

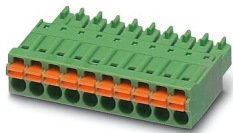
Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



1952270

<https://www.phoenixcontact.com/us/products/1952270>

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FMC 1,5/..-ST, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive use through colour coded actuation lever
- Operation and conductor connection from one direction enable integration into front of device

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1952270 |
| Packing unit | 1 pc |
| Minimum order quantity | 250 pc |
| Sales Key | A01 |
| Product Key | AABFAA |
| Catalog Page | Page 200 (C-1-2013) |
| GTIN | 4017918942861 |
| Weight per Piece (including packing) | 1.77 g |
| Weight per Piece (excluding packing) | 1.67 g |
| Customs tariff number | 85366990 |
| Country of origin | DE |

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Technical Data

Product properties

| | |
|-----------------------|-----------------------|
| Type | Standard |
| Product line | COMBICON Connectors S |
| Product type | PCB plug |
| Number of positions | 3 |
| Pitch | 3.5 mm |
| Number of connections | 3 |
| Number of rows | 1 |
| Mounting flange | without |
| Number of potentials | 3 |

Electrical properties

| | |
|-----------------------------|----------------|
| Nominal current I_N | 8 A |
| Nominal voltage U_N | 160 V |
| Degree of pollution | 3 |
| Contact resistance | 1.5 m Ω |
| Rated voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |

Connection data

Connection technology

| | |
|-----------------------|---------------------|
| Type | Standard |
| Connector system | COMBICON MC 1,5 |
| Nominal cross section | 1.5 mm ² |
| Type of contact | Female connector |

Interlock

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

Conductor connection

| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor/PCB connection direction | 0 ° |
| Conductor cross section solid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 24 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.14 mm ² ... 0.75 mm ² |
| Cylindrical gauge a x b / diameter | 2.4 mm x 1.5 mm / - |

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| | |
|------------------|-------|
| Stripping length | 10 mm |
|------------------|-------|

Specifications for ferrules without insulating collar

| | |
|--|--|
| recommended crimping tool | 1212034 CRIMPFOX 6 |
| ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.25 mm ² ; Length: 7 mm |
| | Cross section: 0.34 mm ² ; Length: 7 mm |
| | Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 1 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 1.5 mm ² ; Length: 10 mm |

Specifications for ferrules with insulating collar

| | |
|---|--|
| recommended crimping tool | 1212034 CRIMPFOX 6 |
| ferrules with insulating collar, according to DIN 46228-4 | Cross section: 0.14 mm ² ; Length: 8 mm |
| | Cross section: 0.25 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 0.34 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm |
| | Cross section: 0.75 mm ² ; Length: 10 mm |

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 - 8 µm Sn) |
| Metal surface contact area (top layer) | Tin (4 - 8 µm Sn) |

Material data - housing

| | |
|---|--------------|
| Housing color | 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 |

Material data – actuating element

| | |
|--|---------------|
| Color of the actuating lever | orange (2003) |
| Insulating material | PBT |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |

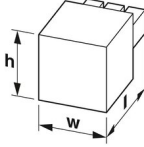
Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Pitch | 3.5 mm |
| Width [w] | 11.25 mm |
| Height [h] | 7.75 mm |
| Length [l] | 21.9 mm |
| Installed height | 7.75 mm |

Mechanical tests

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 | 0.2 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / flexible / > 40 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 |

Contact holder in insert

| | |
|---|------------------------|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert 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 |
|---------------|------------------------|

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| | |
|--------|-------------|
| 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

Vibration test

| | |
|------------------------|------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 - 60.1 Hz) |
| Sweep speed | 5g (60.1 - 150 Hz) |
| Test duration per axis | 2.5 h |

Durability test

| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV |
| Contact resistance R_1 | 1.5 m Ω |
| Contact resistance R_2 | 1.6 m Ω |
| Insertion/withdrawal cycles | 25 |
| Insulation resistance, neighboring positions | > 5 M Ω |

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 | 1.39 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 |

Electrical tests

Thermal test | Test group C

| | |
|----------------------------|-----------------------|
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 20 |

Insulation resistance

| | |
|---------------|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
|---------------|-----------------------|

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| | |
|--|--------|
| Insulation resistance, neighboring positions | > 5 MΩ |
|--|--------|

