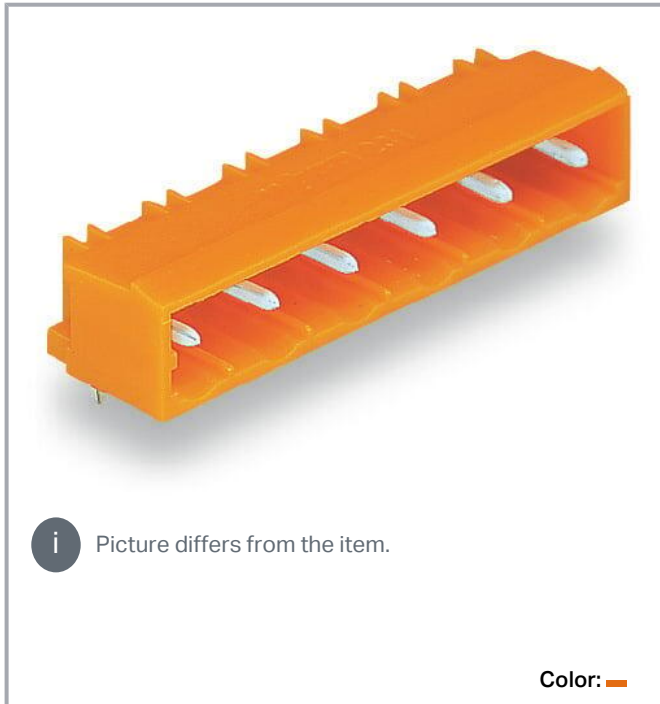


## Data sheet | Item number: 231-969/001-000

THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 7.62 mm; 9-pole; orange

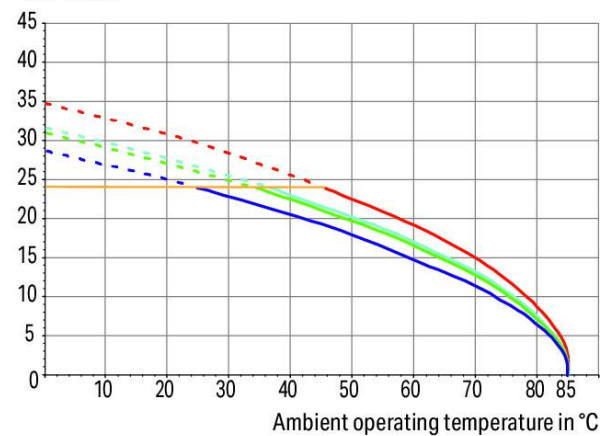
[www.wago.com/231-969/001-000](http://www.wago.com/231-969/001-000)



### Derating Curve

1-conductor female connector (231-202/026-000) with  
THT male header (231-862/001-000)  
Pin spacing: 7.5 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



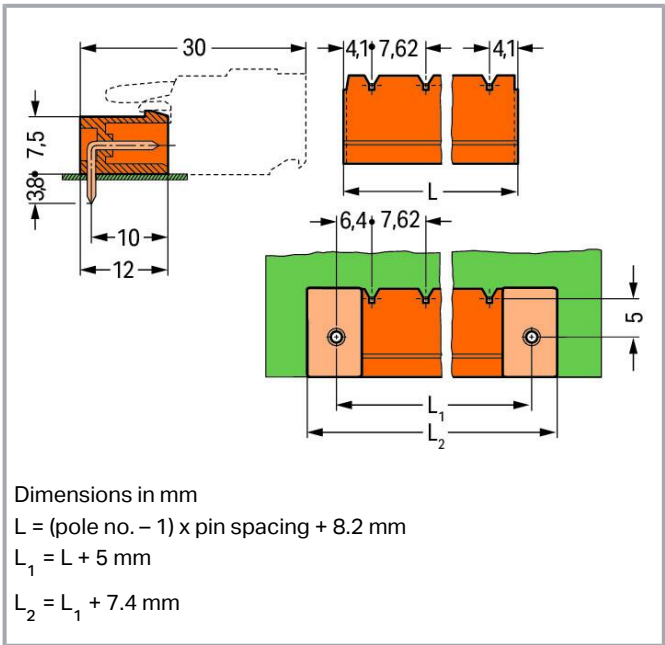
2-, 4-, 6-, 12-pole

Conductor rated current

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

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
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.



### Item description

- Horizontal or vertical PCB mounting via straight or angled solder pins
- 1.2 x 1.2 mm solder pins allow nominal current up to 16 A, enhancing stability of shorter headers
- 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

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

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
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.



