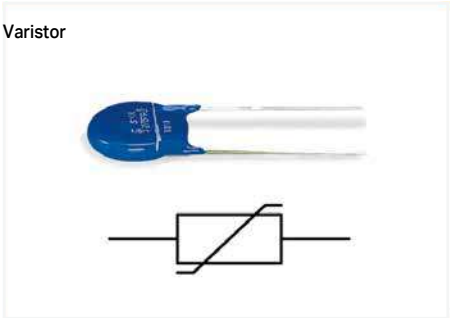
The boundaries between these levels of protection may not be sharply defined. To implement the appropriate protection measures, various components are used for discharging transient overvoltage, depending on the protection type. The following components have proven performance in these applications:

Gas-Filled Surge Arrester



The gas filled surge arrester is comprised of two electrodes in a ceramic or glass tube filled with a pressurized inert gas.
Once the ignition voltage is reached, resistance drops due to ionization and current begins to flow. The resistance of the device drops from high to low as it conducts. The voltage across the device after the arc is struck is typically 10 ... 30 V. Therefore, the current will continue to flow until the voltage drops below this level. As this is not a guaranteed occurrence in typical power situations, a fuse must precede the device to ensure disconnection from the supply. This is always the case if the nominal voltage of the protected network is greater than 12 VDC and the nominal voltage of the power supply and the protected circuit is greater than 100 mA.

Varistor



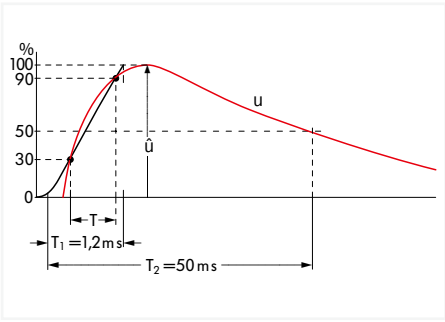
A varistor is a voltage-dependent resistor, in which the resistance becomes low after their "nominal voltage" is exceeded and for the voltage range above it, and can thus cut off any overvoltages through high discharge currents. Varistors can age with continued surge conduction, resulting in lower impedance even in the lower voltage range. However, this normally only occurs when a varistor frequently discharges transients. In this case, they must be replaced and specific time intervals.

Suppressor Diode

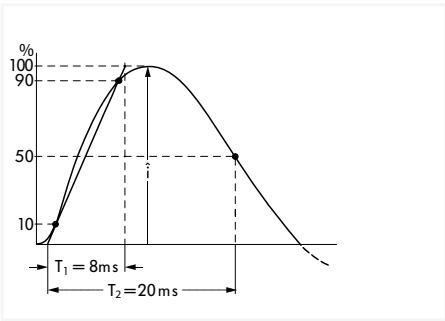
Suppressor diodes have electrical characteristics similar to Zener diodes, but are rated for surge currents.
Once the rated breakdown voltage is exceeded (in the non-conductive direction), the diode becomes a conductor. The suppressor diode differs from a Zener in its higher current carrying capability and faster response time (in the picosecond range).

Test Impulse

Surge arresters are subject to standardized test pulses in order to classify capabilities; the effectiveness of protection measures with reference to dissipation capacity and voltage arresting. The form and level of the test pulses are defined by IEC 60060-1 and EN 62475:2010. Preference is given to voltage pulses of 1.2/50 and current pulses of 8/20.



Voltage pulses 1.2/50 per IEC 60060-1



Current pulses 8/20 per EN 62475:2010

Application Recommendations

The advantages of gas-filled surge arresters lie in their high current carrying capacity, making them ideal for coarse protection. One disadvantage, particularly in the medium protection range, is the relatively long response time, as well as the power follow current.
Varistors have a considerably shorter response time; however they also have lower leakage currents. This makes them more suitable for medium protection as they offer limited applications for coarse protection.
If the connection lines of electronic equipment are already "fine" protected, general coarse and medium protection measures are sufficient. If this is not the case, suppressor diodes with a very short response time may be employed as fine protection. WAGO offers a complete range of modular terminal blocks with integrated surge arresters for coarse, medium and fine protection.
Depending on the application, one can choose the appropriate type from the previously mentioned surge arresters. These are electrically connected in the modular terminal blocks between the connection point and mounting rail. Snapping the terminal block onto the grounded (earthed) mounting rail automatically ensures the required overvoltage protection.

Double-deck terminal block, with varistor direct connection to DIN-35 rail

Frequently, only one surge arrester is fitted for cost reasons. However, due to the fact that one surge arrester alone cannot optimally ensure several protection functions, combinations are recommended. Care must be taken to ensure that the single-stage protection devices are decoupled sufficiently by inductors or resistors.

Overvoltage Protection

Interference suppression modules are a special category here.
In addition to overvoltage protection, a high frequency interference filter can be added to the circuitry. This filter cannot only protect the equipment from high frequency energy transmitted by connecting wires, but also prevents a transmission of disturbances to the supply lines. The main component of a filter is an LC network, which produces a mismatch between the filter impedance and the impedance of the disturbance path. This reflects any disturbance back to its source.

Definition of Several Important Technical Terms

Nominal Operating Voltage (U_{BN})

The nominal operating voltage corresponds to the voltage which may be permanently connected to the appropriate connection terminals of the overvoltage protection module. Alternating voltages are quoted as effective values.

Max. Operating Voltage (U_{Bmax})

The maximum operating voltage corresponds to the voltage which may be permanently connected to the appropriate connection terminals without the operating properties changing or activating the individual module's protection elements.

Nominal Current (I_N)

The nominal current corresponds to the current which may permanently flow through the connection terminals of the overvoltage protection device.

Nominal Discharge Current (I_{SN})

The nominal discharge current is the maximum value of a current having the 8/20 µs waveform, which can flow through the surge arrester five times within a time period of 30 seconds (VDE) without destroying it.

