

## Fișă tehnică | Număr articol: 231-470/001-000

THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 5 mm; 10-pole; gray

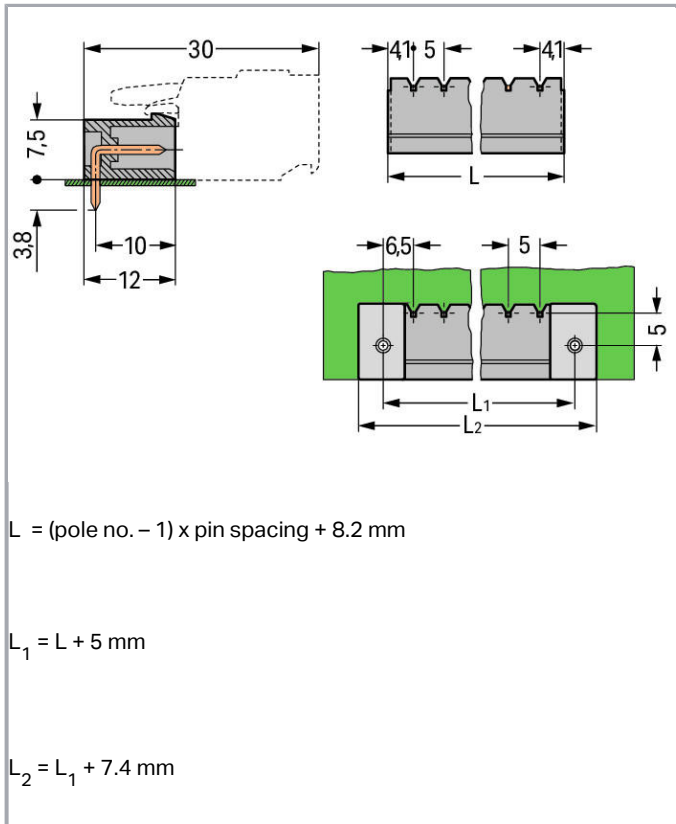
[www.wago.com/231-470/001-000](http://www.wago.com/231-470/001-000)



Supus modificărilor.

WAGO Kontakttechnik GmbH & Co. KG  
/Representative Office Romania  
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Tel.: +40-(0)31 421 85 68 | Email: info-RO@wago.com

Aveți întrebări despre produsele noastre?  
Vă stăm la dispoziție pentru preluarea apelului la +40 (0) 31 421 85 68.



### Descriere articol

- 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

### 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.

### Date

### Electrical data

### Ratings per IEC/EN 60664-1

| Ratings per             | IEC/EN 60664-1 |
|-------------------------|----------------|
| Nominal voltage (III/3) | 250 V          |

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|                             |   |
|-----------------------------|---|
| 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) $\hat{=}$ Overvoltage category III / Pollution degree 2 |

### 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    |
| Approvals per                  | UL 1059 |

### Approvals per UL 1977

|                       |       |
|-----------------------|-------|
| Rated voltage UL 1977 | 600 V |
| Rated current UL 1977 | 15 A  |

### 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

|                            |    |
|----------------------------|----|
| Pole No.                   | 10 |
| Total number of potentials | 10 |
| Number of connection types | 1  |
| Number of levels           | 1  |

### Geometrical Data

|                         |                      |
|-------------------------|----------------------|
| Pin spacing             | 5 mm / 0.197 inch    |
| Width                   | 53.2 mm / 2.094 inch |
| Height                  | 12.2 mm / 0.48 inch  |
| Height from the surface | 8.4 mm / 0.331 inch  |

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|                                      |                          |
|--------------------------------------|--------------------------|
| 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 <sup>(+0.1)</sup> mm |

### Plug connection

|                                    |                     |
|------------------------------------|---------------------|
| Contact type (pluggable connector) | Male connector/plug |
| Connector (connection type)        | for PCBs            |
| Mismating protection               | No                  |
| Mating direction to the PCB        | 0°                  |

### PCB contact

|                                     |   |
|-------------------------------------|---|
| PCB contact                         | THT                                     |
| Solder pin arrangement              | over the entire male connector, in line |
| Number of solder pins per potential | 1                                       |

### Material Data

|                             |  |
|-----------------------------|--|
| Color                       | gray                                   |
| Material group              | I                                      |
| Insulation material         | Polyamide 66 (PA 66)                   |
| Flammability class per UL94 | V0                                     |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | tin-plated                             |
| Fire load                   | 0,057 MJ                               |
| Weight                      | 3,8 g                                  |

