

**Data sheet | Item number: 231-453/001-000**

Male header; 23-pole; THT; 1.0 x 1.0 mm solder pin; angled; pin spacing 5 mm; gray



[www.wago.com/231-453\\_001-000](http://www.wago.com/231-453_001-000)



Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



Dimensions in mm

$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$$

$$L_1 = L + 5 \text{ mm}$$

$$L_2 = L_1 + 7.4 \text{ mm}$$

### Item description

- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- With coding fingers

Subject to changes. Please also observe the further product documentation!



## Data

### Notes

#### Safety information 1

The *MCS – MULTI CONNECTION SYSTEM* includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must not be connected /disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.

#### Variants:

Other pole numbers  
3.8 mm pin projection for male headers with straight solder pins  
Gold-plated or partially gold-plated contact surfaces  
Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>

## Electrical data

### IEC Approvals

Ratings per	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Nominal voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
Rated current	12 A
Legend (ratings)	(III / 2) $\triangleq$ Overvoltage category III / Pollution degree 2

### UL Approvals

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

### Ratings per UL

Rated voltage UL 1977	600 V
Rated current UL 1977	10 A

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



## CSA Approvals

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

## Connection data

Total number of potentials	23
Number of connection types	1
Number of levels	1

## Connection 1

Number of poles	23
-----------------	----

## Physical data

Pin spacing	5 mm / 0.197 inch
Width	118.2 mm / 4.654 inch
Height	12.2 mm / 0.48 inch
Height from the surface	8.4 mm / 0.331 inch
Depth	12 mm / 0.472 inch
Solder pin length	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter with tolerance	1.4 <sup>(+0.1)</sup> mm

## Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for PCB
Mismating protection	No
Mating direction to the PCB	0°
Locking of plug-in connection	Without

## PCB contact

PCB Contact	THT
Solder pin arrangement	over the entire male connector (in-line)

Subject to changes. Please also observe the further product documentation!

Number of solder pins per potential	1
-------------------------------------	---

### Material data

Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	tin-plated
Fire load	0.124 MJ
Weight	7.1 g

### Environmental requirements


Limit temperature range	-60 ... +100 °C
-------------------------	-----------------

### Commercial data

Product Group	3 (Multi Conn. System)
PU (SPU)	50 Stück
Packaging type	box
Country of origin	PL
GTIN	4044918866729
Customs tariff number	8536694040

### Approvals / Certificates

#### Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>CB</b> DEKRA Certification B.V.	IEC 61984	NL-39756
	<b>CSA</b> DEKRA Certification B.V.	C22.2	LR 18677-25

#### Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b>	-	19-

Subject to changes. Please also observe the further product documentation!



American Bureau of Shipping

HG1869876-PDA



**BV**  
Bureau Veritas S.A.

IEC 60998



11915/DO  
BV

**DNV GL**  
Det Norske Veritas, Germanischer Lloyd

-

TAE000016Z

**UL-Approvals**

Logo	Approval	Additional Approval Text	Certificate name
	<b>UL</b> Underwriters Laboratories Inc.	UL 1059	E45172
	<b>UR</b> Underwriters Laboratories Inc.	UL 1977	E45171

**Counterpart**



**Item no.231-123/026-000**  
Female plug; 23-pole; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray

[www.wago.com/231-123/026-000](http://www.wago.com/231-123/026-000)



**Item no.2231-123/031-000**  
Female plug; 23-pole; push-button; mounting flange;12 AWG max; pin spacing 5 mm;1-conductor per pole; gray

[www.wago.com/2231-123/031-000](http://www.wago.com/2231-123/031-000)



**Item no.2231-123/026-000**  
Female plug; 23-pole; push-button; 12 AWG max; pin spacing 5 mm;1-conductor per pole; gray

[www.wago.com/2231-123/026-000](http://www.wago.com/2231-123/026-000)



**Item no.2231-123/037-000**  
Female plug; 23-pole; push-button; locking lever;12 AWG max; pin spacing 5 mm;1-conductor per pole; gray

[www.wago.com/2231-123/037-000](http://www.wago.com/2231-123/037-000)



**Item no.231-123/037-000**  
Female plug; 23-pole; locking lever; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray

[www.wago.com/231-123/037-000](http://www.wago.com/231-123/037-000)



**Item no.2231-123/102-000**  
Female plug; 23-pole; push-button; with integrated end plate;12 AWG max; pin spacing 5 mm;1-conductor per pole; gray





[www.wago.com/2231-123/102-000](http://www.wago.com/2231-123/102-000)

**Item no.231-123/031-000**  
Female plug; 23-pole; mounting flange; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray



[www.wago.com/231-123/031-000](http://www.wago.com/231-123/031-000)

Subject to changes. Please also observe the further product documentation!