Max. Surge Current (I_{Smax})

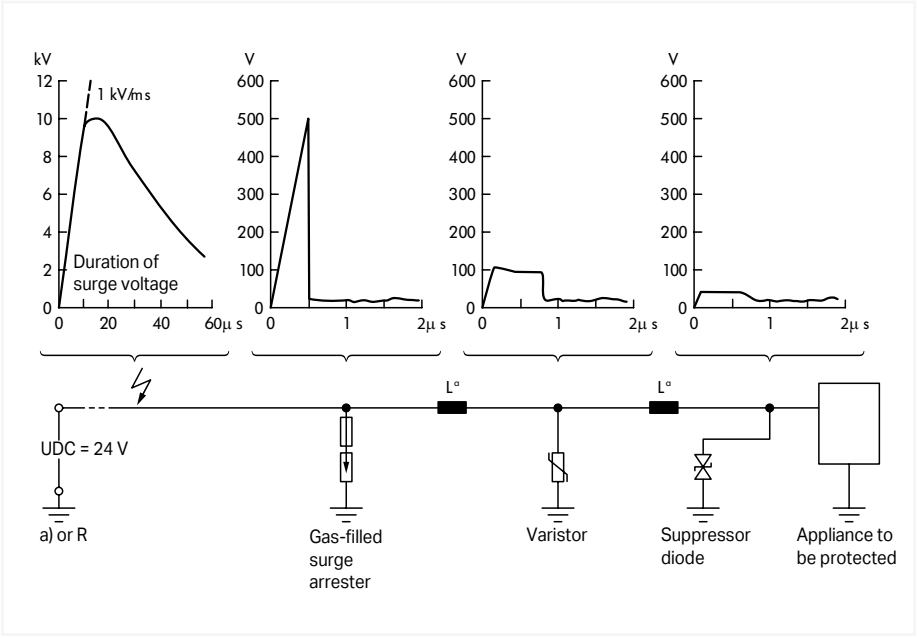
The maximum surge current ISmax defines the maximum value of a current having the 8/20 µs waveform, which can flow through the surge arrester once without destroying it.

Protection Level (U_P)

The protection level is the value of the residual voltage occurring on the "protected" side of the surge arrester when applying the rated discharge current.

Response Time (t_{resp})

The response time is primarily based on the physical properties of the surge arresters and is dependent upon the wave front duration of the surge voltage. WAGO's data refers to a voltage rise 1kV/µs.



Function diagram of a multi-stage surge voltage protection module

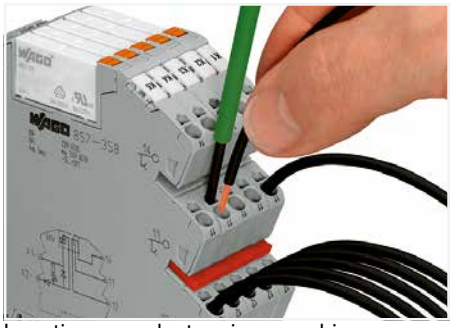
11

Installation Notes

Relay and Optocoupler Modules, 859 Series

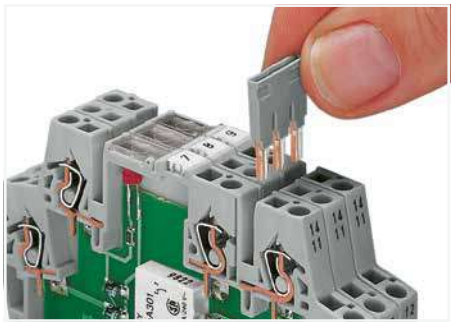
Inserting a conductor via screwdriver.

Relay and Optocoupler Modules, 857 Series

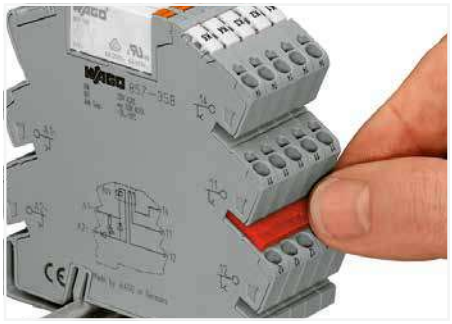


Inserting a conductor via screwdriver.

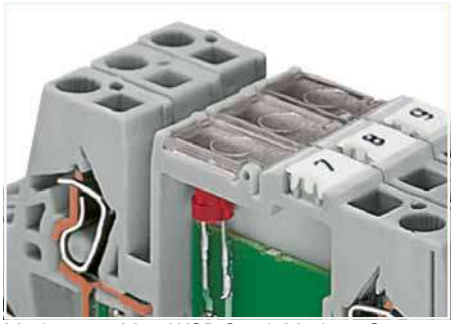
Removing a relay via ejector.



Easy commoning using adjacent jumpers.



Easy commoning using adjacent jumpers.

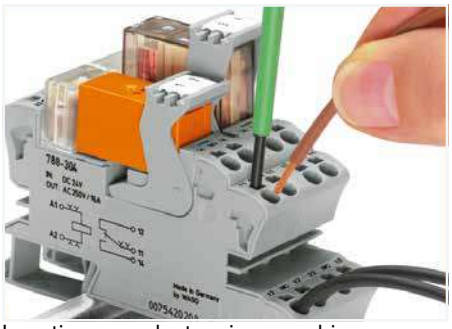


Marking via Mini-WSB Quick Marking System.

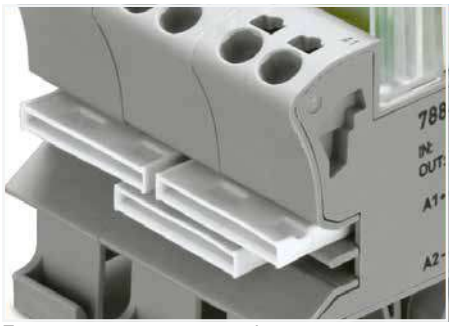
Marking via WMB Multi Marking System.

