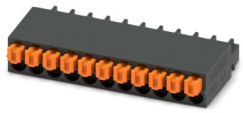
# FMC 0,5/11-ST-2,54 - PCB connector

1821180

https://www.phoenixcontact.com/us/products/1821180

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB connector, nominal cross section: 0.5 mm$^2$, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Socket, number of potentials: 11, number of rows: 1, number of positions: 11, number of connections: 11, product range: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON FMC 0,5, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive operation due to color-coded actuating push button
- Optimized for tight installation situations: operation and conductor connection from one direction

## Commercial data

| | |
|---|---|
| Item number | 1821180 |
| Packing unit | 100 pc |
| Minimum order quantity | 100 pc |
| Sales key | AA01 |
| Product key | AAAFAA |
| GTIN | 4046356789349 |
| Weight per piece (including packing) | 2.804 g |
| Weight per piece (excluding packing) | 2.794 g |
| Customs tariff number | 85366990 |
| Country of origin | PL |

# Technical data

## Product properties

| | |
|---|---|
| Product type | PCB connector |
| Product family | FMC 0,5/..-ST |
| Product line | COMBICON Connectors XS |
| Type | Standard |
| Number of positions | 11 |
| Pitch | 2.54 mm |
| Number of connections | 11 |
| Number of rows | 1 |
| Number of potentials | 11 |
| Mounting type | without |

### Fitting of components

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

## Electrical properties

### Properties

| | |
|---|---|
| Nominal current $I_N$ | 6 A |
| Nominal voltage $U_N$ | 160 V |
| Contact resistance | 2.7 mΩ |
| Rated voltage (III/3) | 32 V |
| Rated surge voltage (III/3) | 0.8 kV |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 160 V |
| Rated surge voltage (II/2) | 1.5 kV |

## Connection data

### Connection technology

| | |
|---|---|
| Type | Standard |
| Connector system | COMBICON FMC 0,5 |
| Nominal cross section | 0.5 mm² |
| Contact connection type | Socket |

### Interlock

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

### Conductor connection

| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor/PCB connection direction | 0 ° |
| Conductor cross-section rigid | 0.14 mm² ... 0.5 mm² |

| | |
|---|---|
| Conductor cross-section flexible | 0.14 mm² ... 0.5 mm² |
| Conductor cross-section AWG | 26 ... 20 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm² ... 0.34 mm² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.14 mm² ... 0.25 mm² |
| Cylindrical gauge a x b / diameter | - / 1.0 mm |
| Stripping length | 7 mm |

Specifications for ferrules without insulating collar

| | |
|---|---|
| recommended crimping tool | 1212034 CRIMPFOX 6 |

Specifications for ferrules with insulating collar

| | |
|---|---|
| recommended crimping tool | 1212034 CRIMPFOX 6 |

## 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 | partially gold-plated |
| Metal surface terminal point (top layer) | Tin (5 µm - 7 µm Sn) |
| Metal surface terminal point (middle layer) | Nickel (2 µm - 3 µm Ni) |
| Metal surface contact area (top layer) | Gold (0.25 µm Au) |
| Metal surface contact area (middle layer) | Nickel (2 µm - 3 µm Ni) |

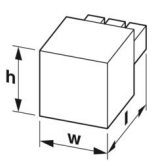
Material data - housing

| | |
|---|---|
| Color (Housing) | black (9005) |
| Insulating material | LCP |
| Insulating material group | IIIa |
| CTI according to IEC 60112 | 175 |
| Flammability rating according to UL 94 | V0 |

Material data – actuating element

| | |
|---|---|
| Color (Actuating element) | orange (2003) |
| Insulating material | LCP |
| Insulating material group | IIIa |
| CTI according to IEC 60112 | 175 |
| Flammability rating according to UL 94 | V0 |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |

| | |
|---|---|
| Pitch | 2.54 mm |
| Width [w] | 28.44 mm |
| Height [h] | 5.35 mm |
| Length [l] | 14 mm |

