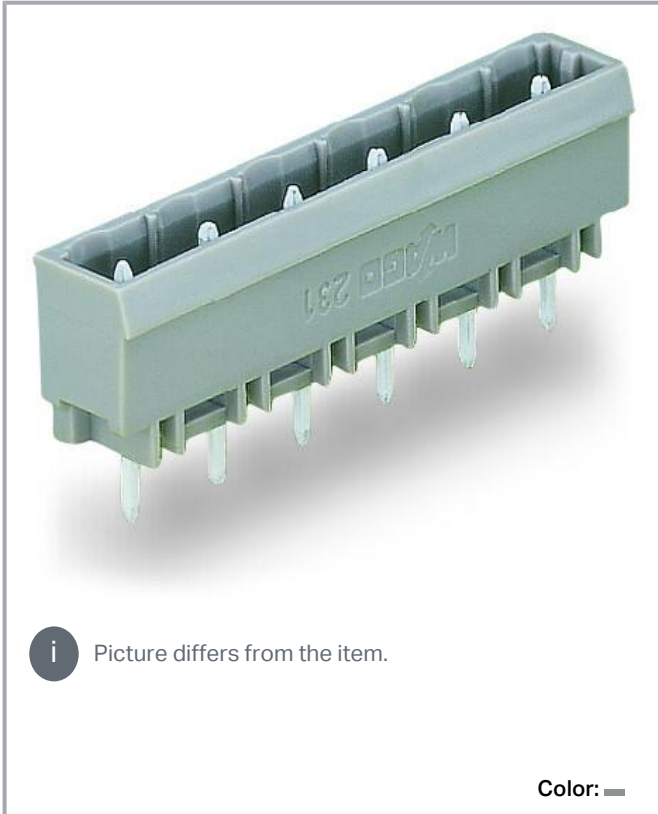


Data sheet | Item number: 231-239/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 9-pole; gray

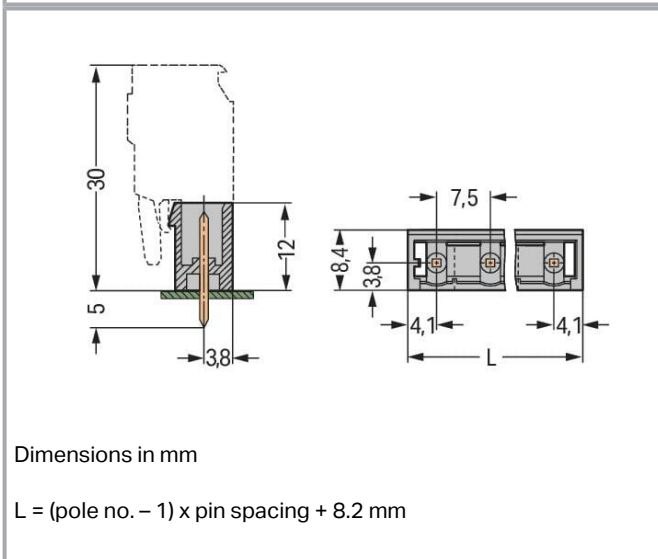
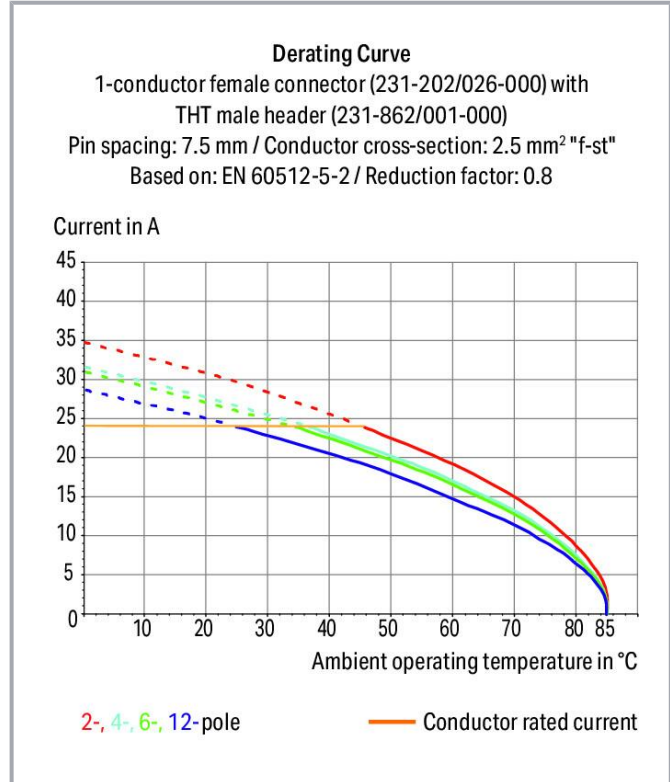


[www.wago.com/231-239/001-000](http://www.wago.com/231-239/001-000)



**i** Picture differs from the item.

Color:



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

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## Item description

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

## Data

### Notes

#### Safety information

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. 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

### Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	500 V
Rated impulse voltage (III/3)	6 kV
Rated voltage (III/2)	630 V
Rated impulse voltage (III/2)	6 kV
Nominal voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV
Rated current	12 A
Legend (ratings)	(III / 2) $\triangleq$ Overvoltage category III / Pollution degree 2

### Ratings per UL 1059

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

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Rated voltage UL (Use Group D)	300 V
Rated current UL (Use Group D)	10 A

