# PCU 6/ 5-STD-10,16 - Printed-circuit board connector

1922666

https://www.phoenixcontact.com/pc/products/1922666

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Direct plug-in block, nominal cross section: 6 mm$^2$, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Silver, type of contact: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PCU 6/..-STD, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Direct mounting, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations
- Laterally mounted flange for screw connection in the housing or on the mounting panel

## Commercial Data

| | |
|---|---|
| Item number | 1922666 |
| Packing unit | 50 pc |
| Minimum order quantity | 1 pc |
| Product Key | AADMAA |
| Catalog Page | Page 552 (C-1-2013) |
| GTIN | 4017918817640 |
| Weight per Piece (including packing) | 46.828 g |
| Weight per Piece (excluding packing) | 46.828 g |
| Customs tariff number | 85366990 |
| Country of origin | PL |

# Technical Data

## Product properties

| | |
|---|---|
| Type | Direct mounting |
| Product line | COMBICON Connectors L |
| Product type | Direct plug-in block |
| Product family | PCU 6/..-STD |
| Number of positions | 5 |
| Pitch | 10.16 mm |
| Number of connections | 5 |
| Number of rows | 1 |
| Mounting flange | without |
| Number of potentials | 5 |

## Electrical properties

| | |
|---|---|
| Nominal current $I_N$ | 41 A |
| Nominal voltage $U_N$ | 1000 V |
| Degree of pollution | 3 |
| Contact resistance | 0.5 mΩ |
| Rated voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| Rated voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| Rated voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 8 kV |

## Connection data

### Connection technology

| | |
|---|---|
| Type | Direct mounting |
| Connector system | COMBICON PC 16 |
| Nominal cross section | 6 mm² |
| Type of contact | Socket |

### Interlock

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

### Conductor connection

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| Connection direction of the conductor to plug-in direction | 0 ° |
| Conductor cross section rigid | 0.5 mm² ... 10 mm² |
| Conductor cross section flexible | 0.5 mm² ... 6 mm² |
| Conductor cross section AWG | 20 ... 7 |
| Conductor cross section flexible, with ferrule without plastic | 0.5 mm² ... 6 mm² |

| | |
|---|---|
| sleeve | |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.5 mm² ... 6 mm² |
| 2 conductors with same cross section, solid | 0.5 mm² ... 4 mm² |
| 2 conductors with same cross section, flexible | 0.5 mm² ... 6 mm² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.5 mm² ... 2.5 mm² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² ... 4 mm² |
| Cylindrical gauge a x b / diameter | 4.3 mm x 4.0 mm / 4.0 mm |
| Stripping length | 12 mm |
| Tightening torque | 1.2 Nm ... 1.5 Nm |

## Mounting

| | |
|---|---|
| Mounting type | Direct mounting |
| Drive form screw head | Slotted (L) |
| Connection method | Screw connection with tension sleeve |
| Drive form screw head | Slotted (L) |

## 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 | completely silver-plated |
| Metal surface terminal point (top layer) | Silver (4 - 8 µm Ag) |
| Metal surface contact area (top layer) | Silver (4 - 8 µm Ag) |

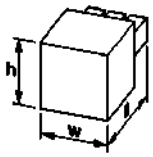
Material data - housing

| | |
|---|---|
| Color (Housing) | green (6021) |
| 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 |

## Notes

| | |
|---|---|
| General | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |

## Dimensions

| | |
|---|---|
| Dimensional drawing |   |
| Pitch | 10.16 mm |
| Width [w] | 70.96 mm |
| Height [h] | 33.9 mm |
| Length [l] | 32.8 mm |
| Installed height | 34 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 | 0.5 mm² / solid / > 20 N |
| | 0.5 mm² / flexible / > 20 N |
| | 10 mm² / solid / > 90 N |
| | 6 mm² / flexible / > 80 N |

Insertion and withdrawal forces

| | |
|---|---|
| Result | Test passed |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |

Torque test

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

Contact holder in insert

| | |
|---|---|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert<br>Requirements >20 N | Test passed |

Resistance of inscriptions

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

Polarization and coding

| | |
|---|---|
| Specification | IEC 60512-13-5:2006-02 |
| 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 |

## Electrical tests

Thermal test | Test group C

| | |
|---|---|
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 9 |

Insulation resistance

| | |
|---|---|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ |

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) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| minimum clearance value - non-homogenous field (III/3) | 8 mm |
| minimum creepage distance (III/3) | 12.5 mm |
| Rated insulation voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| minimum clearance value - non-homogenous field (III/2) | 8 mm |
| minimum creepage distance (III/2) | 8 mm |
| Rated insulation voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 8 kV |
| minimum clearance value - non-homogenous field (II/2) | 8 mm |
| minimum creepage distance (II/2) | 8 mm |

## Environmental and real-life conditions

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) |
| Sweep speed | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |

Durability test

| | |
|---|---|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 9.8 kV |

| | |
|---|---|
| Contact resistance $R_1$ | 0.5 mΩ |
| Contact resistance $R_2$ | 0.5 mΩ |
| Insertion/withdrawal cycles | 25 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Climatic test

