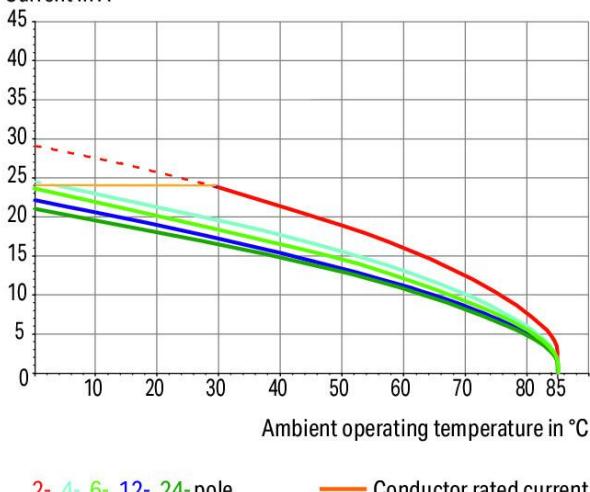


Color: ■

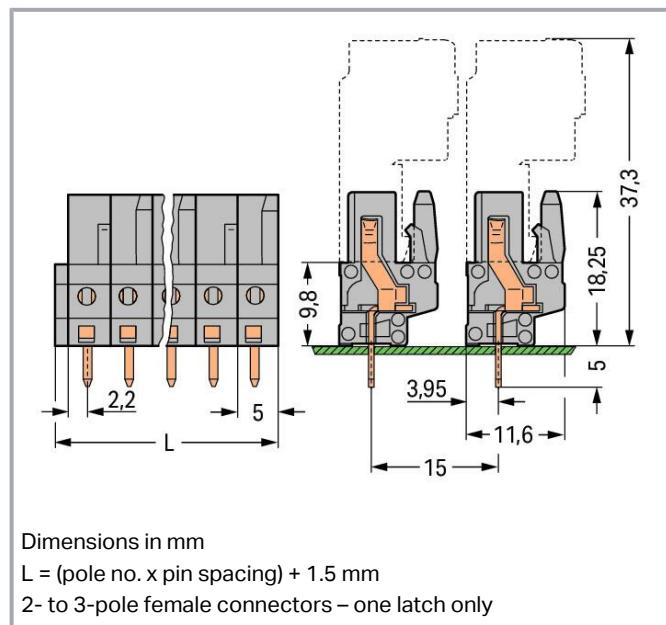
**Derating Curve**

THT female header (232-232) with  
1-conductor male connector (231-602)  
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm<sup>2</sup> "f-st"  
Based on: EN 60512-5-2 / Reduction factor: 0.8

Current in A



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



## 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

## 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/>.

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

## Electrical data

### Ratings per IEC/EN

| Ratings per                   | IEC/EN 60664-1   |
|-------------------------------|--|
| Nominal 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   |
| 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 |

### Ratings per UL

| 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    |

### Ratings per UL 1977

|                         |       |
|-------------------------|-------|
| Rated voltage (UL 1977) | 600 V |
| Rated current UL 1977   | 15 A  |

### Ratings per CSA

| 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

|                            |   |
|----------------------------|---|
| Total number of potentials | 3 |
| Number of connection types | 1 |
| Number of levels           | 1 |

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

## Connection 1

|             |   |
|-------------|---|
| Pole number | 3 |
|-------------|---|

## Physical data

|                                      |                          |
|--------------------------------------|--------------------------|
| Pin spacing                          | 5 mm / 0.197 inches      |
| Width                                | 16.5 mm / 0.65 inches    |
| Height                               | 23.25 mm / 0.915 inches  |
| Height from the surface              | 18.25 mm / 0.719 inches  |
| Depth                                | 11.6 mm / 0.457 inches   |
| Solder pin length                    | 5 mm                     |
| Solder pin dimensions                | 0.6 x 1 mm               |
| Drilled hole diameter with tolerance | 1.3 <sup>(±0.1)</sup> mm |

## Mechanical Data

|                          |     |
|--------------------------|-----|
| Variable coding          | Yes |
| Anti-rotation protection | Yes |

## Plug-in connection

|                                      |                         |
|--------------------------------------|-------------------------|
| Contact type (pluggable connector)   | Female connector/socket |
| 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 female 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  |

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

|                             |                  |
|-----------------------------|------------------|
| Insulation material         | Polyamide (PA66) |
| Flammability class per UL94 | V0               |
| Contact material            | Copper alloy     |
| Contact plating             | Tin              |
| Fire load                   | 0.071 MJ         |
| Weight                      | 2.9 g            |