Installation Notes

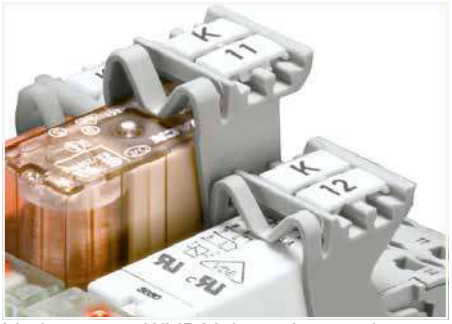
Sockets with a Miniature Switching Relay, 788 Series



Inserting a conductor via screwdriver.

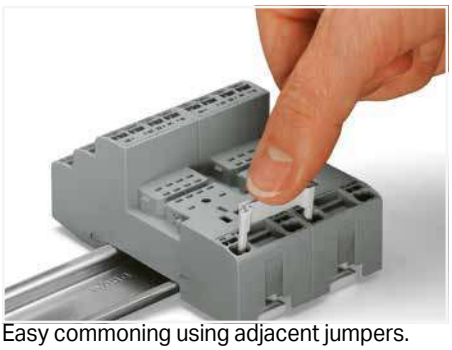


Easy commoning using adjacent jumpers.



Marking using WMB Multi markers and group marker carriers.

Sockets with an Industrial Relay, 858 Series



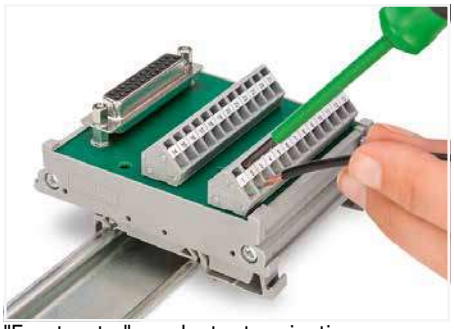
Easy commoning using adjacent jumpers.

Removing a conductor via screwdriver.

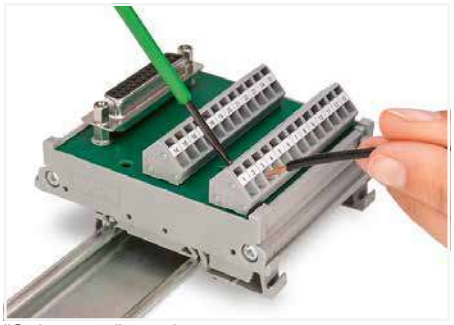
Marking using WMB Multi markers and group marker carriers.

Installation Notes

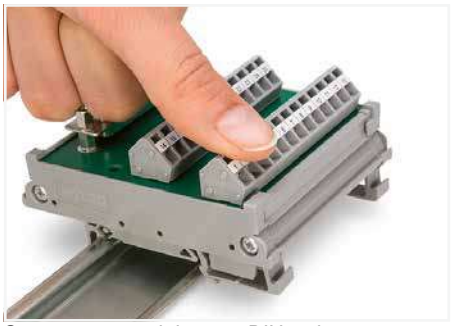
DIN-Rail-Mounted Interface Modules, 289 Series



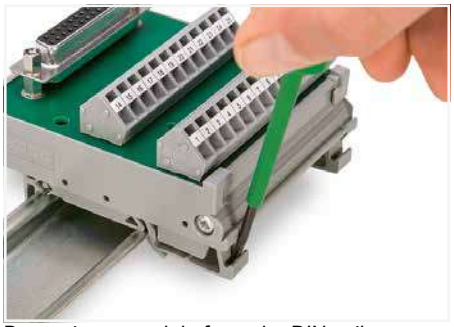
"Front-entry" conductor termination



"Side-entry" conductor termination

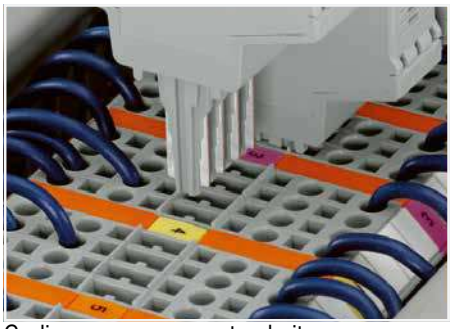


Snapping a module onto DIN-rail.



Removing a module from the DIN-rail.

Pluggable Function Modules for Carrier Terminal Blocks, 286 Series



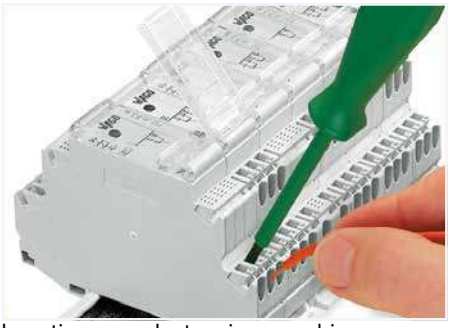
Coding ensures correct polarity.

Pluggable electronic modules on 2- or 4-conductor carrier terminal blocks

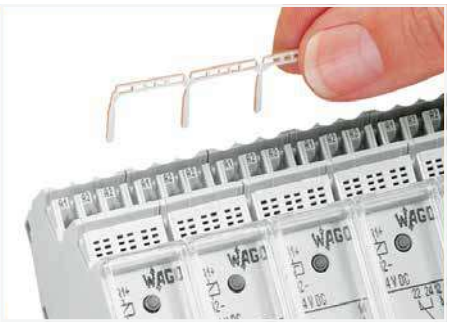
Marking via WMB Multi Marking System.

Function testing via touch-proof test slots.

