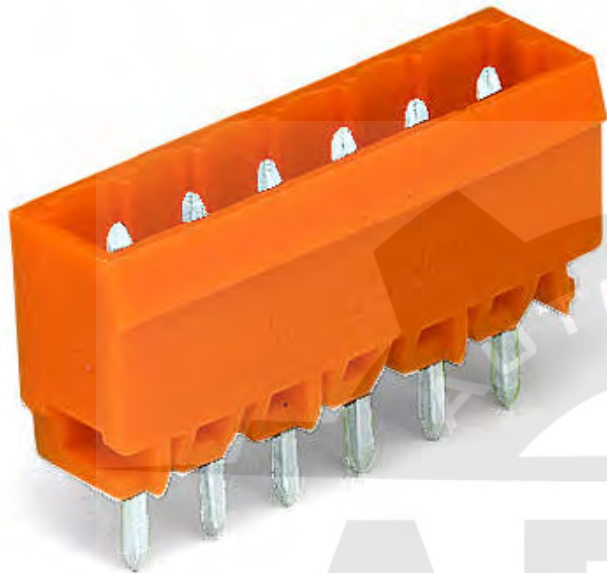


# Data sheet | Item number: 231-380/001-000

THT male header; 1.2 x 1.2 mm solder pin; straight; Pin spacing 5.08 mm; 20-pole



231-380/001-000

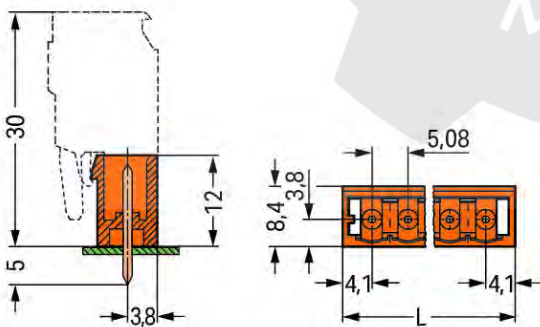
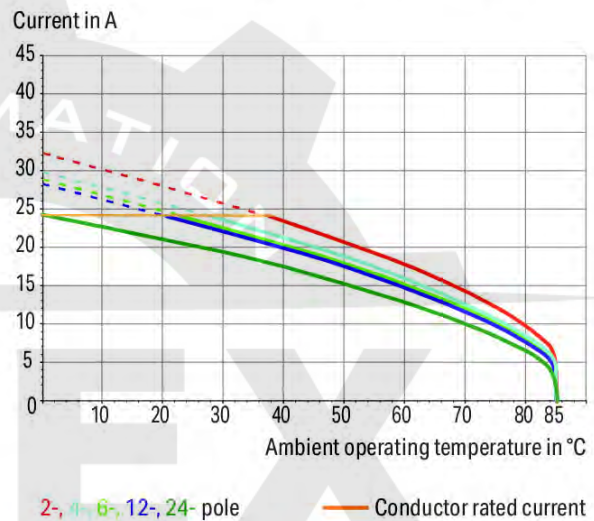


RoHS Compliant

Color:

## Derating Curve

1-conductor female connector (231-102/026-000) with  
THT male header (231-462/001-000)  
Pin spacing: 5 mm / Conductor cross-section: 2.5 mm<sup>2</sup> "f-st"  
Based on: EN 60512-5-2 / Reduction factor: 0.8



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

## 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

**Safety information 1:**

The *MULTI CONNECTION SYSTEM (MCS)* is designed without breaking capacity for compliance with DIN EN 61984. When used as intended, MCS Connectors shall 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.