### Environmental requirements

|                         |                |
|-------------------------|----------------|
| Limit temperature range | -60 ... +85 °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               |
| PU (SPU)              | 100 pcs                |
| Packaging type        | box                    |
| Country of origin     | DE                     |
| GTIN                  | 4044918578288          |
| Customs tariff number | 85366990990            |

### Environmental Product Compliance

|                        |                         |
|------------------------|-------------------------|
| RoHS Compliance Status | Compliant, No Exemption |
|------------------------|-------------------------|

### Approvals / Certificates

#### General approvals

| Logo   | Approval                              | Additional Approval Text | Certificate name |
|--|---------------------------------------|--------------------------|------------------|
|  | CB<br>DEKRA Certification B.V.        | IEC 61984                | NL-39756<br>/A1  |
|  | CSA<br>DEKRA Certification B.V.       | C22.2                    | 1466354          |
|  | KEMA/KEUR<br>DEKRA Certification B.V. | EN 61984                 | 71-<br>121453    |

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



|  |                                      |         |        |
|--|--------------------------------------|---------|--------|
|  | UL<br>Underwriters Laboratories Inc. | UL 1059 | E45172 |
|  | UR<br>Underwriters Laboratories Inc. | UL 1977 | E45171 |

**Declarations of conformity and manufacturer's declarations**

| Logo   | Approval                      | Additional Approval Text | Certificate name |
|--|-------------------------------|--------------------------|------------------|
|  | Railway<br>WAGO GmbH & Co. KG | -                        | Railway Ready    |

**Approvals for marine applications**

| Logo  | Approval                           | Additional Approval Text | Certificate name          |
|---|------------------------------------|--------------------------|---------------------------|
|   | ABS<br>American Bureau of Shipping | -                        | 19-<br>HG15869876-<br>PDA |
|   | DNV<br>DNV GL SE                   | -                        | TAE000016Z                |
|  | LR<br>Lloyds Register              | IEC 61984                | 96/20035 (E5)             |

**Counterpart**

Item no.231-603

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 3-pole; 2,50 mm<sup>2</sup>; gray[www.wago.com/231-603](http://www.wago.com/231-603)

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



**Item no.231-603/032-000**

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 3-pole; Strain relief plate; 2,50 mm<sup>2</sup>; gray

[www.wago.com/231-603/032-000](http://www.wago.com/231-603/032-000)



**Item no.231-603/019-000**

1-conductor male connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 3-pole; clamping collar; 2,50 mm<sup>2</sup>; gray

[www.wago.com/231-603/019-000](http://www.wago.com/231-603/019-000)

## Optional accessories

### Testing and measuring

#### Testing 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

2019 Apr 3

pdf  
2.1 MB

[Download](#)

## CAD/CAE-Data

### CAD data

#### 2D/3D Models 232-133

[URL](#)

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### CAE data

#### EPLAN Data Portal 232-133

[URL](#)

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#### ZUKEN Portal 232-133

[URL](#)

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### PCB Design

#### Symbol and Footprint via Ultra Librarian 232-133

[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

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

WAGO GmbH & Co. KG

Hansastr. 27

32423 Minden

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Email: [info.de@wago.com](mailto:info.de@wago.com) | Web: [www.wago.com](http://www.wago.com)

Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.

- Altair
- Altium 6 to current version
- Autodesk Fusion 360
- 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
- Zuken eCADSTAR 2020 and 2021Zuken CR-5000 and CR-8000

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

Symbol and Footprint via SamacSys 232-133

[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:

- 3D (stp)
- Altium
- CADSTAR
- Capture
- CircuitStudio

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

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- EasyEDA
- eCADSTAR
- KiCad
- OrCAD\_Allegro16
- PADS
- Proteus
- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

PCB Component Libraries (EDA), PCB CAD Library SamacSys Electronic Component Search Engine

#### Asset Administration Shell

Asset Administration Shell 232-133

[URL](#) [Download](#)

#### Environmental Product Compliance

##### Compliance Search

Environmental Product Compliance 232-133

[URL](#) [Download](#)

THT female header; straight; Pin spacing 5 mm; 3-pole; 0.6 x 1.0 mm solder pin; gray

#### Installation Notes

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

## Product family

### MCS MIDI Classic

[Show all products from the family](#)

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

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