Air clearances and creepage distances |

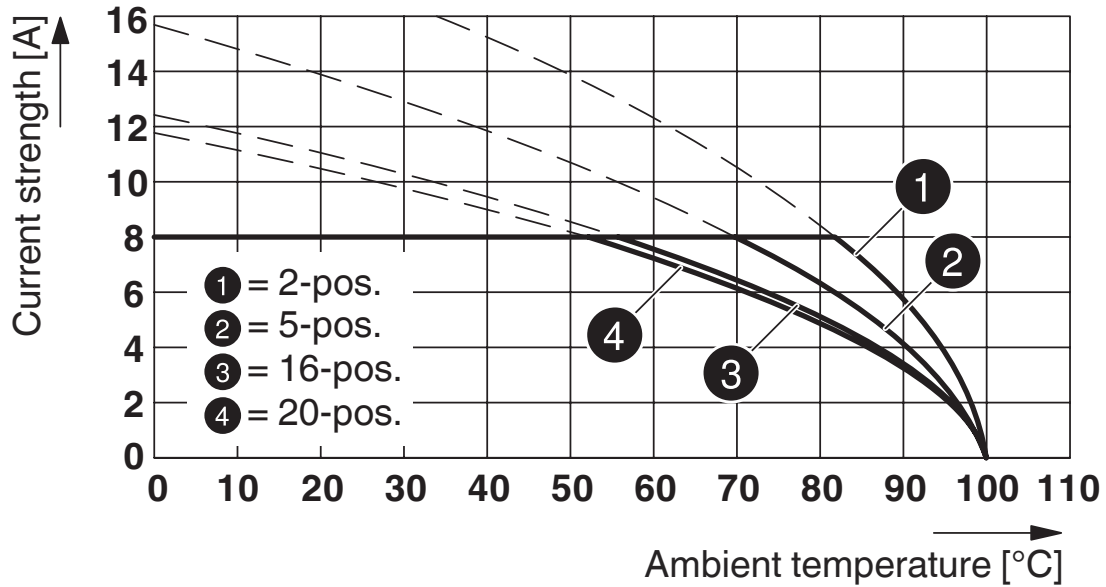
| | |
|--|---------------------|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm |
| minimum creepage distance (III/3) | 2 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) | 1.5 mm |
| Rated insulation voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 1.5 mm |
| minimum creepage distance (II/2) | 1.6 mm |