### Environmental Requirements

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

### Commercial data

|                       |                        |
|-----------------------|------------------------|
| Product Group         | 3 (Multi Conn. System) |
| Packaging type        | BOX                    |
| Country of origin     | DE                     |
| GTIN                  | 4044918930574          |
| Customs tariff number | 85366990990            |

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## Aprobări / certificate



## Country specific Approvals

| Emblemă  | Aprobare                        | Text de aprobare suplimentar | Nume certificat |
|--|---------------------------------|------------------------------|-----------------|
|  | CSA<br>DEKRA Certification B.V. | C22.2                        | 1466354         |

## Ship Approvals

| Emblemă  | Aprobare   | Text de aprobare suplimentar | Nume certificat          |
|--|--|------------------------------|--------------------------|
|  | ABS<br>American Bureau of Shipping               | -                            | 19-<br>HG1869876-<br>PDA |
|  | DNV GL<br>Det Norske Veritas, Germanischer Lloyd | -                            | TAE000016Z               |

## UL-Approvals

| Emblemă  | Aprobare                             | Text de aprobare suplimentar | Nume certificat     |
|--|--------------------------------------|------------------------------|---------------------|
|  | UL<br>Underwriters Laboratories Inc. | UL 1059                      | 20190731-<br>E45172 |
|  | UR<br>UL International Germany GmbH  | UL 1977                      | E45171              |

## Counterpart



Nr. articol 231-110/026-000

1-conductor female plug; 2.5 mm<sup>2</sup>; Pin spacing 5 mm; 10-pole; 2,50 mm<sup>2</sup>; gray[www.wago.com/231-110/026-000](http://www.wago.com/231-110/026-000)

## Produse compatibile

Supus modificărilor.



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## Coding

|  |  |  |
|--|--|--|
|  | <b>Nr. articol: 231-129</b><br>Coding key; snap-on type; light gray        | <a href="http://www.wago.com/231-129">www.wago.com/231-129</a> |
|  | <b>Nr. articol: 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> |

## Marking accessories

|  |  |  |
|--|--|--|
|  | <b>Nr. articol: 210-833</b><br>Marking strips; on reel; 6 mm wide; plain; Self-adhesive; white | <a href="http://www.wago.com/210-833">www.wago.com/210-833</a> |
|  | <b>Nr. articol: 210-834</b><br>Marking strips; on reel; 5 mm wide; plain; Self-adhesive; white | <a href="http://www.wago.com/210-834">www.wago.com/210-834</a> |

## Descărcări

## Documentation

## Additional Information

|                        |             |               |            |
|------------------------|-------------|---------------|------------|
| Technical explanations | Apr 3, 2019 | pdf<br>3,6 MB | Descărcare |
|------------------------|-------------|---------------|------------|

## CAD/CAE-Data

## CAD data

|                              |     |            |
|------------------------------|-----|------------|
| 2D/3D Models 231-470/001-000 | URL | Descărcare |
|------------------------------|-----|------------|

## CAE data

|                                   |     |            |
|-----------------------------------|-----|------------|
| EPLAN Data Portal 231-470/001-000 | URL | Descărcare |
|-----------------------------------|-----|------------|

## PCB Design

|                                      |     |            |
|--------------------------------------|-----|------------|
| Symbol and Footprint 231-470/001-000 | URL | Descărcare |
|--------------------------------------|-----|------------|

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

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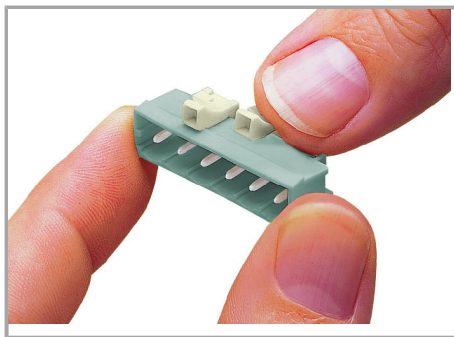
- Mentor Graphics BoardStation
- Mentor Graphics Design Architect
- Mentor Graphics Design Expedition 99 and 2000
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X
- PADS PowerPCB and PowerLogic 3.0
- PCAD 2000, 2001, 2002, 2004, and 2006
- Pulsonix 8.5 or newer
- STL
- 3D STEP
- TARGET 3001!
- View Logic ViewDraw
- Quadcept
- Zuken CadStar 3 and 4
- Zuken CR-5000 and CR-8000

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

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## Installation Notes

### Coding



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

## Familie de produse

<i>MCS</i> MIDI Classic

Afișare globală produse din familie.

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