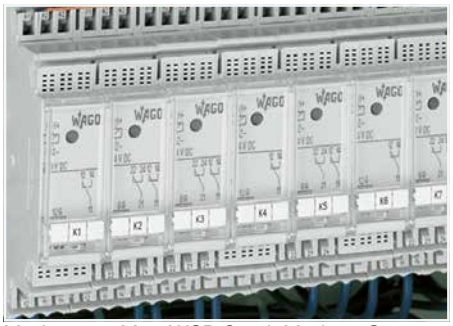
Relay Modules in a DIN-Rail Mount Enclosure, 789 Series



Inserting a conductor via screwdriver.



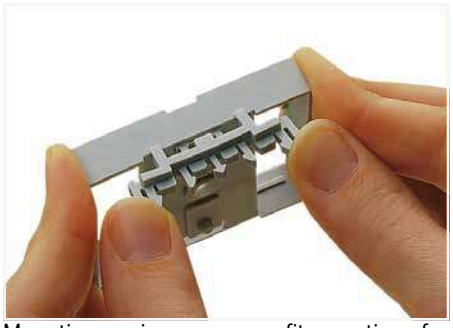
Easy commoning via adjacent jumpers.



Marking via Mini-WSB Quick Marking System.

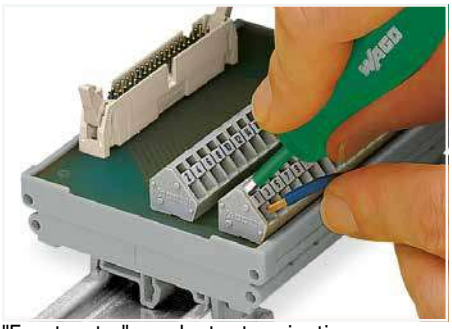
Installation Notes

Interface Modules, 289 Series

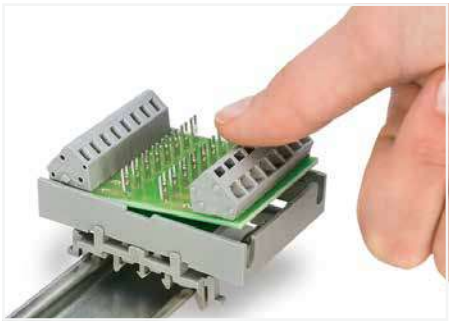


Mounting carrier, gray, snap-fit mounting of universal mounting feet

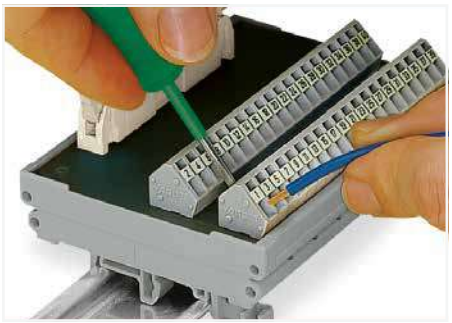
Interface Modules, 289 Series



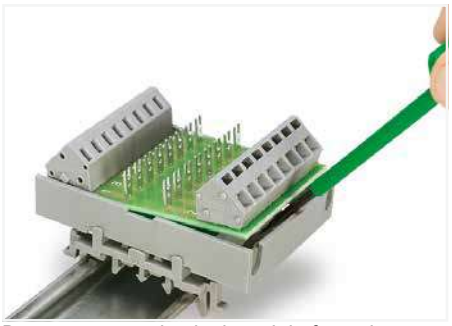
"Front-entry" conductor termination



Fitting an individual module to the mounting carrier.



"Side-entry" conductor termination

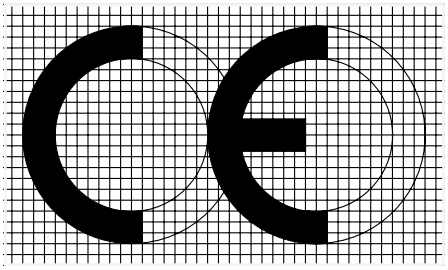


Removing an individual module from the mounting carrier.

CE Marking and EC 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 packing unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EC "Declaration of Conformity" for their products. This declaration of conformity must be retained and submitted to a national surveillance authority upon request.

EC 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. The LVD covers all electrical equipment operating with a voltage between 50 and 1000 VAC and between 75 and 1500 VDC. 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 dependent 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 implies that a product must meet the limits of the radiated electromagnetic disturbance and also requires that a product must be immune to electromagnetic interference. Electromagnetic passive components or components with no direct function, like 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.

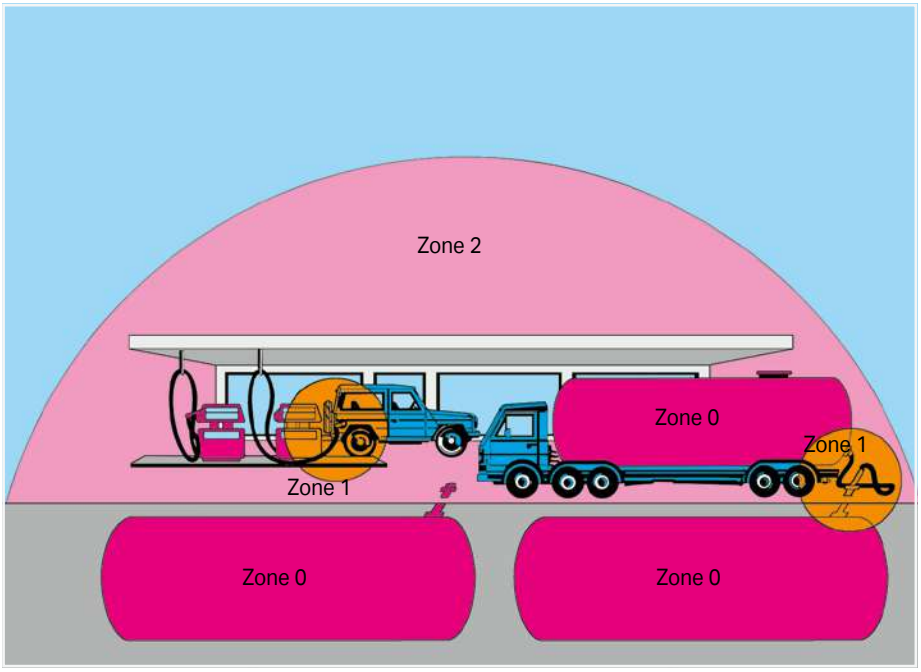
Radio Equipment Directive
A device or relevant component thereof, capable of communication by emitting and/or receiving radio waves utilizing the spectrum allocated to terrestrial/space radio communication, falls within the scope of the Radio Equipment Directive. As such, these devices and components 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 Informationfor Electrical Equipment Used in Hazardous Areas

