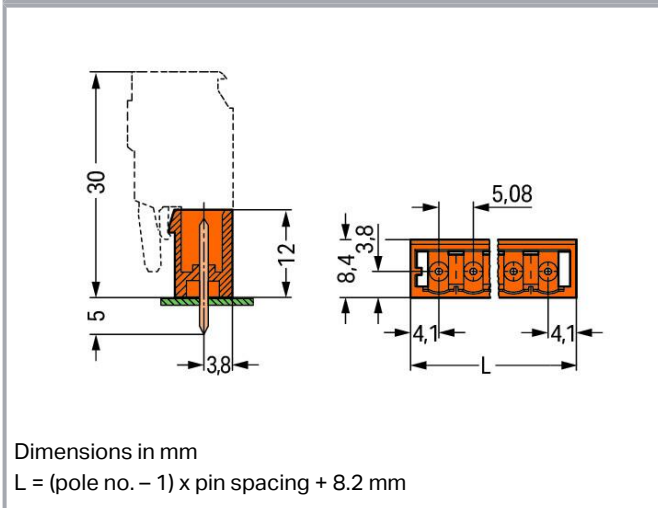
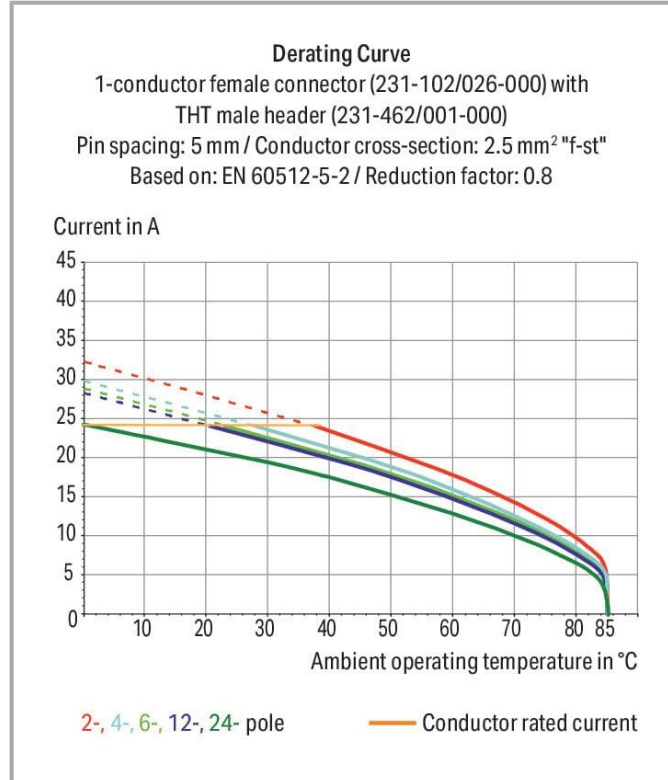
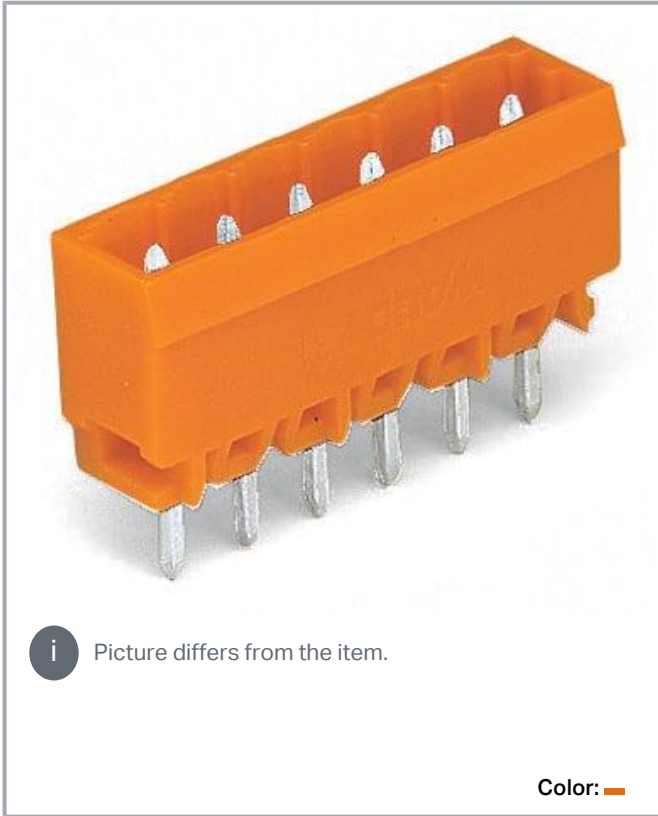


Data sheet | Item number: 231-351/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5.08 mm; 21-pole; orange



www.wago.com/231-351/001-000



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

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/>.

