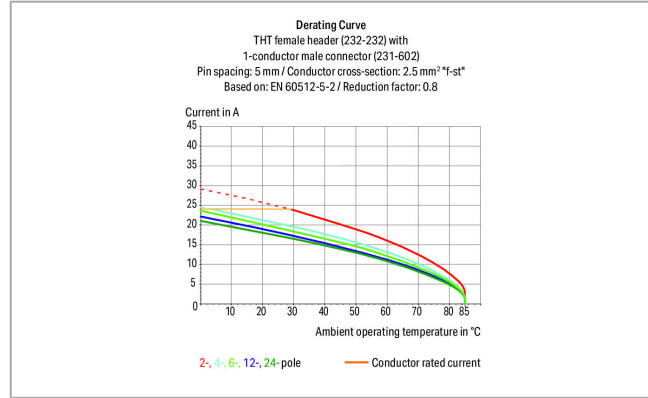
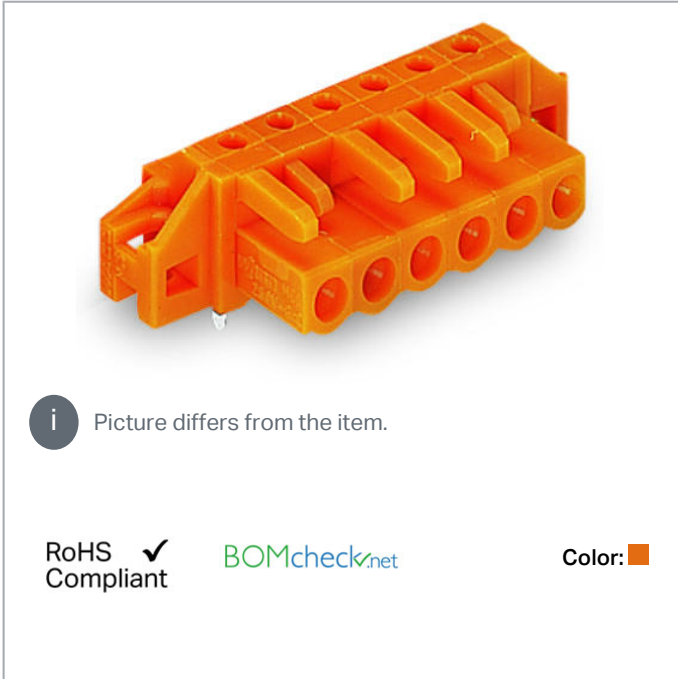


Data sheet | Item number: 232-278/031-000

THT female header; 0.6 x 1.0 mm solder pin; angled; clamping collar; 2.5 mm²; Pin spacing 5.08 mm; 18-pole; orange



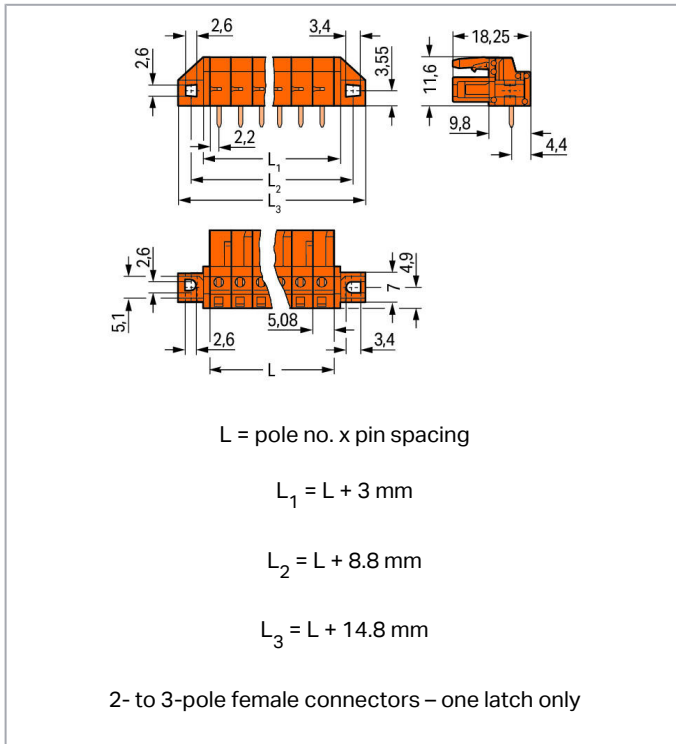
www.wago.com/232-278/031-000



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
- 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

Ratings per IEC/EN

| Ratings per | IEC/EN 60664-1 |
|-----------------------------|----------------|
| Nominal voltage (III/3) | 320 V |
| Rated surge voltage (III/3) | 4 kV |

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| | |
|-----------------------------|---|
| 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) ≙ 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

| | |
|-----------------------|-------|
| 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

| | |
|----------------------------|----|
| Pole No. | 18 |
| Total number of potentials | 18 |
| Number of connection types | 1 |
| Number of levels | 1 |

