

Data sheet | Item number: 231-471/001-000

Male header; 11-pole; THT; 1.2 x 1.2 mm solder pin; angled; pin spacing 5 mm; gray



www.wago.com/231-471_001-000



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

WAGO Corporation
Germantown, WI 53022
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222
Email: info.us@wago.com | Web: www.wago.us

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Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$

$L_1 = L + 5 \text{ mm}$

$L_2 = L_1 + 7.4 \text{ mm}$

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

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Data

Notes

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.

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

IEC Approvals

| Ratings per | IEC/EN 60664-1 |
|-----------------------------|----------------------------------------------------------------------|
| Rated voltage (III / 3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| 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 | 16 A |
| Legend (ratings) | (III / 2) \triangleq Overvoltage category III / Pollution degree 2 |

UL Approvals

| 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 |

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CSA Approvals

| | |
|---------------------------------|-------|
| 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 | 11 |
| Number of connection types | 1 |
| Number of levels | 1 |

Connection 1

| | |
|-----------------|----|
| Number of poles | 11 |
|-----------------|----|

Physical data

| | |
|--------------------------------------|--------------------------|
| Pin spacing | 5 mm / 0.197 inch |
| Width | 58.2 mm / 2.291 inch |
| Height | 12.2 mm / 0.48 inch |
| Height from the surface | 8.4 mm / 0.331 inch |
| Depth | 12 mm / 0.472 inch |
| Solder pin length | 3.8 mm |
| Solder pin dimensions | 1.2 x 1.2 mm |
| Drilled hole diameter with tolerance | 1.7 ^(+0.1) mm |

Plug-in connection

| | |
|------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| Connector (connection type) | for PCB |
| Mismating protection | No |
| Mating direction to the PCB | 0° |
| Locking of plug-in connection | Without |

PCB contact

| | |
|------------------------|------------------------------------------|
| PCB Contact | THT |
| Solder pin arrangement | over the entire male connector (in-line) |

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

| | |
|-------------------------------------|---|
| Number of solder pins per potential | 1 |
|-------------------------------------|---|

Material data

| | |
|-----------------------------|----------------------------------------|
| Color | gray |
| Material group | I |
| Insulation material | Polyamide (PA66) |
| Flammability class per UL94 | V0 |
| Contact material | Electrolytic copper (E _{Cu}) |
| Contact plating | tin-plated |
| Fire load | 0.063 MJ |
| Weight | 4.2 g |

Environmental requirements


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

Commercial data

| | |
|-----------------------|------------------------|
| Product Group | 3 (Multi Conn. System) |
| PU (SPU) | 100 Stück |
| Packaging type | box |
| Country of origin | PL |
| GTIN | 4044918930604 |
| Customs tariff number | 8536694040 |

Approvals / Certificates

Country specific Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|----------------------------------------|--------------------------|------------------|
| | CB DEKRA Certification B.V. | IEC 61984 | NL-39756 |
|  | CSA DEKRA Certification B.V. | C22.2 | 1466354 |

Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|------------|--------------------------|------------------|
| | ABS | - | 19- |

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



American Bureau of Shipping

HG1869876-PDA



BV
Bureau Veritas S.A.

IEC 60998



11915/DO
BV

DNV GL
Det Norske Veritas, Germanischer Lloyd

-

TAE000016Z

UL-Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|----------------------------------------------------------------------------------|---------------------------------------------|--------------------------|------------------|
|  | UL Underwriters Laboratories Inc. | UL 1059 | E45172 |
|  | UR Underwriters Laboratories Inc. | UL 1977 | E45171 |

Counterpart



Item no.231-111/026-000
Female plug; 11-pole; 12 AWG max; pin spacing 5 mm; 1 conductor per pole; gray

www.wago.com/231-111/026-000

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

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



Downloads

Documentation

Additional Information

| | | | |
|------------------------|------------|---------------|----------|
| Technical explanations | 2019 Apr 3 | pdf 2.0 MB | Download |
|------------------------|------------|---------------|----------|

CAD files

CAD data

| | | |
|------------------------------|-----|----------|
| 2D/3D Models 231-471/001-000 | URL | Download |
|------------------------------|-----|----------|

CAE data

| | | |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-471/001-000 | URL | Download |
|-----------------------------------|-----|----------|

| | | |
|------------------------------|-----|----------|
| ZUKEN Portal 231-471/001-000 | URL | Download |
|------------------------------|-----|----------|

| | | |
|-----------------------------------|-----|----------|
| EPLAN Data Portal 231-471/001-000 | URL | Download |
|-----------------------------------|-----|----------|

PCB Design

| | | |
|--------------------------------------|-----|----------|
| Symbol and Footprint 231-471/001-000 | 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
- 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
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X
- PADS PowerPCB and PowerLogic 3.0

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

- 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

Environmental Product Compliance

Compliance Search

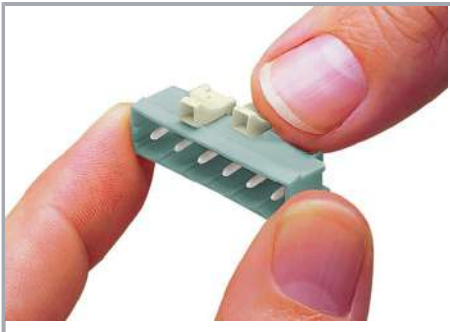
Environmental Product Compliance 231-471/001-000

[URL](#)

[Download](#)

THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 5 mm; 11-pole; gray

Installation Notes



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

Product family

MCS MIDI Classic

[Show all products from the family](#)

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