### Ratings per UL 1977

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

### Ratings per CSA

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	9
Number of connection types	1
Number of levels	1

### Connection 1

Pole number	9
-------------	---

### Physical data

Pin spacing	7.5 mm / 0.295 inches
Width	68.2 mm / 2.685 inches
Height	17 mm / 0.669 inches
Height from the surface	12 mm / 0.472 inches
Depth	8.4 mm / 0.331 inches
Solder pin length	5 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter with tolerance	1.4 <sup>(+0.1)</sup> mm

### Mechanical Data

Variable coding	Yes
Anti-rotation protection	Yes

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



## Plug-in connection

Contact type (pluggable connector)	Male connector/plug
Connector (connection type)	for PCB
Mismating protection	No
Plugging without loss of pin spacing	No
Mating direction to the PCB	90 °
Locking of plug-in connection	none

## PCB contact

PCB contact	THT
Solder pin arrangement	over the entire male connector (in-line)
Number of solder pins per potential	1

## Material Data

Note (material data)

Information on material specifications can be found here

Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin
Fire load	0.169 MJ
Weight	3.6 g

## Environmental requirements

Limit temperature range	-60 ... +100 °C
Processing temperature	-35 ... +60 °C

## Commercial data

Product Group	3 (Multi Conn. System)
eCl@ss 10.0	27-44-04-02
eCl@ss 9.0	27-44-04-02
ETIM 8.0	EC002637
ETIM 7.0	EC002637

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PU (SPU)	50 pcs
Packaging type	box
Country of origin	PL
GTIN	4044918864848
Customs tariff number	85366990990

## Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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## Approvals / Certificates

### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CB DEKRA Certification B.V.	IEC 61984	NL-39756 /A1
	CSA DEKRA Certification B.V.	C22.2	1466354
	KEMA/KEUR DEKRA Certification B.V.	EN 61984	71- 121453
	UR Underwriters Laboratories Inc.	UL 1059	E45172
	UR Underwriters Laboratories Inc.	UL 1977	E 45171

### Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	Railway WAGO GmbH & Co. KG	-	Railway Ready

### Approvals for marine applications

Certificate


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Logo	Approval	Additional Approval Text	name
	<b>ABS</b> American Bureau of Shipping	-	19- HG1869876- PDA
	<b>BV</b> Bureau Veritas S.A.	IEC 60998	11915/DO BV
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAE000016Z

## Counterpart

	<b>Item no.231-209/026-000</b> 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; 2,50 mm²; gray	<a href="http://www.wago.com/231-209/026-000">www.wago.com/231-209/026-000</a>
	<b>Item no.231-2209/026-000</b> 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; with integrated end plate; 2,50 mm²; gray	<a href="http://www.wago.com/231-2209/026-000">www.wago.com/231-2209/026-000</a>
	<b>Item no.231-2209/037-000</b> 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; Lateral locking levers; 2,50 mm²; gray	<a href="http://www.wago.com/231-2209/037-000">www.wago.com/231-2209/037-000</a>
	<b>Item no.2231-209/026-000</b> 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; 2,50 mm²; gray	<a href="http://www.wago.com/2231-209/026-000">www.wago.com/2231-209/026-000</a>
	<b>Item no.2231-209/031-000</b> 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; clamping collar; 2,50 mm²; gray	<a href="http://www.wago.com/2231-209/031-000">www.wago.com/2231-209/031-000</a>
	<b>Item no.2231-209/037-000</b> 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; Lateral locking levers; 2,50 mm²; gray	<a href="http://www.wago.com/2231-209/037-000">www.wago.com/2231-209/037-000</a>
	<b>Item no.231-209/027-000</b> 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; clamping collar; 2,50 mm²; gray	<a href="http://www.wago.com/231-209/027-000">www.wago.com/231-209/027-000</a>
	<b>Item no.231-209/037-000</b> 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; Lateral locking levers; 2,50 mm²; gray	<a href="http://www.wago.com/231-209/037-000">www.wago.com/231-209/037-000</a>

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



**Item no. 231-209/031-000**

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; clamping collar; 2,50 mm²; gray

[www.wago.com/231-209/031-000](http://www.wago.com/231-209/031-000)



**Item no. 732-109/026-000**

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 9-pole; 2,50 mm²; gray

[www.wago.com/732-109/026-000](http://www.wago.com/732-109/026-000)

**Optional accessories**

**Coding**

Intermediate plate



**Item no.: 231-500**

Spacer; for formation of groups; light gray

[www.wago.com/231-500](http://www.wago.com/231-500)

Coding



**Item no.: 231-129**

Coding key; snap-on type; light gray

[www.wago.com/231-129](http://www.wago.com/231-129)

**Downloads**

**Documentation**

**Additional Information**

Technical Section	2019 Apr 3	pdf	Download
Technical explanations		2.0 MB	

**CAD/CAE-Data**

**CAD data**

2D/3D Models 231-239/001-000	URL	Download
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**CAE data**

EPLAN Data Portal 231-239/001-000	URL	Download
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ZUKEN Portal 231-239/001-000	URL	Download
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EPLAN Data Portal 231-239/001-000	URL	Download
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**PCB Design**

Symbol and Footprint 231-239/001-000

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[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

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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 231-239/001-000

[URL](#)

[Download](#)

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 9-pole; gray

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## Installation Notes

### Coding

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

## Product family

**MCS MIDI Classic**

[Show all products from the family](#)

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