## 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                 | 16 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 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 | 9 |
| Number of connection types | 1 |
| Number of levels           | 1 |

## Connection 1

|             |   |
|-------------|---|
| Pole number | 9 |
|-------------|---|

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



## Physical data

|                                      |                          |
|--------------------------------------|--------------------------|
| Pin spacing                          | 7.62 mm / 0.3 inches     |
| Width                                | 69.16 mm / 2.723 inches  |
| Height                               | 12.2 mm / 0.48 inches    |
| Height from the surface              | 8.4 mm / 0.331 inches    |
| Depth                                | 12 mm / 0.472 inches     |
| Solder pin length                    | 3.8 mm                   |
| Solder pin dimensions                | 1.2 x 1.2 mm             |
| Drilled hole diameter with tolerance | 1.7 <sup>(+0.1)</sup> 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                  |
| Plugging without loss of pin spacing | No                  |
| Mating direction to the PCB          | 0 °                 |
| 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                                                       |

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

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
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.



|                  |                                        |
|------------------|----------------------------------------|
| Contact material | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating  | Tin                                    |
| Fire load        | 0.071 MJ                               |
| Weight           | 4.1 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               |
| ECCN                  | NO DATA                |
| PU (SPU)              | 50 pcs                 |
| Packaging type        | box                    |
| Country of origin     | PL                     |
| GTIN                  | 4044918932547          |
| 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          |

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

|                                                                                  |                                      |         |        |
|----------------------------------------------------------------------------------|--------------------------------------|---------|--------|
|  | UR<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 |
|----------------------------------------------------------------------------------|--------------------------------------|--------------------------|------------------|
|  | <b>Railway</b><br>WAGO GmbH & Co. KG | -                        | Railway<br>Ready |

## 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           |

## Counterpart



Item no. 231-709/026-000

1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 9-pole; 2,50 mm²; orange

[www.wago.com/231-709/026-000](http://www.wago.com/231-709/026-000)

## Optional accessories

| Coding                                                                             |
|------------------------------------------------------------------------------------|
| Intermediate plate                                                                 |
|  |
| <b>Item no.: 231-500</b><br>Spacer; for formation of groups; light gray            |
| <a href="http://www.wago.com/231-500">www.wago.com/231-500</a>                     |
| Coding                                                                             |

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

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
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.



Item no.: 231-130

Coding key; snap-on type; light gray

[www.wago.com/231-130](http://www.wago.com/231-130)

## Mounting

Mounting accessories



Item no.: 231-393

Locking device; for male connectors; 1 part; orange

[www.wago.com/231-393](http://www.wago.com/231-393)

## Downloads

### Documentation

#### Additional Information

|                        |            |        |          |
|------------------------|------------|--------|----------|
| Technical Section      | 2019 年4月3日 | pdf    | Download |
| Technical explanations |            | 2.1 MB |          |

## CAD/CAE-Data

### CAD data

|                              |     |          |
|------------------------------|-----|----------|
| 2D/3D Models 231-969/001-000 | URL | Download |
|------------------------------|-----|----------|

### CAE data

|                                   |     |          |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-969/001-000 | URL | Download |
|-----------------------------------|-----|----------|

|                              |     |          |
|------------------------------|-----|----------|
| ZUKEN Portal 231-969/001-000 | URL | Download |
|------------------------------|-----|----------|

|                                   |     |          |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-969/001-000 | URL | Download |
|-----------------------------------|-----|----------|

### PCB Design

|                                                          |     |          |
|----------------------------------------------------------|-----|----------|
| Symbol and Footprint via Ultra Librarian 231-969/001-000 | 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

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

WAGO GmbH &amp; Co. KG

Hansastr. 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

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.



- 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 231-969/001-000

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:

- 3D (stp)
- Altium
- CADSTAR
- Capture
- CircuitStudio
- CR-5000
- CR-8000
- DEHDL
- DesignSpark PCB
- DesignSpark PCB PRO

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

---

WAGO GmbH & Co. KG

Hansastr. 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

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.



- 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 231-969/001-000 | URL | Download |
|--------------------------------------------|-----|----------|

Environmental Product Compliance

Compliance Search

|                                                                                       |     |          |
|---------------------------------------------------------------------------------------|-----|----------|
| Environmental Product Compliance 231-969/001-000                                      | URL | Download |
| THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 7.62 mm; 9-pole; orange |     |          |

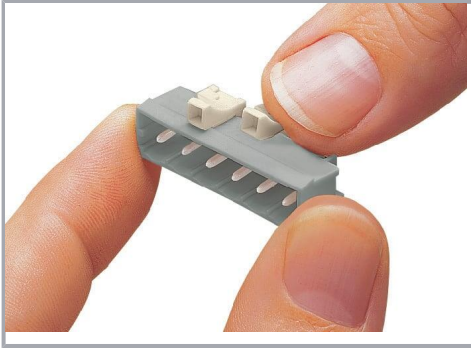
Installation Notes

Coding

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

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



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!

WAGO GmbH & Co. KG  
Hansastr. 27  
32423 Minden  
Phone: +49571 887-0 | Fax: +49571 887-169  
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.