Physical data

| | |
|-------------------------|------------------------|
| Pin spacing | 5.08 mm / 0.2 inch |
| Width | 106.24 mm / 4.183 inch |
| Height | 16.6 mm / 0.654 inch |
| Height from the surface | 11.6 mm / 0.457 inch |

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| | |
|--------------------------------------|--------------------------|
| Depth | 18.25 mm / 0.719 inch |
| Solder pin length | 5 mm |
| Solder pin dimensions | 0.6 x 1 mm |
| Drilled hole diameter with tolerance | 1.3 ^(+0.1) mm |

Mechanical data

| | |
|---------------|---|
| Mounting type | Mounting flange |
| Mounting type | Feed-through mounting Panel mounting |

Plug-in 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 |
| Insulation material | Polyamide (PA66) |
| Flammability class per UL94 | V0 |
| Contact material | Copper alloy |
| Contact plating | tin-plated |
| Weight | 16.2 g |

Environmental requirements

| | |
|-------------------------|----------------|
| Limit temperature range | -60 ... +85 °C |
|-------------------------|----------------|

Commercial data

| | |
|-------------------|-----|
| Packaging type | BOX |
| Country of origin | DE |

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




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| | |
|-----------------------|---------------|
| GTIN | 4055143577083 |
| Customs tariff number | 85366990990 |

Approvals / Certificates

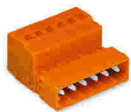
Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|--------------------------|---------------------------|
|  | ABS American Bureau of Shipping | - | 19- HG15869876- PDA |
|  | BV Bureau Veritas S.A. | IEC 60998 | 11915/D0 BV |
|  | DNV GL Det Norske Veritas, Germanischer Lloyd | - | TAE 000016Z |

UL-Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|---|--------------------------|-------------------|
|  | UL UL International Germany GmbH | UL 1977 | E45171 |
|  | UR Underwriters Laboratories Inc. | UL 1059 | E45172 sec. 18 |

Counterpart



Item no.231-648

1-conductor male connector; 2.5 mm²; Pin spacing 5.08 mm; 18-pole; 2,50 mm²; orangewww.wago.com/231-648

Compatible products

assembling

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

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| | | |
|--|---|--|
|  | Item no.: 231-194 Self-tapping screw; B 2.2x13, fixing hole 1.8 mm Ø | www.wago.com/231-194 |
|  | Item no.: 231-195 Screw with nut; M2x12; for fixing element | www.wago.com/231-195 |
|  | Item no.: 231-295 Screw with nut | www.wago.com/231-295 |
| check | | |
|  | Item no.: 210-136 Test plug; 2 mm Ø; with 500 mm cable; red | www.wago.com/210-136 |
|  | Item no.: 210-137 Test plug; 2.3 mm Ø; with 500 mm cable; yellow | www.wago.com/210-137 |
|  | Item no.: 231-661 Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm ² ; light gray | www.wago.com/231-661 |

Downloads

Documentation

Additional Information

| | | | |
|------------------------|------------|---------------|----------|
| Technical explanations | 3. 4. 2019 | pdf 2.0 MB | Download |
|------------------------|------------|---------------|----------|

CAD/CAE-Data

PCB Design

| | | |
|--------------------------------------|-----|----------|
| Symbol and Footprint 232-278/031-000 | 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

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



- 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 232-278/031-000 | URL | Download |
|------------------------------|---------------------|--------------------------|

CAE data

| | | |
|------------------------------|---------------------|--------------------------|
| ZUKEN Portal 232-278/031-000 | URL | Download |
|------------------------------|---------------------|--------------------------|

Environmental Product Compliance

Compliance Search

| | | |
|--|---------------------|--------------------------|
| Environmental Product Compliance 232-278/031-000 | URL | Download |
|--|---------------------|--------------------------|

THT female header; 0.6 x 1.0 mm solder pin; angled; clamping collar; 2.5 mm²; Pin spacing 5.08 mm; 18-pole; orange

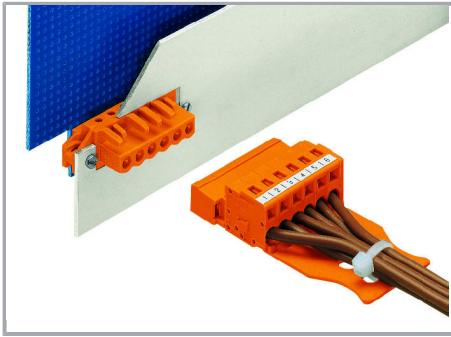
Installation Notes

Application

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The innovative flange design provides standard panel mounting options or various through-panel mounting configurations. Depending on the type of application and flange, female headers can be used either for through-panel or flush mounted applications.

Product family

[*MCS* MIDI Classic](#)

[Show all products from the family](#)

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