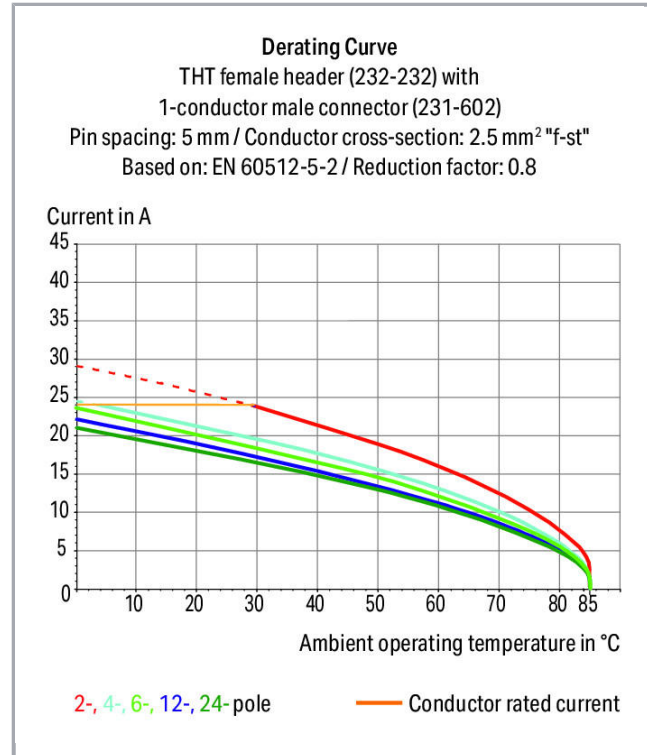


**Data sheet | Item number: 232-280**

THT female header; 0.6 x 1.0 mm solder pin; angled; Pin spacing 5.08 mm;  
20-pole; orange

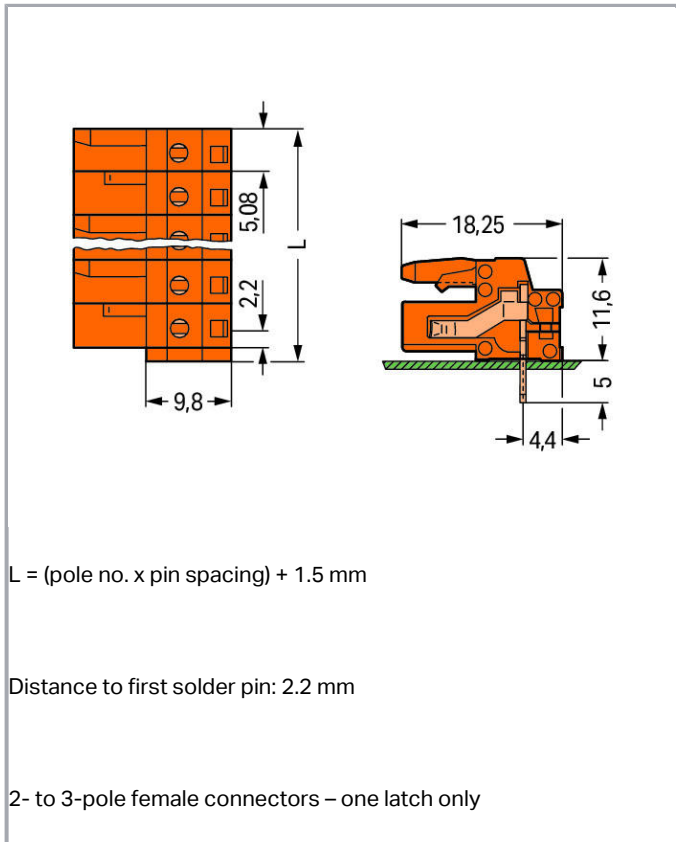
[www.wago.com/232-280](http://www.wago.com/232-280)



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
- For board-to-board and board-to-wire connections
- Touch-proof PCB outputs
- Easy-to-identify PCB inputs and outputs
- With coding fingers

### 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.

## Data

### Electrical data

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

### Ratings per IEC/EN 60664-1

Ratings per	IEC/EN 60664-1
Rated voltage (III / 3)	320 V
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)	15 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)	15 A

### Approvals per CSA

Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

### Connection data

No. of poles	20
Total number of connection points	20
Total number of potentials	20
Number of connection types	1
Number of levels	1

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## Geometrical Data

Pin spacing	5,08 mm / 0.2 inch
Width	103,1 mm / 4.059 inch
Height	16,6 mm / 0.654 inch
Height from the surface	11,6 mm / 0.457 inch
Depth	18,25 mm / 0.719 inch
Solder pin length	5 mm
Solder pin dimensions	0,6 x 1 mm
Drilled hole diameter (tolerance)	1,3 <sup>(+0,1)</sup> mm

## Plug connection

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

## PCB contact

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

## Material Data

Color	orange
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Contact material	Copper alloy
Contact plating	tin-plated
Fire load	0.285 MJ
Weight	17.3 g

## Environmental Requirements

Limit temperature range	-60 ... +85 °C
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## Commercial data



Product Group	3 (Multi Conn. System)
Packaging type	BOX
Country of origin	DE
GTIN	4044918579650
Customs Tariff No.	85366990990

## Approvals / Certificates



### Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>CB</b> DEKRA Certification B.V.	IEC 61984	NL-39756
	<b>KEMA/KEUR</b> DEKRA Certification B.V.	EN 61984	2190761.01

### Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG15869876- PDA
	<b>LR</b> Lloyds Register	IEC 61984	96/20035 (E5)

### UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>UL</b> UL International Germany GmbH	UL 1977	E45171
	<b>UR</b> Underwriters Laboratories Inc.	UL 1059	E45172 sec. 18

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

## Counterpart



Item no.231-650

1-conductor male connector; 2.5 mm<sup>2</sup>; Pin spacing 5.08 mm; 20-pole; 2,50 mm<sup>2</sup>; orange

[www.wago.com/231-650](http://www.wago.com/231-650)



Item no.231-650/019-000

1-conductor male connector; clamping collar; 2.5 mm<sup>2</sup>; Pin spacing 5.08 mm; 20-pole; 2,50 mm<sup>2</sup>; orange

[www.wago.com/231-650/019-000](http://www.wago.com/231-650/019-000)

## Compatible products

### Test Accessories



Item no.: 231-661

Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm<sup>2</sup>; light gray

[www.wago.com/231-661](http://www.wago.com/231-661)

## 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 232-280	URL	Download
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### CAE data

EPLAN Data Portal 232-280	URL	Download
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### PCB Design

Symbol and Footprint 232-280	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:

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



- 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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## Installation Notes

## Product family

**<i>MCS</i> MIDI Classic**

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

[Show all products from the family](#)

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