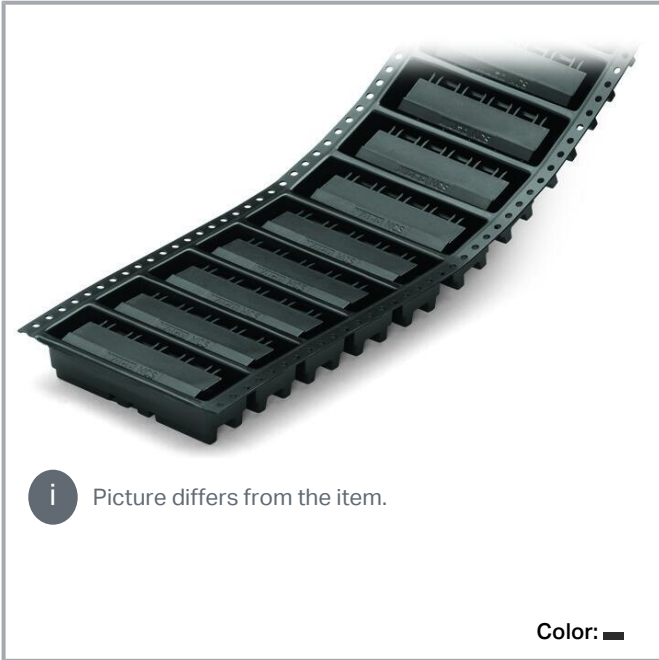


Data sheet | Item number: 231-835/001-000/105-604/997-407

THR male header; 1.0 x 1.0 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 7.5 mm; 5-pole; black

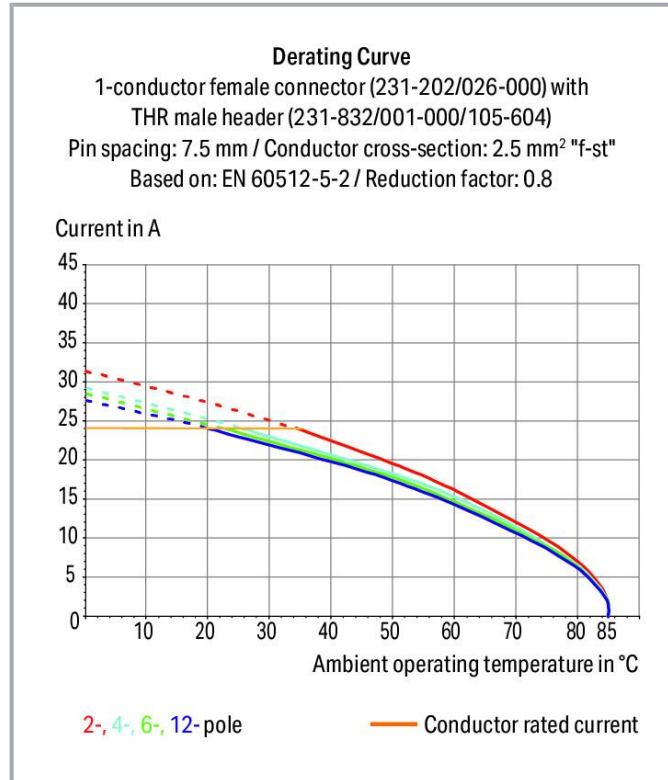


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i Picture differs from the item.

