# PT 1,5/ 3-PH-5,0 BK - PCB connector

1704520

https://www.phoenixcontact.com/us/products/1704520

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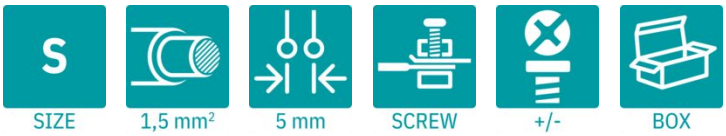





PCB connector, nominal cross section: 1.5 mm$^2$, color: black, nominal current: 10 A, rated voltage (III/2): 400 V, contact surface: Sn, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PT 1,5/..-PH, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: H1L Slotted Phillips recess, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PST 1,3, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- High terminal block capacity thanks to rectangular terminal block space

## Commercial data

| | |
|---|---|
| Item number | 1704520 |
| Packing unit | 250 pc |
| Minimum order quantity | 250 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA02 |
| Product key | AABAJA |
| GTIN | 4046356726122 |
| Weight per piece (including packing) | 3.622 g |
| Weight per piece (excluding packing) | 3.463 g |
| Customs tariff number | 85366990 |
| Country of origin | CN |

## Technical data

### Product properties

| | |
|---|---|
| Product type | PCB connector |
| Product family | PT 1,5/..-PH |
| Product line | COMBICON Connectors S |
| Number of positions | 3 |
| Pitch | 5 mm |
| Number of connections | 3 |
| Number of rows | 1 |
| Number of potentials | 3 |
| Mounting type | without |

Fitting of components

| | |
|---|---|
| Partial assembly | No |

### Electrical properties

Properties

| | |
|---|---|
| Nominal current $I_N$ | 10 A |
| Nominal voltage $U_N$ | 400 V |
| Contact resistance | 2.2 mΩ |
| Rated voltage (III/3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 400 V |
| Rated surge voltage (III/2) | 4 kV |
| Rated voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |

### Connection data

Connection technology

| | |
|---|---|
| Type | Plug for pin strip |
| Connector system | COMBICON PST 1,3 |
| Nominal cross section | 1.5 mm² |
| Contact connection type | Socket |

Interlock

| | |
|---|---|
| Locking type | without |
| Mounting type | without |

Conductor connection

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| Conductor/PCB connection direction | 0 ° |
| Conductor cross-section rigid | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 2.5 mm² |

| | |
|---|---|
| Conductor cross-section AWG | 26 ... 12 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm² ... 1 mm² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm² ... 1 mm² |
| Stripping length | 6 mm |
| Drive form screw head | Slotted Phillips recess (H1L) |
| Tightening torque | 0.35 Nm ... 0.4 Nm |

## Material specifications

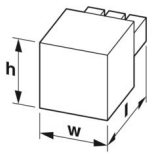
Material data - contact

| | |
|---|---|
| Note | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface characteristics | hot-dip tin-plated |
| Metal surface terminal point (top layer) | Tin (4 µm - 8 µm Sn) |
| Metal surface contact area (top layer) | Tin (4 µm - 8 µm Sn) |

Material data - housing

| | |
|---|---|
| Color (Housing) | black (9005) |
| Insulating material | PA |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |
| Glow wire flammability index GWFI according to EN 60695-2-12 | 850 |
| Glow wire ignition temperature GWIT according to EN 60695-2-13 | 775 |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Pitch | 5 mm |
| Width [w] | 15 mm |
| Height [h] | 13.15 mm |
| Length [l] | 12.2 mm |

## Mechanical tests

Test for conductor damage and slackening

| | |
|---|---|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |

Pull-out test

| | |
|---|---|
| Specification | IEC 60999-1:1999-11 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm² / solid / > 10 N |
| | 0.2 mm² / flexible / > 10 N |
| | 2.5 mm² / solid / > 50 N |
| | 2.5 mm² / flexible / > 50 N |

Insertion and withdrawal forces

| | |
|---|---|
| Specification | IEC 60512-13-2:2006-02 |
| Result | Test passed |
| No. of cycles | 10 |
| Insertion strength per pos. approx. | 4.5 N |
| Withdraw strength per pos. approx. | 5.5 N |

Torque test

| | |
|---|---|
| Specification | IEC 60999-1:1999-11 |

Resistance of inscriptions

| | |
|---|---|
| Specification | IEC 60068-2-70:1995-12 |
| Result | Test passed |