Packaging specifications

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

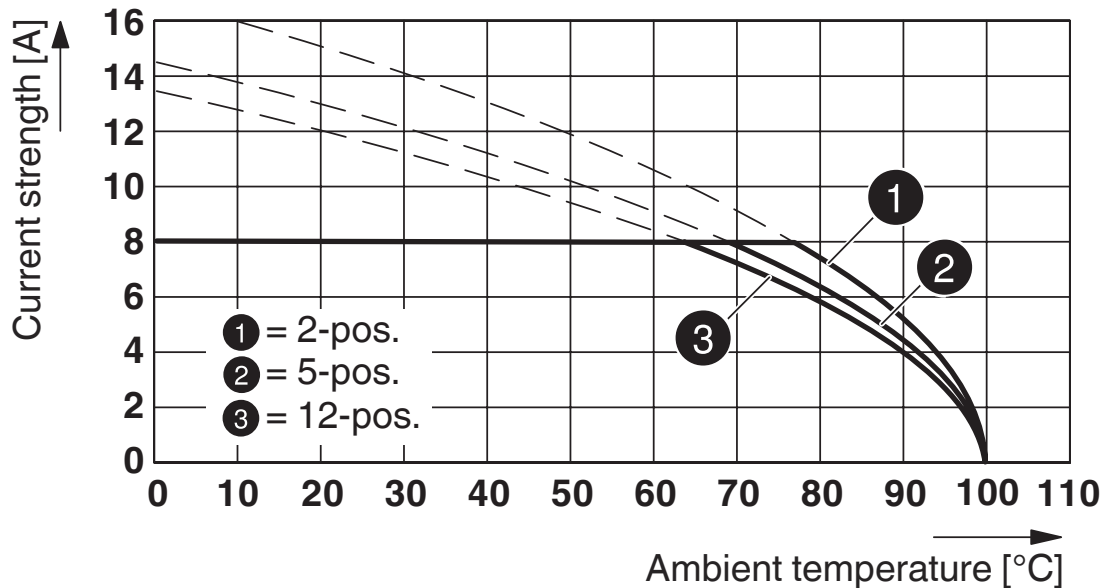
Drawings

Diagram



Typ: FMC 1,5/...-ST-3,5 with MCDNV 1,5/...-G1-3,5 P...THR

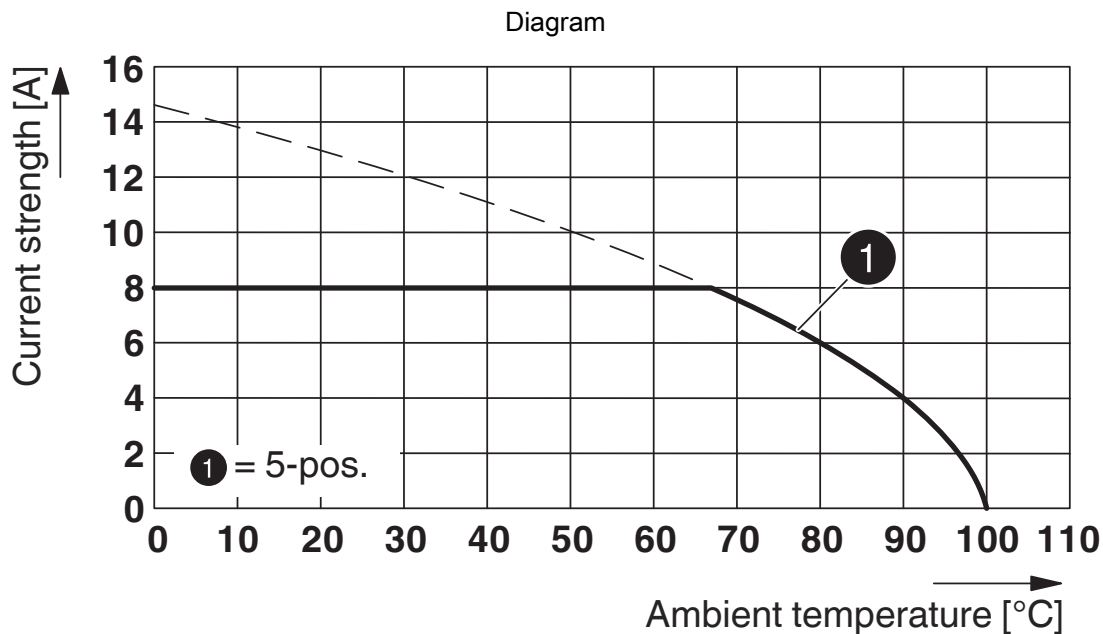
Diagram



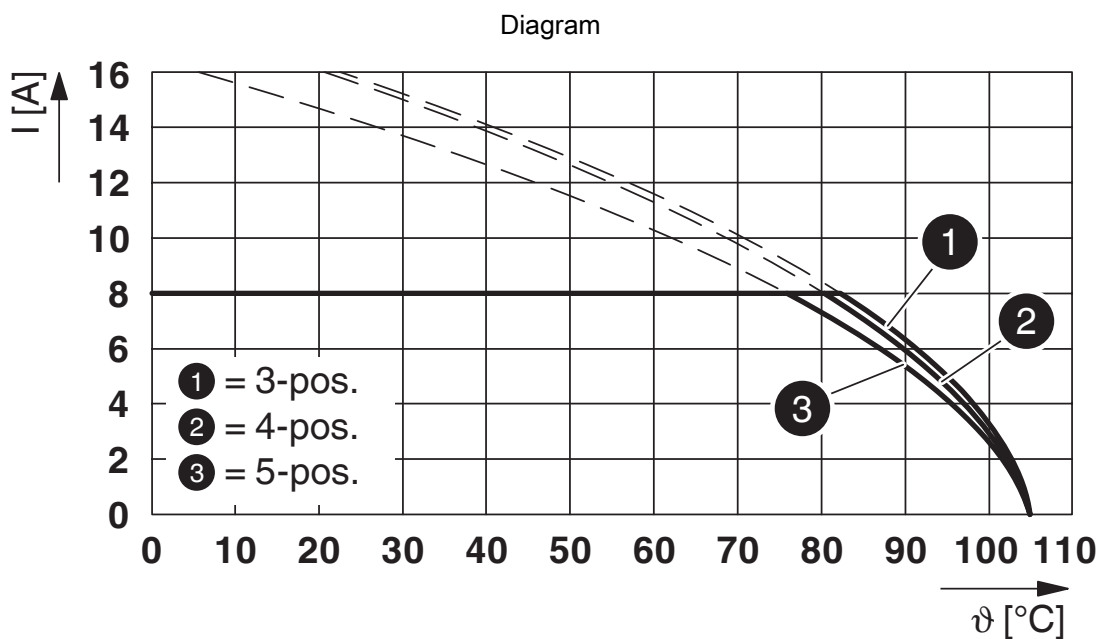
Typ: FMC 1,5/...-ST-3,5 with IFMC 1,5/...-ST-3,5