## Notes

| | |
|---|---|
| Notes on operation | 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. |

## Mechanical tests

### Conductor connection

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

### Test for conductor damage and slackening

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

### Repeated connection and disconnection

| | |
|---|---|
| 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 | 0.14 mm² / solid / > 10 N |
| | 0.14 mm² / flexible / > 10 N |
| | 0.5 mm² / solid / > 20 N |
| | 0.5 mm² / flexible / > 20 N |

### Insertion and withdrawal forces

| | |
|---|---|
| Specification | IEC 60512-13-2:2006-02 |
| Result | Test passed |
| No. of cycles | 100 |
| Insertion strength per pos. approx. | 2 N |
| Withdraw strength per pos. approx. | 2 N |

### 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 |

## Environmental and real-life conditions

Durability test

| | |
|---|---|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV |
| Contact resistance $R_1$ | 2.7 mΩ |
| Contact resistance $R_2$ | 2.6 mΩ |
| Insertion/withdrawal cycles | 100 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Climatic test

| | |
|---|---|
| Specification | DIN 50018:2013-05 |
| Corrosive stress | 1.0 $dm^3$ $SO_2$ on 300 $dm^3$/40 °C/3 cycles |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 1.39 kV |

Vibration test

| | |
|---|---|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 500 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration | 5g (60.1 Hz ... 500 Hz) |
| Test duration per axis | 2 h |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

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 | > 5 MΩ |

Temperature cycles

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

Air clearances and creepage distances |

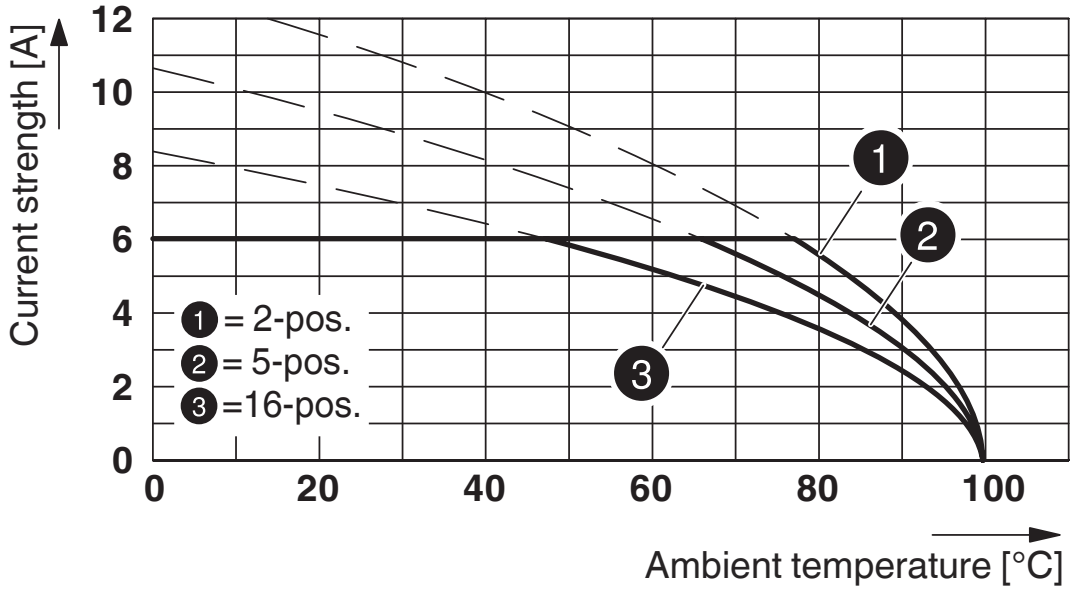
| | |
|---|---|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | IIIa |
| Comparative tracking index (IEC 60112) | CTI 175 |
| Rated insulation voltage (III/3) | 32 V |
| Rated surge voltage (III/3) | 0.8 kV |
| minimum clearance value - non-homogenous field (III/3) | 0.8 mm |
| minimum creepage distance (III/3) | 1.3 mm |
| Rated insulation voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm |
| minimum creepage distance (III/2) | 1.6 mm |
| Rated insulation voltage (II/2) | 160 V |
| Rated surge voltage (II/2) | 1.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 0.5 mm |
| minimum creepage distance (II/2) | 1.6 mm |