Hazardous Areas

Hazardous environments are areas 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 related standards that are commonly known divide up hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



❶ Hazardous areas due to explosive gases, vapors and mists

Zone 0

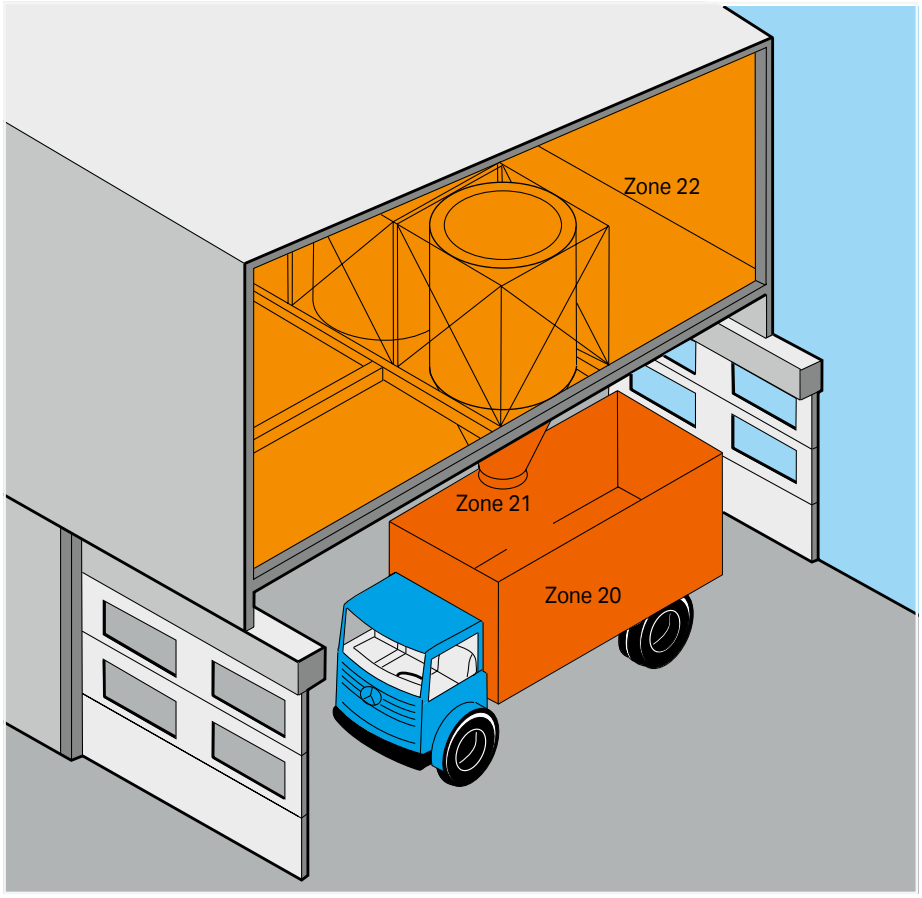
Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

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.



❷ 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.

Electromagnetic Compatibility and Mechanical Strength (Industrial and Residential Areas)

Immunity to Interference for Industrial Areas per EN 61000-6-2

Test Specification		Test Values	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 disturbances	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.
Criteria B: The device must work in accordance with the regulations after the test.

Emission of Interference for Residential Areas per EN 61000-6-3

Test Specification		Limit Values 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 line	79 dB(µV)	150 … 500 kHz	
	conducted	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/	84 … 74 dB(µV)	150 … 500 kHz	
	Mains connection, conducted	74 dB(µV)	500 kHz … 30 MHz	

Emission of Interference for Industrial Areas per EN 61000-6-4

Test Specification		Limit Values 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/	97 … 87 dB(µV)	150 … 500 kHz	
	Mains connection, conducted	87 dB(µV)	500 kHz … 30 MHz	

Mechanical Strength per EN 61131-2

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration	5 Hz ≤ f < 9 Hz	1.75 mm amplitude (permanently)
			3.5 mm amplitude (short term)
		9 Hz ≤ f < 150 Hz	0.5 g (permanent)
			1 g (short term)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-27	Shock		15 g
		Note on shock test: a) Type of shock: half sine 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 applications)

Immunity to Interference in the Shipping Industry per Germanischer Lloyd

Test Specification		Test Values	Evaluation Criteria *)
IEC 61000-4-2	ESD	6 kV / 8 kV (contact – air)	B
IEC 61000-4-3	Electromagnetic fields	10 V/m 80 MHz ... 2 GHz	A
IEC 61000-4-4	Burst	1 kV / 2 kV (data – supply)	A
IEC 61000-4-5	Surge	0.5 kV / 1 kV (line : line – line : ground)	A
IEC 61000-4-6	RF disturbances	10 V, 80 % AM (0.15 ... 80 MHz)	A
Type Test	AF disturbances (harmonics)	3 V, 2 W	A
Type Test	High voltage	755 VDC	-
		1500 VAC	-

*) Criteria A: The device must work in accordance with the regulations during and after the test.
Criteria B: The device must work in accordance with the regulations after the test.