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Type: FMC 1,5/...-ST-3,5 with MCD 1,5/...-G3-3,5 P26 THR MAG



Type: FMC 1,5/...-ST-3,5 with MCO 1,5/...-G1L-3,5 KMGY

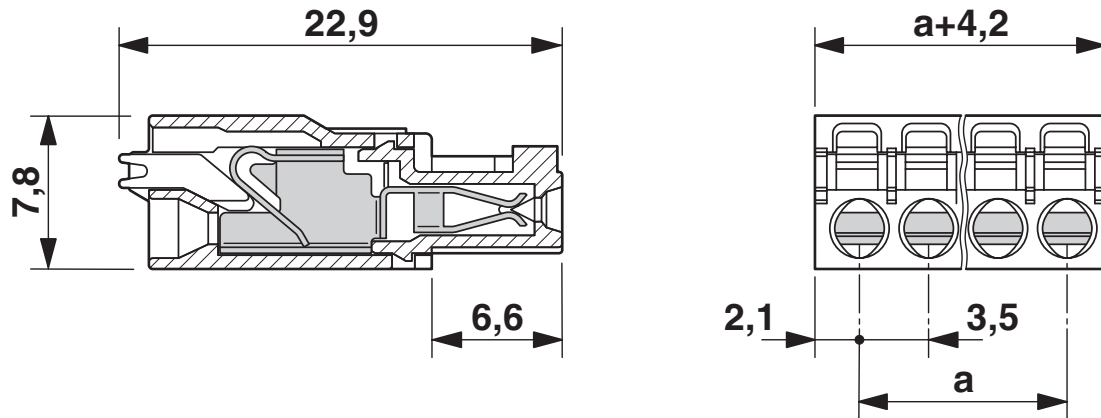
Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



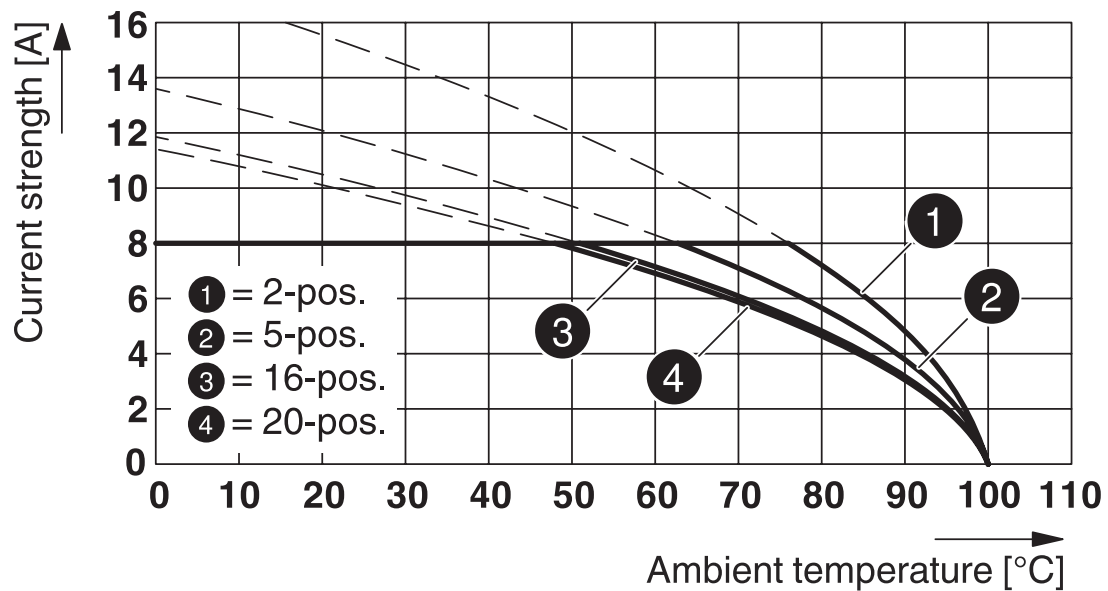
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Dimensional drawing