## Packaging specifications

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

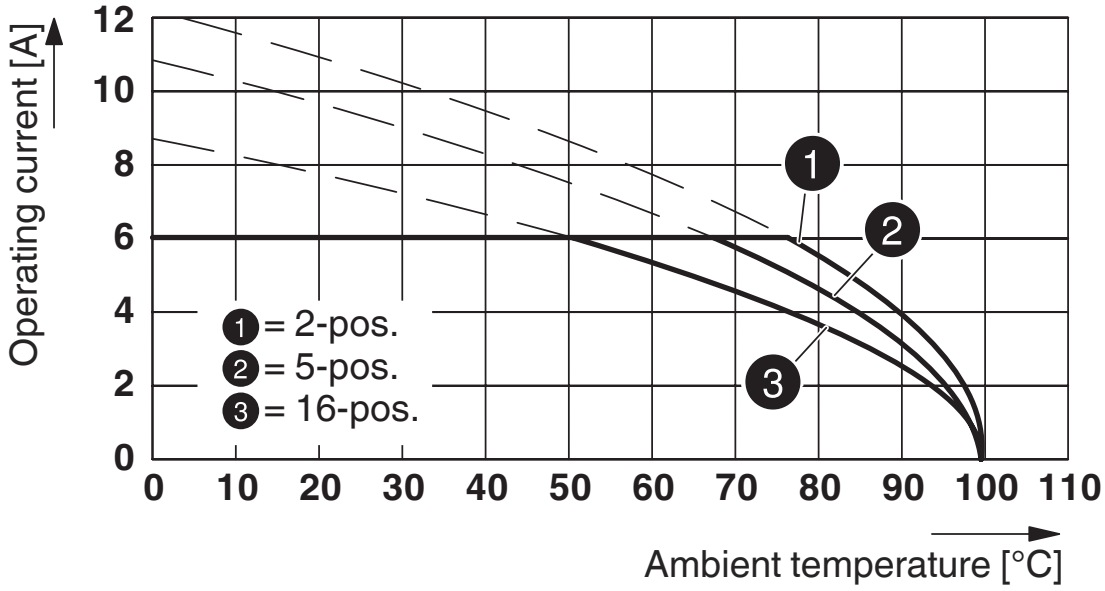
## Drawings

Diagram



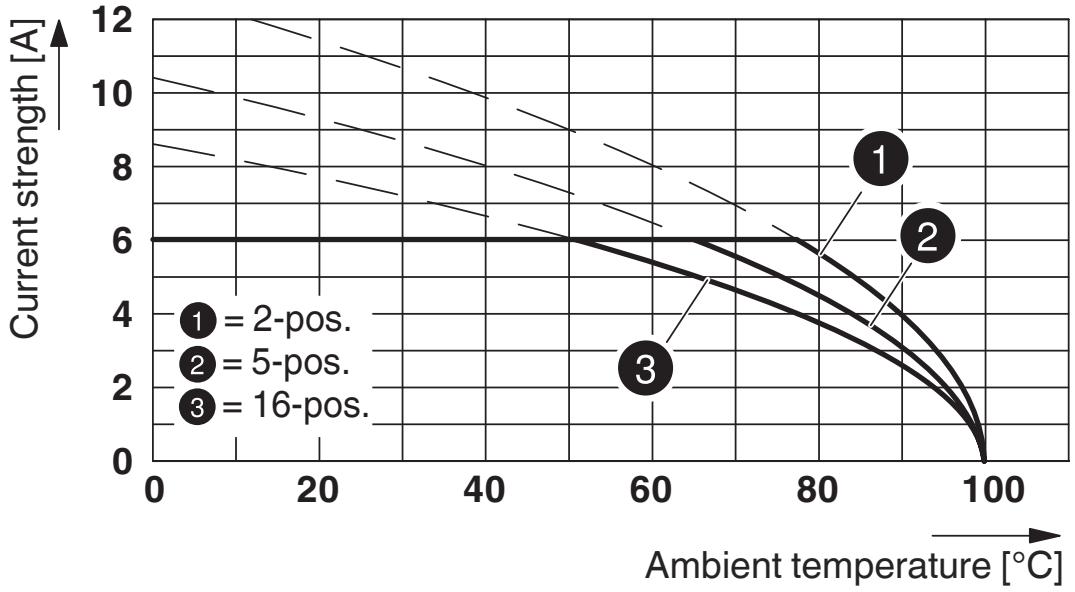

Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R..

Diagram



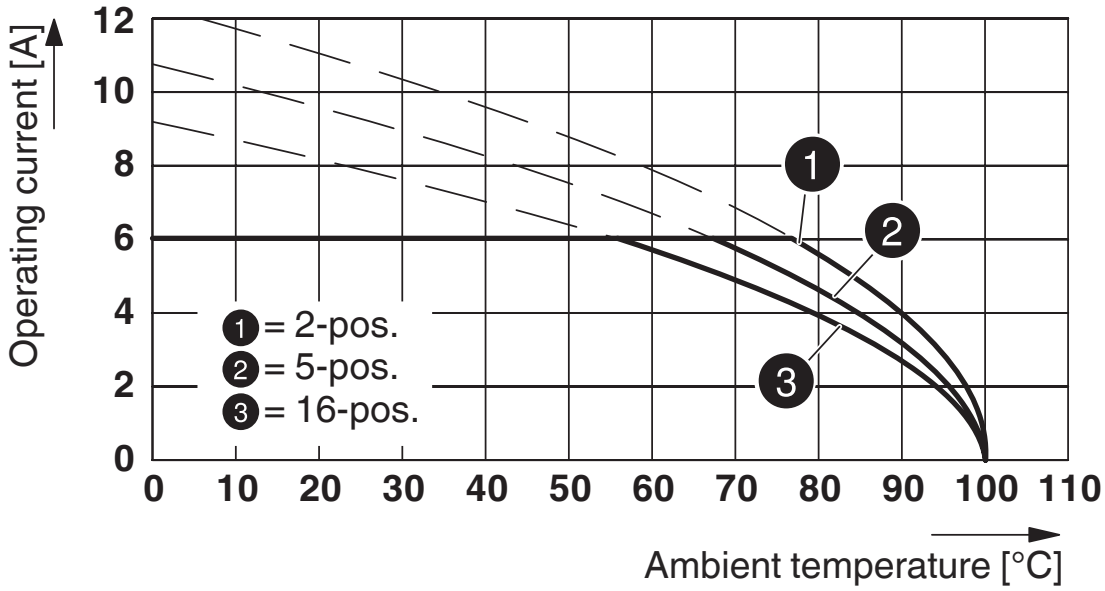

Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 SMD R..

Diagram




Type: FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 P20 THR R..

Diagram




Type FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 SMD R..

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1821180

**cULus Recognized**
Approval ID: E60425-19920306

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| B | | | | |
| Field wiring | 150 V | 5 A | 26 - 20 | - |
| Factory wiring | 150 V | 6 A | 26 - 20 | - |
| C | | | | |
| Factory wiring | 50 V | 6 A | 26 - 20 | - |

**VDE Gutachten mit Fertigungsüberwachung**
Approval ID: 40042258

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 160 V | 6 A | - | 0.14 - 0.5 |

**UL Recognized**
Approval ID: E60425-19920306

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| F | | | | |
| Field wiring | 160 V | 5 A | 26 - 20 | - |
| Factory wiring | 160 V | 6 A | 26 - 20 | - |

## 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% |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 0.125 kg CO2e |


Phoenix Contact 2026 © - all rights reserved
https://www.phoenixcontact.com



Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com