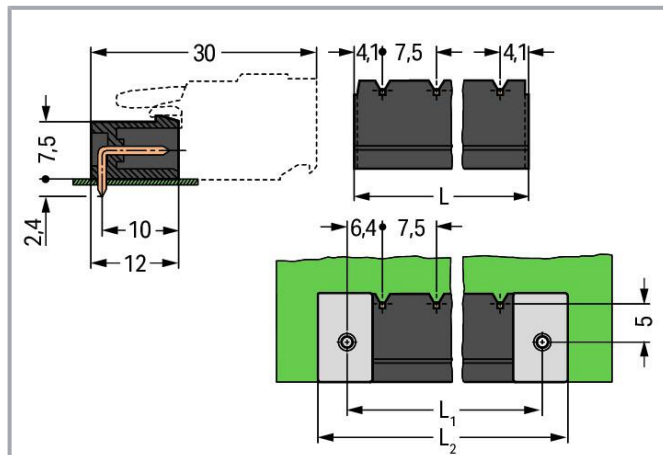
Color: ■



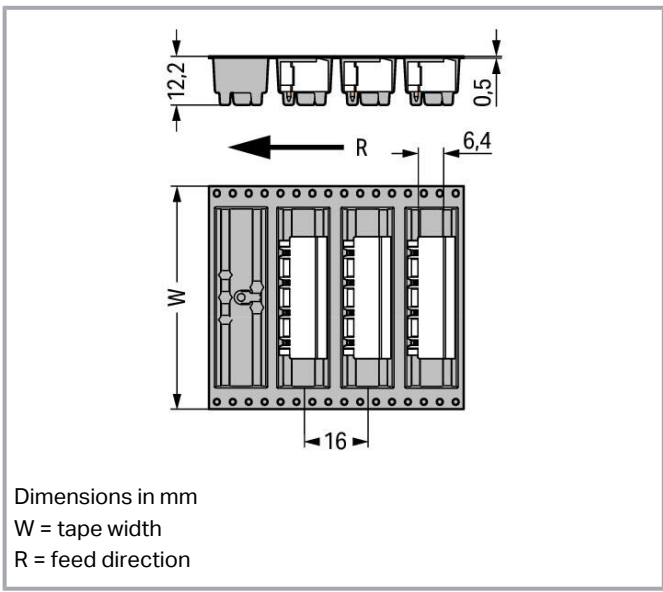
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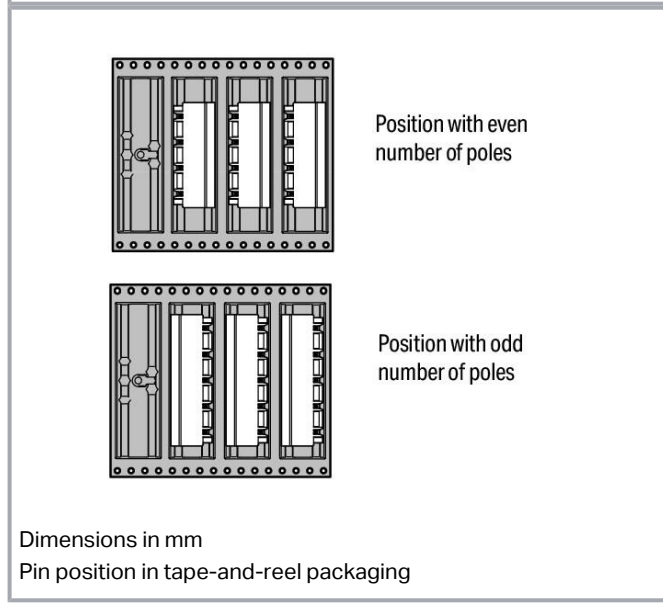
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Dimensions in mm
 $L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L_1 = L + 5 \text{ mm}$
 $L_2 = L_1 + 7.4 \text{ mm}$



Dimensions in mm
 $W = \text{tape width}$
 $R = \text{feed direction}$



Dimensions in mm
 Pin position in tape-and-reel packaging

Item description

- THR male headers for reflow soldering in SMT applications
- Available in tape-and-reel packaging for automated pick-and-place PCB assembly
- Also available in bulk packaging for manual placement
- Male headers may be mounted horizontally or vertically
- With coding fingers

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

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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
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) ≙ 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) | 10 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 | 10 A |

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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 | 5 |
| Number of connection types | 1 |
| Number of levels | 1 |

Connection 1

| | |
|-------------|---|
| Pole number | 5 |
|-------------|---|

Physical data

| | |
|--|--------------------------|
| Pin spacing | 7.5 mm / 0.295 inches |
| Width | 38.2 mm / 1.504 inches |
| Height | 10.8 mm / 0.425 inches |
| Height from the surface | 8.4 mm / 0.331 inches |
| Depth | 12 mm / 0.472 inches |
| Solder pin length | 2.4 mm |
| Solder pin dimensions | 1 x 1 mm |
| Plated through-hole diameter (THR) | 1.4 ^(+0.1) mm |
| Reel diameter of tape-and-reel packaging | 330 mm |
| Tape width | 56 mm |