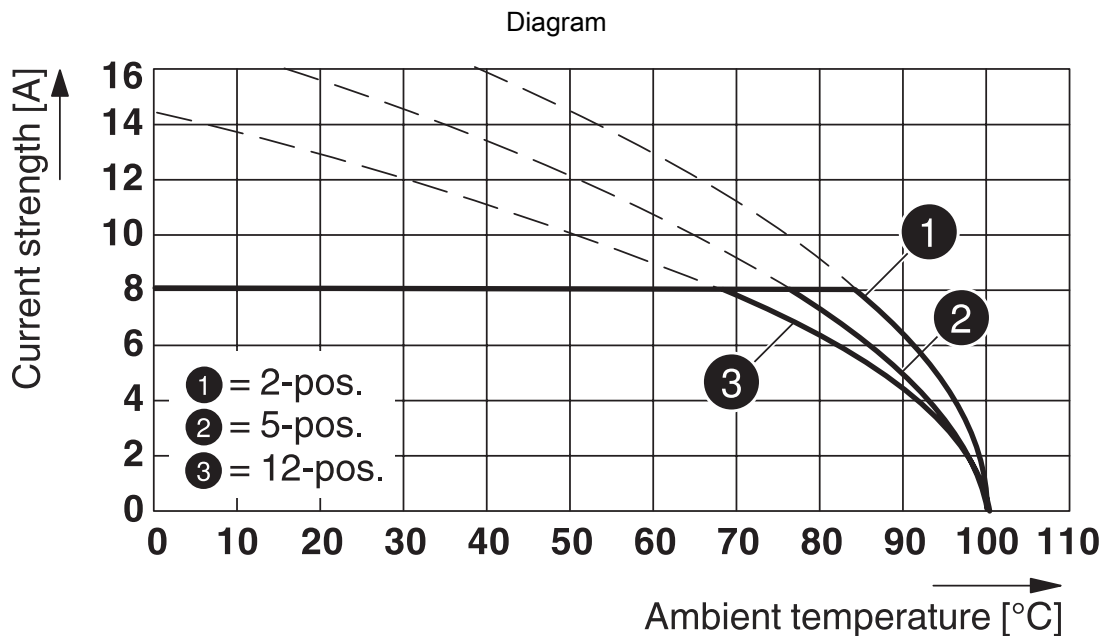
Diagram



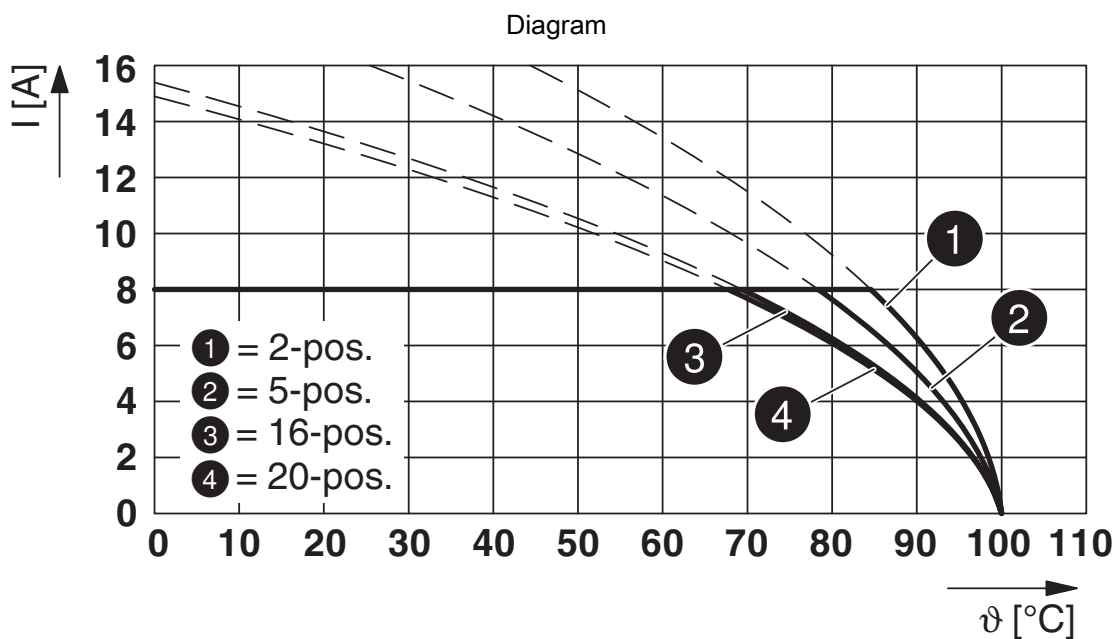
Type: FMC 1,5/...-ST-3,5 with MCDN 1,5/...-G1-3,5 P26THR

