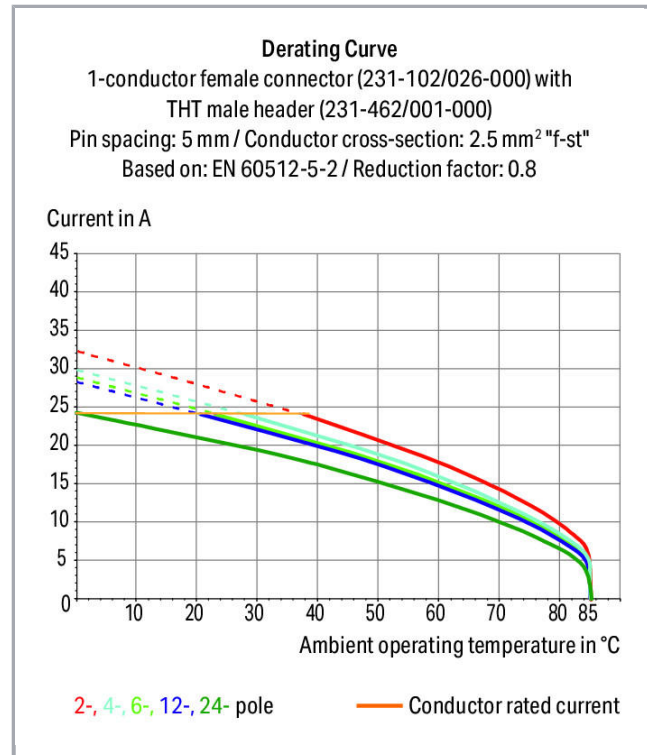


Data sheet | Item number: 231-452/001-000

THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 22-pole; gray



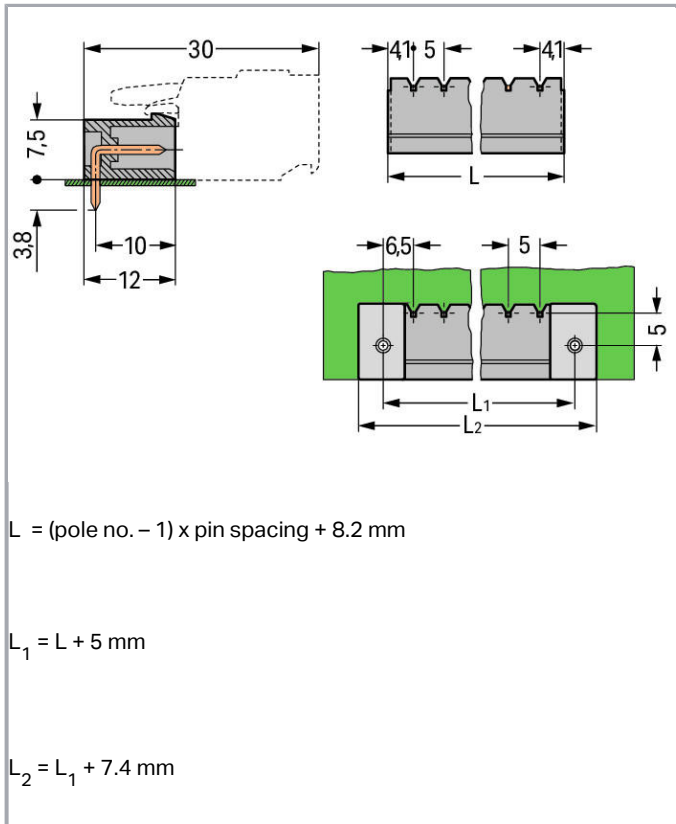
www.wago.com/231-452/001-000



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

Safety information 1:

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall 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.

Data

Electrical data

Ratings per IEC/EN 60664-1

Ratings per	IEC/EN 60664-1
Rated voltage (III / 3)	320 V

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Rated impulse voltage (III / 3)	4 kV
Rated voltage (III / 2)	320 V
Rated impulse voltage (III / 2)	4 kV
Rated voltage (II / 2)	630 V
Rated impulse voltage (II / 2)	4 kV
Rated current	12 A
Legend (ratings)	(III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2

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
Approvals per	UL 1059

Approvals per UL 1977

Rated voltage per UL 1977 (factory wiring only)	600 V
Rated current per UL 1977 (factory wiring only)	10 A