Mechanical Data

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

Plug-in connection

| | |
|------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| Connector (connection type) | for PCB |
| Mismating protection | No |

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



| | |
|--------------------------------------|------|
| Plugging without loss of pin spacing | No |
| Mating direction to the PCB | 0° |
| Locking of plug-in connection | none |

PCB contact

| | |
|-------------------------------------|--|
| PCB contact | THR |
| 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 | black |
| Material group | I |
| Insulation material | Polyphthalamide (PPA GF) |
| Flammability class per UL94 | V0 |
| Contact material | Electrolytic copper (E _{Cu}) |
| Contact plating | Tin |
| Fire load | 0.05 MJ |
| Weight | 1.8 g |
| MSL per J-STD 020D | 1 |

Environmental requirements

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

Commercial data

| | |
|-------------------|---------------|
| eCl@ss 10.0 | 27-44-04-02 |
| eCl@ss 9.0 | 27-44-04-02 |
| ETIM 8.0 | EC002637 |
| ETIM 7.0 | EC002637 |
| ECCN | NO DATA |
| PU (SPU) | 170 pcs |
| Packaging type | box |
| Country of origin | DE |
| GTIN | 4050821043157 |

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| | |
|-----------------------|-------------|
| Customs tariff number | 85366930000 |
|-----------------------|-------------|

Environmental Product Compliance

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

Approvals / Certificates

General approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|--------------------------------------|--------------------------|------------------|
|  | CSA DEKRA Certification B.V. | C22.2 | 1466354 |
|  | UR Underwriters Laboratories Inc. | UL 1059 | E45172 |

Counterpart



Item no. 231-205/026-000

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 5-pole; 2,50 mm²; gray

www.wago.com/231-205/026-000

Optional accessories

Mounting

Mounting accessories



Item no.: 231-193

Locking device; for male connectors; 1 part; gray

www.wago.com/231-193

Coding

Intermediate plate



Item no.: 231-500

Spacer; for formation of groups; light gray

www.wago.com/231-500

Coding



Item no.: 231-129

Coding key; snap-on type; light gray

www.wago.com/231-129

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Downloads

Documentation

Additional Information

| | | | |
|------------------------|------------|----------|----------|
| Technical Section | 2019 Apr 3 | pdf | Download |
| Technical explanations | | 2.1 MB | |
| THR Soldering Process | | pdf | Download |
| | | 548.2 kB | |

CAD/CAE-Data

CAD data

| | | |
|--|-----|----------|
| 2D/3D Models 231-835/001-000/105-604/997-407 | URL | Download |
|--|-----|----------|

Asset Administration Shell

| | | |
|--|-----|----------|
| Asset Administration Shell 231-835/001-000/105-604/997-407 | URL | Download |
|--|-----|----------|

PCB Design

| | | |
|--|-----|----------|
| Symbol and Footprint via Ultra Librarian 231-835/001-000/105-604/997-407 | 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
- 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

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



- 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 231-835/001-000/105-604/997-407

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
- CR-5000
- CR-8000
- DEHDL
- DesignSpark PCB
- DesignSpark PCB PRO
- DipTrace
- EAGLE
- Easy-PC
- EasyEDA
- eCADSTAR
- KiCad
- OrCAD_Allegro16
- PADS

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- Proteus
- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

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

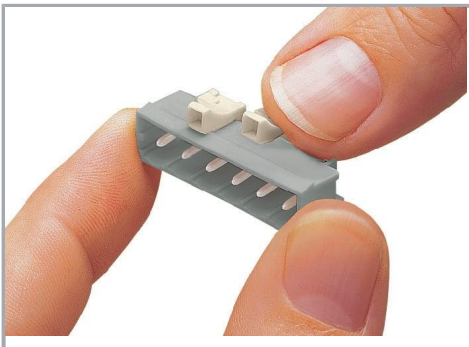
Environmental Product Compliance

Compliance Search

| Environmental Product Compliance 231-835/001-000/105-604/997-407 | URL | Download |
|---|-----|----------|
| THR male header; 1.0 x 1.0 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 7.5 mm; 5-pole; black | | |

Installation Notes

Coding



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

Product family

MCS MIDI Classic

[Show all products from the family](#)

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