Immunity to Interference in the Shipping Industry per Germanischer Lloyd

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
Type Test	EMC 1, conducted (allows for ship bridge control applications)	96 ... 50 dB(µV)	10 ... 150 kHz	
		60 ... 50 dB(µV)	150 ... 350 kHz	
		50 dB(µV)	350 kHz ... 30 MHz	
Type Test	EMC 1, radiated (allows for ship bridge control applications)	80 ... 52 dB(µV/m)	150 ... 300 kHz	3 m
		52 ... 34 dB(µV/m)	300 kHz ... 30 MHz	3 m
		54 dB(µV/m)	30 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m
Type Test	EMC 2, conducted (allows for machine room applications)	120 ... 69 dB(µV)	10 ... 150 kHz	
		79 dB(µV)	150 ... 500 kHz	
		73 dB(µV)	500 kHz ... 30 MHz	
Type Test	EMC 2, radiated (allows for machine room applications)	80 ... 50 dB(µV/m)	150 kHz ... 30 MHz	3 m
		60 ... 54 dB(µV/m)	30 ... 100 MHz	3 m
		54 dB(µV/m)	100 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m

Mechanical Strength per Germanischer Lloyd

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration (category A, C)	2 Hz ≤ f < 13.2 Hz	±1.0 mm amplitude (permanent)
		13.2 Hz ≤ f < 100 Hz	0.7 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-6	Vibration (category A-D)	2 Hz ≤ f < 25 Hz	±1.6 mm amplitude (permanent)
		25 Hz ≤ f < 100 Hz	4 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	

Specifications and Test Results

The following standards apply to the design and application of the electrical components contained in this catalog:

DIN VDE 0100
Construction of high current installations with nominal voltages up to 1000 V

EN 50110-1
VDE 0105-1
Operation of electrical installations

IEC 61140
EN 61140
VDE 0140-1
Protection against electric shock – Common aspects for installation and equipment

IEC 60664-1
EN 60664-1
VDE 0110-1
Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests

IEC 60204-1
EN 60204-1
VDE 0113-1
Safety of machinery – Electrical equipment of machines – Part 1: General requirements

EN 50178
VDE 0160
Electronic equipment for use in power installations

IEC 62305-1
EN 62305-1
VDE 0185-305-1
Protection against lightning – Part 1: General principles

IEC 60060-1
HD 588.1 S1
VDE 0432-1
High voltage test techniques – Part 1: General specifications and test requirements

IEC 60085
EN 60085
VDE 0301-1
Electrical insulation – Thermal evaluation and designation

IEC 60529
EN 60529
VDE 0470-1
Degrees of protection provided by enclosures (IP code)

IEC 60603-1
EN 60603-1
Connectors for frequencies below 3 MHz for use with printed boards – Part 1: Generic specification: General requirements and guide for the preparation of detail specifications, with assessed quality

IEC 61984
EN 61984
VDE 0627
Connectors – Safety requirements and tests

IEC 60999-1
EN 60999-1
VDE 0609-1
Connecting devices – Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors 0.2 mm2 up to 35 mm2

IEC 60617-2
EN 60617-2
Graphical symbols for diagrams – Part 2: Symbol elements, qualifying symbols and other symbols having general application

IEC 61558-1
EN 61558-1
VDE 0570-1
Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests

IEC 60669-2-1
EN 60669-2-1
VDE 0632-2-1
Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches

IEC 60947-7-1
EN 60947-7-1
VDE 0611-1
Low-voltage switchgear and controlgear – Part 7-1: Ancillary equipment – Terminal blocks for copper conductors

IEC 60998-2-2
EN 60998-2-2
VDE 0613-2-2
Connecting devices for low-voltage circuits for household and similar purposes – Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units

IEC 60947-1
EN 60947-1
VDE 0660-100
Low-voltage switchgear and controlgear – Part 1: General rules

IEC 60947-5-6
EN 60947-5-6
VDE 0660-212
Low-voltage switchgear and controlgear – Part 5-6: Control circuit devices and switching elements, DC interface for proximity sensors and switching amplifiers (NAMUR)

IEC 60439-1
EN 60439-1
VDE 0660-500
Low-voltage switchgear and controlgear assemblies – Part 1: Type-tested and partially type-tested assemblies

IEC 60555-1
EN 60555 Part 1
VDE 0838-1
Disturbances in supply systems caused by household appliances and similar electrical equipment; Part 1: definitions

IEC 60715
EN 60715
Dimensions of low-voltage switchgear and controlgear – Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations

IEC 60950-1
EN 60950-1
VDE 0805-1
Information technology equipment – Safety Part 1: General requirements

IEC 60127-6
EN 60127-6
VDE 0820-6
Miniature fuses – Part 6: Fuse-holders for miniature fuse-links

EN 50155
VDE 0115-200
Railway applications – Electronic equipment used on rolling stock

EN 50090-2-2
VDE 0829-2-2
Home and Building Electronic Systems (HBES) – Part 2-2: System overview – General technical requirements; German version

IEC 60099-1
EN 60099-1
VDE 0675-1
Surge arresters – Part 1: Non-linear resistor type gapped surge arresters for a.c. systems

IEC 61643-1
EN 61643-11
VDE 0675-6-11
Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and tests

IEC 61643-21
EN 61643-21
VDE 0845-3-1
Low voltage surge protective devices – Part 21: Surge protective devices connected to telecommunications and signalling networks; Performance requirements and testing methods

IEC 61508-1
EN 61508-1
VDE 0803-1
Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General requirements

IEC 62061
EN 62061
VDE 0113-50
Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

Interfaces – Fieldbuses

DIN 66259-1
Electrical characteristics for unbalanced double-current interchange circuits

EN 50325-1
Industrial communications subsystem based ISO 11898 (CAN) for controller-device interfaces – Part 1: General requirements

IEC 61784-1
EN 61784-1
Industrial communication networks – Profiles – Part 1: Fieldbus profiles