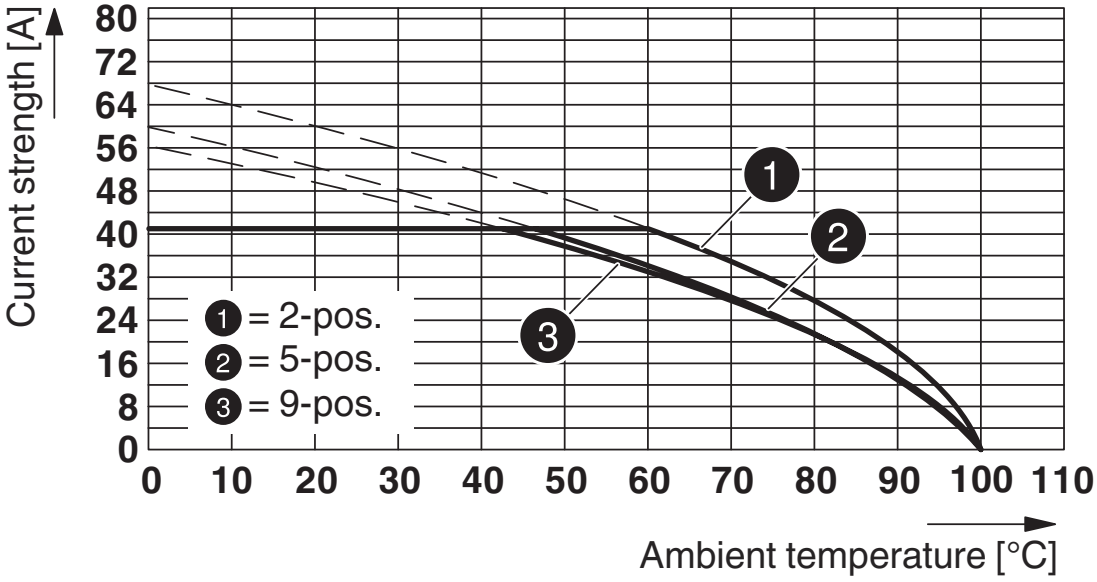
| | |
|---|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 $dm^3$ $SO_2$ on 300 $dm^3$/40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 4.26 kV |

Ambient conditions

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

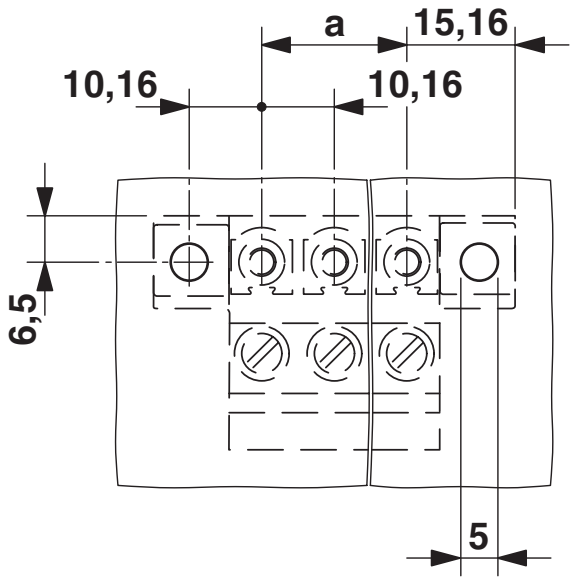
## Drawings

Diagram




Type: PCU 6/...-STD-10,16 with PCV 6-16/...-G1-10,16

Drilling plan/solder pad geometry



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/1922666

**EAC**
Approval ID: B.01687

**cULus Recognized**
Approval ID: E60425-20010727

| | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $mm^2$ |
|---|---|---|---|---|
| Use group B | | | | |
| | 600 V | 50 A | 20 - 8 | - |
| Use group C | | | | |
| | 600 V | 50 A | 20 - 8 | - |

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27460202 |
| ECLASS-12.0 | 27460202 |
| ECLASS-13.0 | 27460202 |

### ETIM

| | |
|---|---|
| ETIM 8.0 | EC002638 |

### UNSPSC

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

## Environmental Product Compliance

| | |
|---|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

## Accessories

### CP-PC RD - Coding profile

1701967

https://www.phoenixcontact.com/pc/products/1701967



Coding profile, for plugging into the coding ribs of the plug at a later date, insulating material, color: Red

### SZS 1,0X4,0 VDE - Screwdriver

1205066

https://www.phoenixcontact.com/pc/products/1205066



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip

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## DFK-PC 6-16/ 5-G-10,16 - Feed-through header

1701485

https://www.phoenixcontact.com/pc/products/1701485



Feed-through header, nominal cross section: 16 mm$^2$, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-PC 6-16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.1 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

## PC 6-16/ 5-G1U-10,16 - PCB header

1996265

https://www.phoenixcontact.com/pc/products/1996265



PCB headers, nominal cross section: 16 mm$^2$, color: green, nominal current: 76 A (41 A in combination with PC 6 plug), rated voltage (III/2): 1000 V, contact surface: Silver, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PC 6-16/..-G1U, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: reversed, locking: without, mounting: without, type of packaging: packed in cardboard

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