Visual inspection

| | |
|---|---|
| Specification | IEC 60512-1-1:2002-02 |
| Result | Test passed |

Dimension check

| | |
|---|---|
| Specification | IEC 60512-1-2:2002-02 |
| Result | Test passed |

## Environmental and real-life conditions

Durability test

| | |
|---|---|
| Specification | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 4.8 kV |
| Contact resistance $R_1$ | 2.2 mΩ |
| Contact resistance $R_2$ | 2.4 mΩ |
| Insertion/withdrawal cycles | 10 |

Climatic test

| | |
|---|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 $dm^3$ $SO_2$ on 300 $dm^3$/40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 2.21 kV |

Vibration test

| | |
|---|---|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 150 - 10 Hz |

| | |
|---|---|
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |

Ambient conditions

| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |

## Electrical tests

Thermal test | Test group C

| | |
|---|---|
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 16 |

Insulation resistance

| | |
|---|---|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | 1 GΩ |

Air clearances and creepage distances |

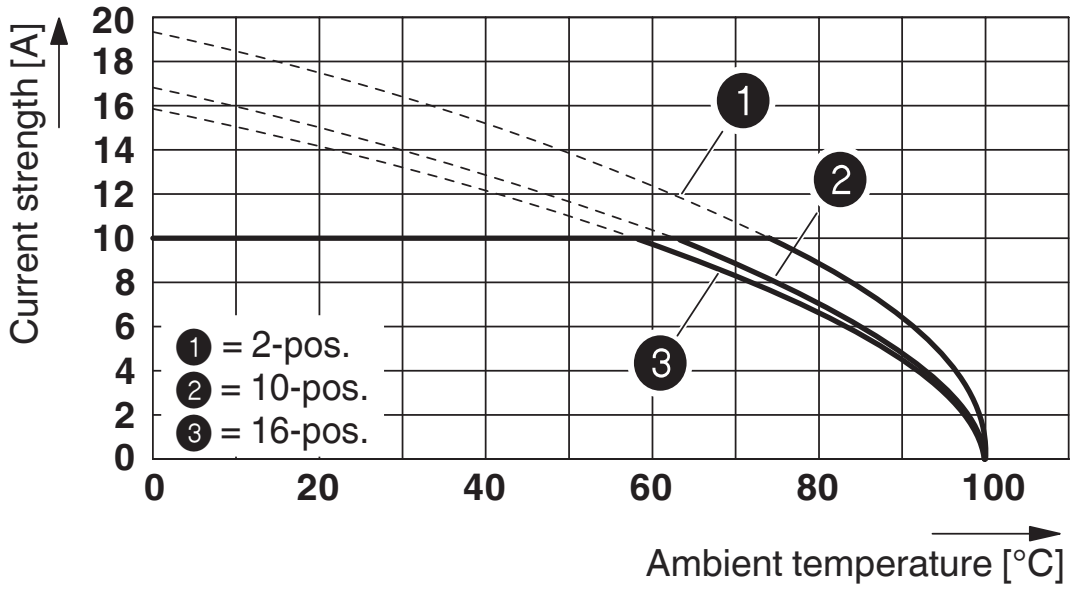
| | |
|---|---|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 3.2 mm |
| Rated insulation voltage (III/2) | 400 V |
| Rated surge voltage (III/2) | 4 kV |
| minimum clearance value - non-homogenous field (III/2) | 3 mm |
| minimum creepage distance (III/2) | 3 mm |
| Rated insulation voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |
| minimum creepage distance (II/2) | 3.2 mm |

## Packaging specifications

| | |
|---|---|
| Type of packaging | packed in cardboard |

## Drawings

Diagram




Derating curve for: PT 1,5/...-PH-5,0 with PST 1,3/...5,0

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1704520

**cULus Recognized**
Approval ID: E60425-20030211

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| B | | | | |
| | 300 V | 10 A | 28 - 14 | - |
| D | | | | |
| | 300 V | 10 A | 28 - 14 | - |

**VDE Zeichengenehmigung**
Approval ID: 40044443

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 320 V | 10 A | - | 0.2 - 1.5 |

**VDE Gutachten mit Fertigungsüberwachung**
Approval ID: 40040542

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 400 V | 12 A | - | 0.5 - 1.5 |

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002638 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39121400 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |

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