IEC 61158-2
EN 61158-2
Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition

IEC 61158-6-x
EN 61158-6-x
DIN EN 61158-6-x
Industrial communication networks – Fieldbus specifications – Part 6-x

Explosion Protection

IEC 60079-0
EN 60079-0
VDE 0170-1
Electrical apparatus for explosive gas atmospheres – Part 0: General requirements

IEC 60079-7
EN 60079-7
VDE 0170-6
Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

IEC 60079-11
EN 60079-11
VDE 0170-7
Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"

IEC 60079-14
EN 60079-14
VDE 0165-1
Explosive atmospheres – Part 14: Electrical installations design, selection and erection

IEC 60079-15
EN 60079-15
VDE 0170-16
Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection "n" electrical apparatus

IEC 61241-0
EN 61241-0
VDE 0170-15-0
Electrical apparatus for use in the presence of combustible dust – Part 0: General requirements

IEC 61241-1
EN 61241-1
VDE 0170-15-1
Electrical apparatus for use in the presence of combustible dust – Part 1: Protection by enclosures "tD"

IEC 61241-11
EN 61241-11
VDE 0170-15-11
Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety "iD"

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: Sulphur 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 ≤ 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

IEC 61131-1
EN 61131-1
Programmable controllers – Part 1: General information

IEC 61131-2
EN 61131-2
VDE 0411-500
Programmable controllers – Part 2: Equipment requirements and tests

IEC 61131-3
EN 61131-3
Programmable controllers – Part 3: Programming languages

Relay

IEC 61810-1
EN 61810-1
VDE 0435-201
Electromechanical elementary relays – Part 1: General requirements

IEC 61810-2
EN 61810-2
VDE 0435-120
Electromechanical elementary relays – Part 2: Reliability

IEC 61810-5
EN 50205
VDE 0435-2022
Electromechanical non-specified time all-or-nothing relays – Part 5: Insulation coordination

IEC 60255-5
EN 60255-5
VDE 0435-130
Electrical relays – Part 5: Insulation coordination for measuring relays and protection equipment – Requirements and tests

UL Directives

UL 1059; ANSI 1059
Terminal blocks

UL 486E
Equipment wiring terminals for use with aluminum and/or copper conductors

UL 508
Industrial control equipment

ANSI/ISA12.12.01
Nonincendive electrical equipment for use in Class I and Class II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations

Ship Classifications

ABS (American Bureau of Shipping)
Steel Vessels
Part 4: Vessel Systems and Machinery

BV (Bureau Veritas)
Rules for the classification of steel ships and offshore units

DNV (Det Norsk Veritas)
Det Norsk Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norsk Veritas' Offshore Standards: 2007

GL (Germanischer Lloyd)
Rules for Classification and Construction
VI Additional Rules and Guidelines
7 Guidelines for the Performance of Type Test
2 Test Requirements for Electrical/Electronic Devices and Systems

LR (Lloyds Register)
Type Approval System
Test Specification Number1

RINA (Registro Italiano Navale)
Rules for the classification of ships
Part C – Machinery, systems and fire protection Ch.3, Sect.6, Table1

BSH (Federal Maritime and Hydrographic Agency)
Certificate on measurement of safe distance to the standard magnetic and steering magnetic compass in accordance with ISO R 695 and DIN EN 60945 Section 11.2

KR (Korean Register of Shipping)
List of approved Manufacturers And Type Approval Equipment; Pt.6, Ch.1, Sec.3 of the Rules for Classification, Steel Ships

NKK (Nippon Kaiji Kyokai)
Guidance for the approval and type approval of materials and equipment for marine use

PRS (Polski Rejestr Statkow)
Publication No.11/P
Enviromental 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.

WAGO Test Lab

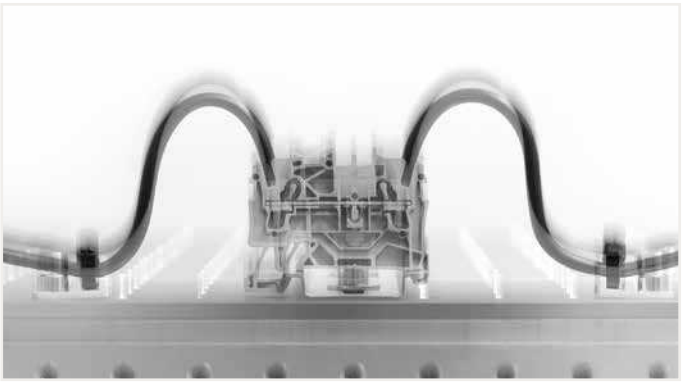
This means that WAGO's products can be used safely and reliably both in Europe and anywhere globally for a wide variety of applications. We heavily emphasize the importance of global acceptance during development. As a result, we can present documentation that verifies our high levels of product safety 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.

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.

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.

DAkkS
Deutsche
Akkreditierungsstelle

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 Prüflaboratiorium 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