	<b>Item no.231-123/027-000</b> Female plug; 23-pole; mounting flange with reinforcing strip; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray	<a href="http://www.wago.com/231-123/027-000">www.wago.com/231-123/027-000</a>
	<b>Item no.232-123/026-000</b> 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 23-pole; 2,50 mm²; gray	<a href="http://www.wago.com/232-123/026-000">www.wago.com/232-123/026-000</a>
	<b>Item no.231-123/102-000</b> Female plug; 23-pole; with integrated end plate; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray	<a href="http://www.wago.com/231-123/102-000">www.wago.com/231-123/102-000</a>
	<b>Item no.232-223/026-000</b> 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 23-pole; 2,50 mm²; gray	<a href="http://www.wago.com/232-223/026-000">www.wago.com/232-223/026-000</a>

## Optional accessories

<b>Coding</b>		
Intermediate plate		
	<b>Item no.: 231-500</b> Spacer; for formation of groups; light gray	<a href="http://www.wago.com/231-500">www.wago.com/231-500</a>
<b>Coding</b>		
	<b>Item no.: 231-129</b> Coding key; snap-on type; light gray	<a href="http://www.wago.com/231-129">www.wago.com/231-129</a>

## Downloads

### Documentation

#### Additional Information

Technical explanations	2019 Apr 3	pdf 2.0 MB	Download
------------------------	------------	---------------	----------

### CAD files

#### CAE data

EPLAN Data Portal 231-453/001-000	URL	Download
ZUKEN Portal 231-453/001-000	URL	Download
EPLAN Data Portal 231-453/001-000	URL	Download

### PCB Design

Symbol and Footprint 231-453/001-000

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



[URL](#)

[Download](#)

CAX data for your PCB design, consisting of "schematic symbols and PCB footprints", allow easy integration of the WAGO component into your development environment.

#### Supported formats:

- Accel EDA 14 & 15
- Altium 6 to current version
- Cadence Allegro
- DesignSpark
- Eagle Libraries
- KiCad
- Mentor Graphics BoardStation
- Mentor Graphics Design Architect
- Mentor Graphics Design Expedition 99 and 2000
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X
- PADS PowerPCB and PowerLogic 3.0
- PCAD 2000, 2001, 2002, 2004, and 2006
- Pulsonix 8.5 or newer
- STL
- 3D STEP
- TARGET 3001!
- View Logic ViewDraw
- Quadcept
- Zuken CadStar 3 and 4
- Zuken CR-5000 and CR-8000

PCB Component Libraries (EDA), PCB CAD Library Ultra Librarian

---

#### CAD data

2D/3D Models 231-453/001-000

[URL](#)

[Download](#)

---

### Environmental Product Compliance

#### Compliance Search

Environmental Product Compliance 231-453/001-000

[URL](#)

[Download](#)

THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 23-pole; gray

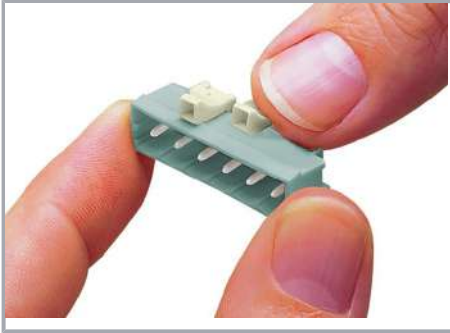
---

Subject to changes. Please also observe the further product documentation!

---



## Installation Notes



Coding a male header – fitting coding key(s).

## Product family

**MCS MIDI Classic**

[Show all products from the family](#)

Subject to changes. Please also observe the further product documentation!