

Data sheet | Item number: 231-246/001-000

THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 16-pole; gray

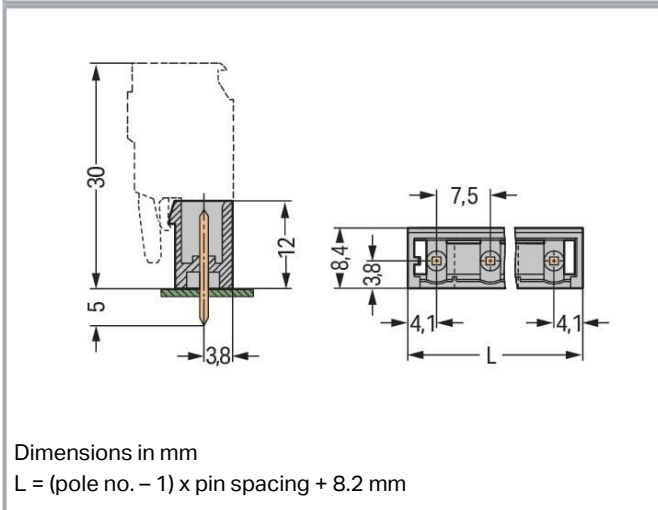
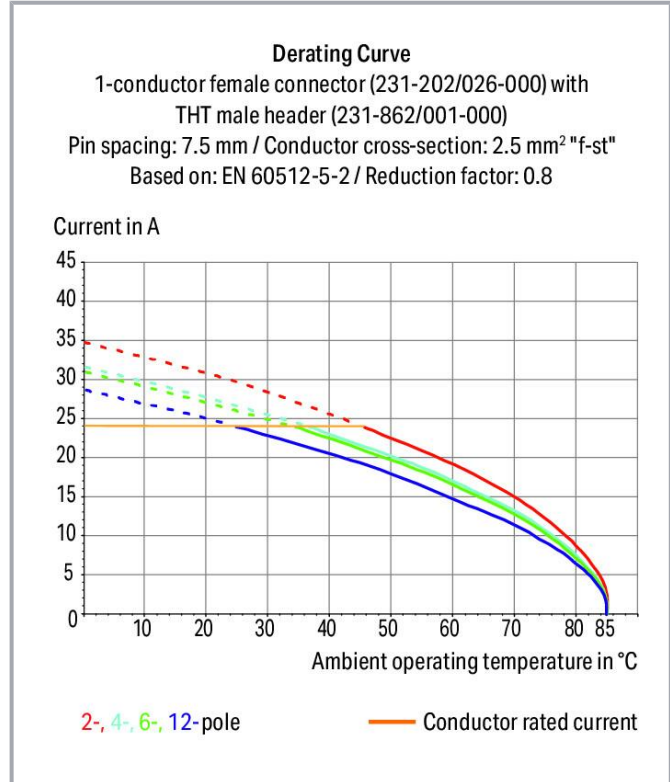


[www.wago.com/231-246/001-000](http://www.wago.com/231-246/001-000)



**i** Picture differs from the item.

Color:



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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)       | 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   |

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|                                |      |
|--------------------------------|------|
| 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 | 16 |
|----------------------------|----|

|                            |   |
|----------------------------|---|
| Number of connection types | 1 |
|----------------------------|---|

|                  |   |
|------------------|---|
| Number of levels | 1 |
|------------------|---|

### Connection 1

|             |    |
|-------------|----|
| Pole number | 16 |
|-------------|----|

### Physical data

|             |                       |
|-------------|-----------------------|
| Pin spacing | 7.5 mm / 0.295 inches |
|-------------|-----------------------|

|       |                         |
|-------|-------------------------|
| Width | 120.7 mm / 4.752 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 <sup>(+0.1)</sup> mm |
|--------------------------------------|--------------------------|

### Mechanical Data

|                 |     |
|-----------------|-----|
| Variable coding | Yes |
|-----------------|-----|

|                          |     |
|--------------------------|-----|
| Anti-rotation protection | Yes |
|--------------------------|-----|

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## 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                       | gray   |
| Material group              | I  |
| Insulation material         | Polyamide (PA66)   |
| Flammability class per UL94 | V0   |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> )                   |
| Contact plating             | Tin  |
| Fire load                   | 0.237 MJ   |
| Weight                      | 6.4 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               |