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) ≙ 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 |

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



| | |
|--------------------------------|------|
| Rated current UL (Use Group D) | 10 A |
|--------------------------------|------|

Ratings per UL 1977

| | |
|-------------------------|-------|
| Rated voltage (UL 1977) | 600 V |
| Rated current UL 1977 | 10 A |

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 | 21 |
| Number of connection types | 1 |
| Number of levels | 1 |

Connection 1

| | |
|-------------|----|
| Pole number | 21 |
|-------------|----|

Physical data

| | |
|--------------------------------------|--------------------------|
| Pin spacing | 5.08 mm / 0.2 inches |
| Width | 109.8 mm / 4.323 inches |
| Height | 17 mm / 0.669 inches |
| Height from the surface | 12 mm / 0.472 inches |
| Depth | 8.4 mm / 0.331 inches |
| Solder pin length | 5 mm |
| Solder pin dimensions | 1 x 1 mm |
| Drilled hole diameter with tolerance | 1.4 ^(+0.1) mm |

Mechanical Data

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

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



Plug-in connection

| | |
|--------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| 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 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 | orange |
| Material group | I |
| Insulation material | Polyamide (PA66) |
| Flammability class per UL94 | V0 |
| Contact material | Electrolytic copper (E _{Cu}) |
| Contact plating | Tin |
| Fire load | 0.117 MJ |
| Weight | 6.8 g |

Environmental requirements

| | |
|-------------------------|-----------------|
| Limit temperature range | -60 ... +100 °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 |

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






| | |
|-----------------------|---------------|
| ECCN | NO DATA |
| PU (SPU) | 50 pcs |
| Packaging type | box |
| Country of origin | PL |
| GTIN | 4044918865920 |
| Customs tariff number | 85366930000 |

Environmental Product Compliance

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

Approvals / Certificates

General approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|--|--------------------------|------------------|
| | CB DEKRA Certification B.V. | IEC 61984 | NL-39756/A1 |
|  | CCC CQC | GB/T 13140.1 | CQC03003003013 |
|  | CSA DEKRA Certification B.V. | C22.2 | 1466354 |
|  | KEMA/KEUR DEKRA Certification B.V. | EN 61984 | 71-121453 |
|  | UL UL International Germany GmbH | UL 1977 | E45171 |
|  | UR Underwriters Laboratories Inc. | UL 1059 | E45172 |


Declarations of conformity and manufacturer's declarations

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

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



Approvals for marine applications

| Logo | Approval | Additional Approval Text | Certificate name |
|--|---|--------------------------|--------------------------|
|  | ABS American Bureau of Shipping | - | 19- HG1869876- PDA |

Counterpart

| | | |
|--|---|--|
|  | Item no.231-321/026-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; 2,50 mm ² ; orange | www.wago.com/231-321/026-000 |
|  | Item no.2231-321/026-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; 2,50 mm ² ; orange | www.wago.com/2231-321/026-000 |
|  | Item no.2231-321/031-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; clamping collar; 2,50 mm ² ; orange | www.wago.com/2231-321/031-000 |
|  | Item no.2231-321/037-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; Lateral locking levers; 2,50 mm ² ; orange | www.wago.com/2231-321/037-000 |
|  | Item no.2231-321/102-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; with integrated end plate; 2,50 mm ² ; orange | www.wago.com/2231-321/102-000 |
|  | Item no.231-321/031-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; clamping collar; 2,50 mm ² ; orange | www.wago.com/231-321/031-000 |
|  | Item no.231-321/037-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; Lateral locking levers; 2,50 mm ² ; orange | www.wago.com/231-321/037-000 |
|  | Item no.231-321/102-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm ² ; Pin spacing 5.08 mm; 21-pole; with integrated end plate; 2,50 mm ² ; orange | www.wago.com/231-321/102-000 |

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



Item no.232-321/026-000

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 21-pole; 2,50 mm²; orange

[www.wago.com/232-](http://www.wago.com/232-321/026-000)

[321/026-000](http://www.wago.com/232-321/026-000)



Item no.231-322/027-000

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 22-pole; clamping collar; 2,50 mm²; orange

[www.wago.com/231-](http://www.wago.com/231-322/027-000)

[322/027-000](http://www.wago.com/231-322/027-000)



Item no.232-421/026-000

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 21-pole; 2,50 mm²; orange

[www.wago.com/232-](http://www.wago.com/232-421/026-000)

[421/026-000](http://www.wago.com/232-421/026-000)

Optional accessories

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

Downloads

Documentation

Additional Information

| | | | |
|------------------------|------------|--------|----------|
| Technical Section | 2019 Apr 3 | pdf | Download |
| Technical explanations | | 2.1 MB | |

CAD/CAE-Data

CAE data

| | | |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-351/001-000 | URL | Download |
| ZUKEN Portal 231-351/001-000 | URL | Download |
| EPLAN Data Portal 231-351/001-000 | URL | Download |

PCB Design

| | | |
|--|-----|----------|
| Symbol and Footprint via Ultra Librarian 231-351/001-000 | URL | Download |
|--|-----|----------|

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



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
- 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 2021 Zuken CR-5000 and CR-8000

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

Symbol and Footprint via SamacSys 231-351/001-000

[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:

—

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

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

CAD data

| | | |
|------------------------------|---------------------|--------------------------|
| 2D/3D Models 231-351/001-000 | URL | Download |
|------------------------------|---------------------|--------------------------|

Asset Administration Shell

| | | |
|--|---------------------|--------------------------|
| Asset Administration Shell 231-351/001-000 | URL | Download |
|--|---------------------|--------------------------|

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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 231-351/001-000

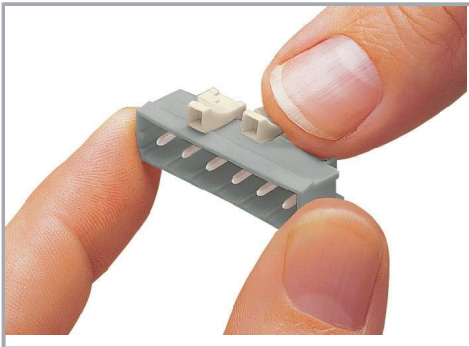
[URL](#)

[Download](#)

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 5.08 mm; 21-pole; orange

Installation Notes

Coding



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

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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