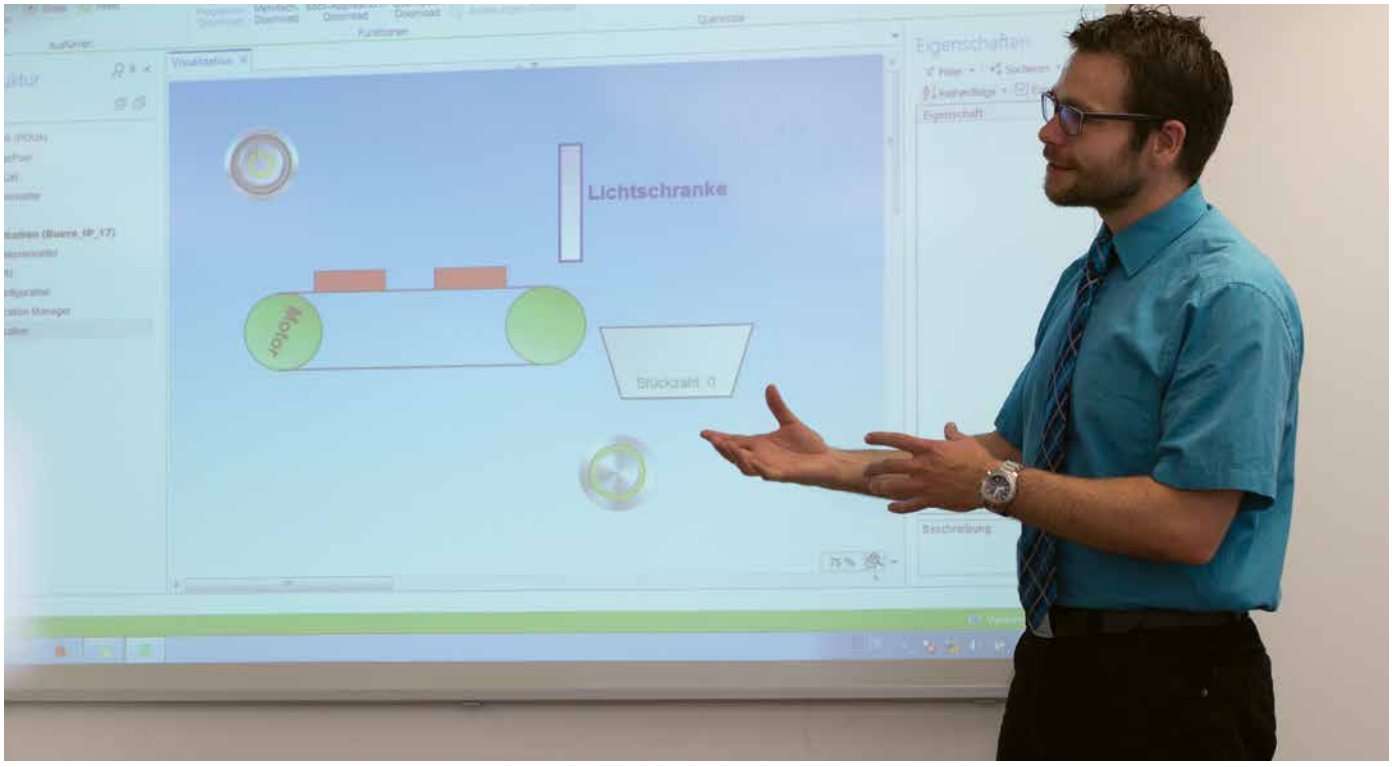
Frankfurt am Main, 24.05.2019

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

Siehe Hinweise auf der Rückseite

WAGO-Seminars
Learn Today – Benefit Tomorrow



Setting the Bar with Your Goals

Product-Related and Customer-Specific Seminars

Small Groups

The small class sizes of WAGO training seminars ensures that no question goes unanswered and no one is overlooked.

Teamwork

Learning as a group is very effective. Ideas can be discussed and exchanged while experiences can be shared – all for the benefit of the participants.

Practical Topics

Experience has shown that practice makes perfect. This is why the focus of every WAGO training seminar is on practical, hands-on learning.

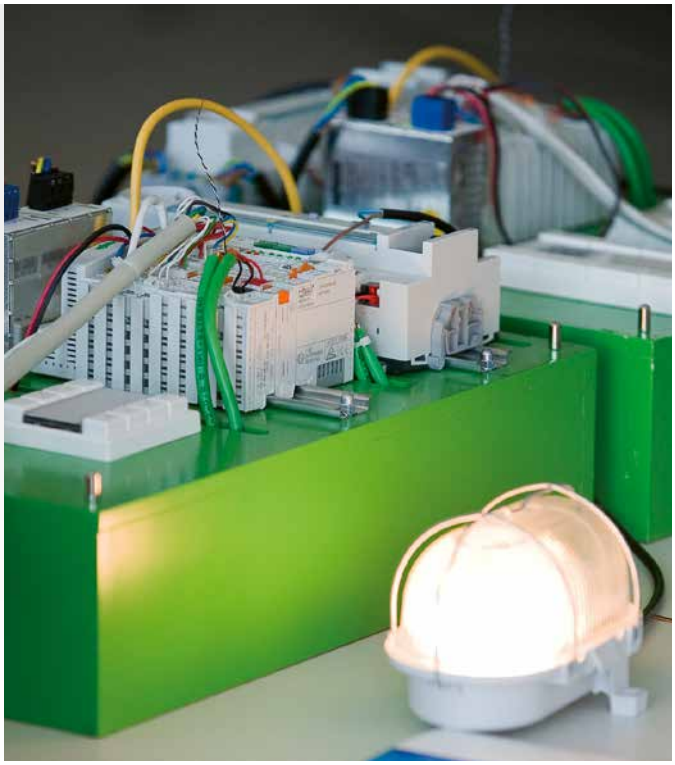
WAGO-Seminars
Experience the Benefits of First-Hand Knowledge and Expertise – Straight from the Source

Our instructors are specialists who know all the ins and outs of WAGO's products. This ensures that the time devoted to each WAGO training seminar is an effective investment in expanding your own expertise.

Request your registration form by email:

training@wago.com

Contact your local WAGO office.



Product-Related Seminars

We regularly offer product-related seminars on the following topics:

- Building and industrial automation
- Programming of automation components
- Fieldbus systems

Current Seminars at: www.wago.com

Customer-Specific Training Seminars

In addition to these "open" seminars, we also offer seminars specially tailored to your organization and its particular needs.

Upon request, we can also conduct these courses at your location.

Special Corporate Seminars

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Notes

0888-9904/0100-6901 – WAGO Interface Electronics 2023/2024 GB – 03/2023-00 – Printed in Germany – Subject to changes

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