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|                       |               |
|-----------------------|---------------|
| ECCN                  | NO DATA       |
| PU (SPU)              | 50 pcs        |
| Packaging type        | box           |
| Country of origin     | PL            |
| GTIN                  | 4044918865159 |
| 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<br>DEKRA Certification B.V.        | IEC 61984                | NL-39756/A1      |
|    | CCC<br>CQC                            | GB/T 13140.1             | CQC03003003013   |
|   | CSA<br>DEKRA Certification B.V.       | C22.2                    | 1466354          |
|  | KEMA/KEUR<br>DEKRA Certification B.V. | EN 61984                 | 71-121453        |
|  | UR<br>Underwriters Laboratories Inc.  | UL 1059                  | E45172           |
|  | UR<br>Underwriters Laboratories Inc.  | UL 1977                  | E 45171          |




### Declarations of conformity and manufacturer's declarations

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







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## Approvals for marine applications

| Logo  | Approval                                  | Additional Approval Text | Certificate name         |
|---|---|--------------------------|--------------------------|
|   | <b>ABS</b><br>American Bureau of Shipping | -                        | 19-<br>HG1869876-<br>PDA |
|  | <b>BV</b><br>Bureau Veritas S.A.          | IEC 60998                | 11915/DO<br>BV           |
|   | <b>DNV</b><br>DNV GL SE                   | -                        | TAE000016Z               |

## Counterpart

|  |   |  |
|--|---|--|
|  | <b>Item no.231-216/026-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; 2,50 mm²; gray   | <a href="http://www.wago.com/231-216/026-000">www.wago.com/231-216/026-000</a>   |
|  | <b>Item no.2231-216/026-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; 2,50 mm²; gray                         | <a href="http://www.wago.com/2231-216/026-000">www.wago.com/2231-216/026-000</a> |
|  | <b>Item no.2231-216/031-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; clamping collar; 2,50 mm²; gray        | <a href="http://www.wago.com/2231-216/031-000">www.wago.com/2231-216/031-000</a> |
|  | <b>Item no.2231-216/037-000</b><br>1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; Lateral locking levers; 2,50 mm²; gray | <a href="http://www.wago.com/2231-216/037-000">www.wago.com/2231-216/037-000</a> |
|  | <b>Item no.231-216/027-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; clamping collar; 2,50 mm²; gray                              | <a href="http://www.wago.com/231-216/027-000">www.wago.com/231-216/027-000</a>   |
|  | <b>Item no.231-216/031-000</b><br>1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; clamping collar; 2,50 mm²; gray                              | <a href="http://www.wago.com/231-216/031-000">www.wago.com/231-216/031-000</a>   |

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**Item no. 231-216/037-000**

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; Lateral locking levers; 2,50 mm²; gray

[www.wago.com/231-216/037-000](http://www.wago.com/231-216/037-000)



**Item no. 732-116/026-000**

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; 2,50 mm²; gray

[www.wago.com/732-116/026-000](http://www.wago.com/732-116/026-000)



**Item no. 732-116/026-000/035-000**

1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.5 mm; 16-pole; Strain relief plate; 2,50 mm²; gray

[www.wago.com/732-116/026-000/035-000](http://www.wago.com/732-116/026-000/035-000)

## Optional accessories

### Coding

Intermediate plate



**Item no.: 231-500**

Spacer; for formation of groups; light gray

[www.wago.com/231-500](http://www.wago.com/231-500)

Coding



**Item no.: 231-129**

Coding key; snap-on type; light gray

[www.wago.com/231-129](http://www.wago.com/231-129)

## Downloads

### Documentation

#### Additional Information

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

## CAD/CAE-Data

### CAD data

|                              |     |          |
|------------------------------|-----|----------|
| 2D/3D Models 231-246/001-000 | URL | Download |
|------------------------------|-----|----------|

### CAE data

|                                   |     |          |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-246/001-000 | URL | Download |
|-----------------------------------|-----|----------|

|                                   |     |          |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-246/001-000 | URL | Download |
|-----------------------------------|-----|----------|

ZUKEN Portal 231-246/001-000

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

### PCB Design

Symbol and Footprint via Ultra Librarian 231-246/001-000

[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:

- 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 231-246/001-000

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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:

- 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

#### Asset Administration Shell

Asset Administration Shell 231-246/001-000

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#### Environmental Product Compliance

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## Compliance Search

Environmental Product Compliance 231-246/001-000

[URL](#)

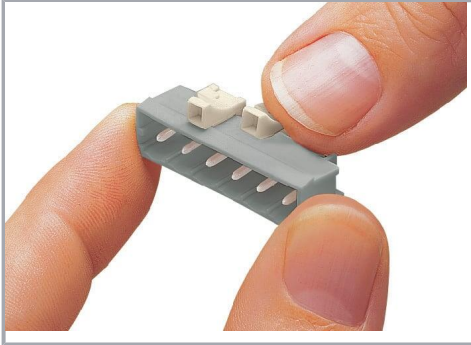
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THT male header; 1.0 x 1.0 mm solder pin; straight; Pin spacing 7.5 mm; 16-pole; gray

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## 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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