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

No. of poles	22
Total number of potentials	22
Number of connection types	1
Number of levels	1

Geometrical Data

Pin spacing	5 mm / 0.197 inch
Width	113.2 mm / 4.457 inch
Height	12.2 mm / 0.48 inch
Height from the surface	8.4 mm / 0.331 inch

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Depth	12 mm / 0.472 inch
Solder pin length	3.8 mm
Solder pin dimensions	1 x 1 mm
Drilled hole diameter (tolerance)	1.4 ^(+0.1) mm

Plug connection

Contact type (pluggable connector)	Male connector/plug
Connector connection type	for PCBs
Mismating protection	No
Mating direction to the PCB	0°

PCB contact

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

Material Data

Color	gray
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Contact material	Electrolytic copper (E _{Cu})
Contact plating	tin-plated
Fire load	0.119 MJ
Weight	6.8 g

Environmental Requirements

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

Product Group	3 (Multi Conn. System)
Packaging type	BOX
Country of origin	PL
GTIN	4044918866699
Customs Tariff No.	85366990990


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Approvals / Certificates



Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CB DEKRA Certification B.V.	IEC 61984	NL-39756
	CSA DEKRA Certification B.V.	C22.2	1466354

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	19- HG1869876- PDA
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE000016Z

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc.	UL 1059	20190731- E45172
	UR UL International Germany GmbH	UL 1977	E45171

Counterpart



Item no.231-122/026-000

1-conductor female plug; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/026-000



Item no.2231-122/026-000

1-conductor female plug; push-button; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/2231-122/026-000

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

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Item no.2231-122/031-000

1-conductor female plug; push-button; clamping collar; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/2231-122/031-000



Item no.2231-122/037-000

1-conductor female plug; push-button; Locking lever; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/2231-122/037-000



Item no.2231-122/102-000

1-conductor female plug; push-button; with integrated end plate; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/2231-122/102-000



Item no.231-122/026-000/035-000

1-conductor female plug; Strain relief plate; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/026-000



Item no.231-122/031-000

1-conductor female plug; clamping collar; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/031-000



Item no.231-122/027-000

1-conductor female plug; clamping collar; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/027-000



Item no.231-122/037-000

1-conductor female plug; Locking lever; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/037-000



Item no.231-122/102-000

1-conductor female plug; with integrated end plate; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/231-122/102-000



Item no.232-122/026-000

1-conductor female plug; angled; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/232-122/026-000



Item no.232-222/026-000

1-conductor female plug; angled; 2.5 mm²; Pin spacing 5 mm; 22-pole; 2,50 mm²; gray

www.wago.com/232-222/026-000

Compatible products

Marking accessories



Item no.: 210-833

Marking strips; on reel; 6 mm wide; plain; Self-adhesive; white

www.wago.com/210-833

Item no.: 210-834

Marking strips; on reel; 5 mm wide; plain; Self-adhesive; white

www.wago.com/210-834

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

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Coding

Item no.: 231-129 Coding key; snap-on type; light gray	www.wago.com/231-129
------------------------------------------------------------------	----------------------------------------------------------------

Item no.: 231-500 Spacer; for formation of groups; light gray	www.wago.com/231-500
-------------------------------------------------------------------------	----------------------------------------------------------------

Downloads

Documentation

Additional Information

Technical explanations	Apr 3, 2019	pdf 3.6 MB	Download
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CAD/CAE-Data

CAD data

2D/3D Models 231-452/001-000	URL	Download
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CAE data

EPLAN Data Portal 231-452/001-000	URL	Download
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PCB Design

Symbol and Footprint 231-452/001-000	URL	Download
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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

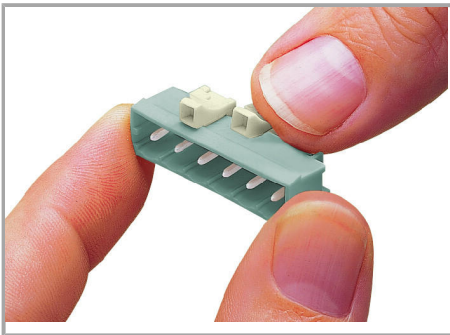
Subject to changes. Please also observe the further product documentation!

- 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

Installation Notes

Coding



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

Product family

<i>MCS</i> MIDI Classic

[Learn more about the product family.](#)

[Show all products from the family](#)

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