**Data****Electrical data****Ratings per IEC/EN 60664-1**

|                                 |       |
|---------------------------------|-------|
| Rated voltage (III / 3)         | 250 V |
| Rated impulse voltage (III / 3) | 4 kV  |
| Rated voltage (III / 2)         | 320 V |
| Rated impulse voltage (III / 2) | 4 kV  |
| Rated voltage (II / 2)          | 630 V |
| Rated impulse voltage (II / 2)  | 4 kV  |
| Rated current                   | 16 A  |

**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 1977**

|                                                 |       |
|-------------------------------------------------|-------|
| Rated voltage per UL 1977 (factory wiring only) | 600 V |
| Rated current per UL 1977 (factory wiring only) | 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**

|                            |    |
|----------------------------|----|
| No. of poles               | 20 |
| Total number of potentials | 20 |

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

## Geometrical Data

|                                   |                              |
|-----------------------------------|------------------------------|
| Pin spacing                       | 5.08 mm / 0.2 inch           |
| Width                             | 104.72 mm / 4.123 inch       |
| Height                            | 17 mm / 0.669 inch           |
| Height from the surface           | 12 mm / 0.472 inch           |
| Depth                             | 8.4 mm / 0.331 inch          |
| Solder pin length                 | 5 mm                         |
| Solder pin dimensions             | 1.2 x 1.2 mm                 |
| Drilled hole diameter (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        | 90°                 |

## 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                       | orange                                 |
| Material group              | I                                      |
| Insulating material         | Polyamide 66 (PA 66)                   |
| Flammability class per UL94 | V0                                     |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | tin-plated                             |
| Fire load                   | 0.113 MJ                               |
| Weight                      | 7.56 g                                 |

## Environmental Requirements

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

## Commercial data

|               |                        |
|---------------|------------------------|
| Product Group | 3 (Multi Conn. System) |
|---------------|------------------------|

|                    |               |
|--------------------|---------------|
| Country of origin  | PL            |
| GTIN               | 4044918930178 |
| Customs Tariff No. | 85366990990   |

## Approvals / Certificates

### Country specific Approvals

| Logo                                                                             | Approval                                     | Additional Approval Text | Certificate name |
|----------------------------------------------------------------------------------|----------------------------------------------|--------------------------|------------------|
|                                                                                  | <b>CB</b><br>DEKRA Certification B.V.        | IEC 61984                | NL-39756         |
|  | <b>KEMA/KEUR</b><br>DEKRA Certification B.V. | EN 61984                 | 2190761.01       |

### UL-Approvals

| Logo                                                                               | Approval                                    | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|---------------------------------------------|--------------------------|------------------|
|    | <b>UL</b><br>UL International Germany GmbH  | UL 1977                  | E45171           |
|  | <b>UR</b><br>Underwriters Laboratories Inc. | UL 1059                  | E45172           |

## Compatible products

### Marking accessories

|                                                                                    |                                                                                      |         |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 210-833</b><br>Marking strips; on reel; 6 mm wide; plain; Self-adhesive | 210-833 |
|  | <b>Item no.: 210-834</b><br>Marking strips; on reel; 5 mm wide; plain; Self-adhesive | 210-834 |

### Coding

|                                                                                    |                                                             |         |
|------------------------------------------------------------------------------------|-------------------------------------------------------------|---------|
|  | <b>Item no.: 231-129</b><br>Coding key; snap-on type        | 231-129 |
|  | <b>Item no.: 231-500</b><br>Spacer; for formation of groups | 231-500 |



## Downloads

## CAD/CAE - Smart Data

## PCB libraries

|                                                                                                                                              |                      |               |          |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------|----------|
| DesignSpark Library for WAGO Pluggable PCB Connectors (MULTI CONNECTION SYSTEM)<br>Compatible with DesignSpark PCB Version 4.x or higher     | 2.1<br>Oct 6, 2014   | zip<br>6.1 MB | Download |
| TARGET Library for WAGO Pluggable PCB Connectors (Multi-Connection System)<br>Compatible with TARGET PCB Design Software Version 17.x        | 1.1.0<br>Oct 6, 2014 | zip<br>7.4 MB | Download |
| EAGLE Library for WAGO Pluggable PCB Connectors (MULTI CONNECTION SYSTEM)<br>Compatible with EAGLE PCB Design Software Version 6.x or higher | 2.1<br>Oct 6, 2014   | zip<br>6.2 MB | Download |

## CAD data

|                             |     |          |
|-----------------------------|-----|----------|
| 3D Download 231-380/001-000 | URL | Download |
|-----------------------------|-----|----------|

Subject to changes.

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