

Data sheet | Item number: 231-452/001-000

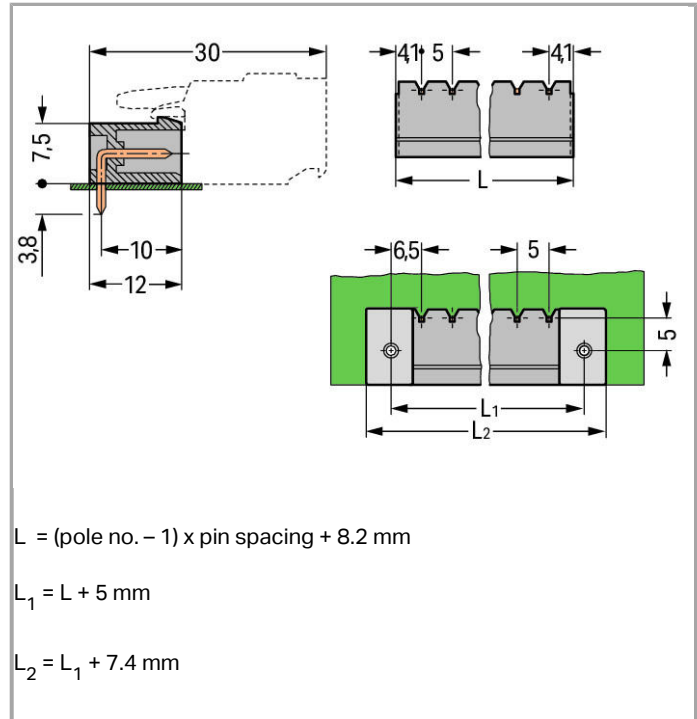
THT male header; 1.0 x 1.0 mm solder pin; angled; Pin spacing 5 mm; 22-pole

www.wago.com/231-452/001-000



RoHS Compliant

Color:



Item description

- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- With coding fingers

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>: 3.8 mm pin projection for male headers with straight solder pins, Gold-plated or partially gold-plated contact surfaces, Other pole numbers

Data

Electrical data

Ratings per IEC/EN 60664-1

| | |
|---------------------------------|-------|
| Rated voltage (III / 3) | 320 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 | 12 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) | 10 A |
| Rated voltage UL (Use Group D) | 300 V |
| Rated current UL (Use Group D) | 10 A |

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

| | |
|----------------------------|----|
| No. of poles | 22 |
| Total number of potentials | 22 |
| Number of levels | 1 |

Geometrical Data

| | |
|-----------------------------------|--------------------------|
| Pin spacing | 5 mm (0.197 inch) |
| Width | 113.2 mm / 4.457 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 x 1 mm |
| Drilled hole diameter (tolerance) | 1.4 ^(+0.1) 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 |
| Insulating material | Polyamide 66 (PA 66) |
| Flammability class per UL94 | V0 |
| Contact material | Electrolytic copper (Ecu) |
| Contact plating | tin-plated |
| Fire load | 0.119 MJ |
| Weight | 6.796 g |

Environmental Requirements



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

Commercial data


| | |
|--------------------|------------------------|
| Country of origin | DE |
| GTIN | 4044918866699 |
| Customs Tariff No. | 85366990990 |
| Product Group | 3 (Multi Conn. System) |

Approvals / Certificates

Country specific Approvals

| Logo | Approval | Certificate name |
|--|--|------------------|
| | CB DEKRA Certification B.V. | NL-39756 |
|  | CSA DEKRA Certification B.V. | 1466354 |
|  | CSA DEKRA Certification B.V. | 1466354 |

Ship Approvals

| Logo | Approval | Certificate name |
|--|---|------------------|
|  | ABS American Bureau of Shipping | 14-HG1241537-PDA |
| | DNV GL Det Norske Veritas, Germanischer Lloyd | TAE000016Z |



UL-Approvals

| Logo | Approval | Certificate name |
|--|-------------------------------------|------------------|
|  | UL UL International Germany GmbH | E45172 |
|  | UR UL International Germany GmbH | E45171 |
|  | UR UL International Germany GmbH | E45171 |

Compatible products

Coding

| | | |
|--|--|--|
|  | Item no.: 231-129 Coding key; snap-on type | www.wago.com/231-129 |
|  | Item no.: 231-500 Spacer; for formation of groups | www.wago.com/231-500 |

Marking accessories

| | | |
|--|---|--|
|  | Item no.: 210-833 Marking strips; on reel; 6 mm wide; plain; Self-adhesive | www.wago.com/210-833 |
|  | Item no.: 210-834 Marking strips; on reel; 5 mm wide; plain; Self-adhesive | www.wago.com/210-834 |

Downloads

smartDATA

PCB libraries

| | | | |
|--|---------------------|---------------|----------|
| EAGLE Library for WAGO Pluggable PCB Connectors (MULTI CONNECTION SYSTEM) Compatible with EAGLE PCB Design Software Version 6.x or higher | 2.1 Nov 17, 2017 | ZIP 6.2 MB | Download |
| DesignSpark Library for WAGO Pluggable PCB Connectors (MULTI CONNECTION SYSTEM) Compatible with DesignSpark PCB Version 4.x or higher | 2.1 Oct 6, 2014 | ZIP 6.1 MB | Download |



| | | | |
|---|----------------------|---------------|----------|
| TARGET Library for WAGO Pluggable PCB Connectors (Multi-Connection System) Compatible with TARGET PCB Design Software Version 17.x | 1.1.0 Oct 6, 2014 | ZIP 7.4 MB | Download |
|---|----------------------|---------------|----------|

CAD data

| | | |
|-----------------------------|-----|----------|
| 3D Download 231-452/001-000 | URL | Download |
|-----------------------------|-----|----------|

Subject to changes.