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Type: FMC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P... THR



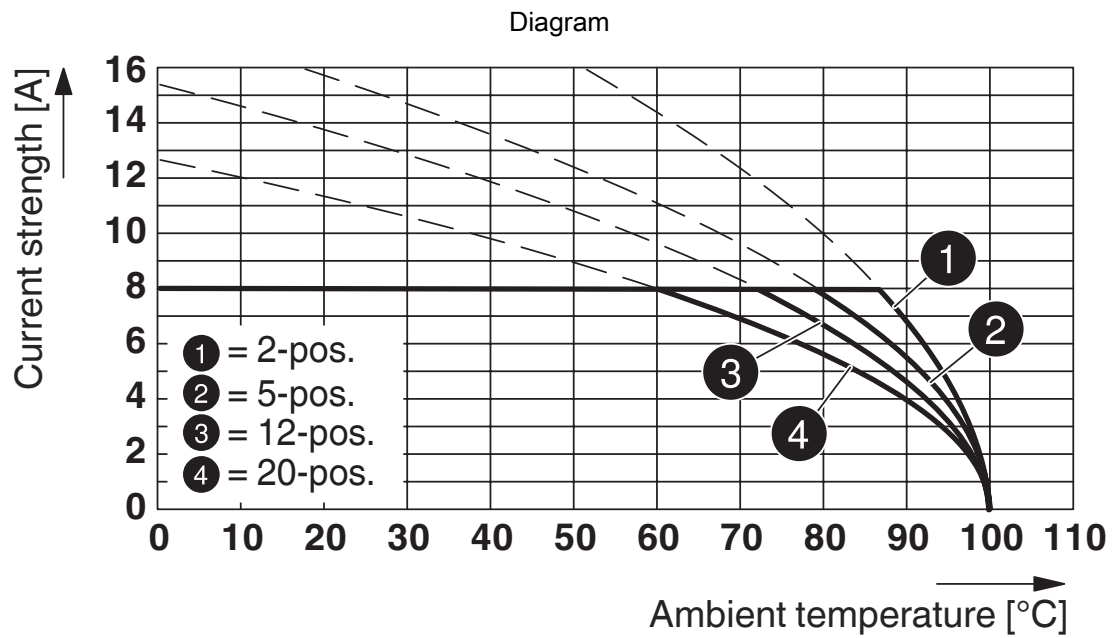
Type: FMC 1,5/...-ST-3,5 with MCV 1,5/...-G-3,5

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Type: FMC 1,5/...-ST-3,5 with MCV 1,5/...-G-3,5 P... THR

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5





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Approvals

|  IECEE CB Scheme Approval ID: DE1-60987-B1B2 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 160 V | 8 A | - | 0.2 - 1.5 |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  cULus Recognized Approval ID: E60425-19920306 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| Use group B | | | | |
| Standard | 150 V | 8 A | 24 - 16 | - |
| Use group C | | | | |
| Factory wiring | 50 V | 8 A | 24 - 16 | - |

|  VDE Zeichengenehmigung Approval ID: 40011723 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 160 V | 8 A | - | 0.2 - 1.5 |

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Classifications

ECLASS

| | |
|---------------|----------|
| ECLASS-9.0 | 27440309 |
| ECLASS-10.0.1 | 27440309 |
| ECLASS-11.0 | 27460202 |

ETIM

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

UNSPSC

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

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Environmental Product Compliance

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

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Accessories

Marker card

Marker card - SK 3,5/2,8:FORTL.ZAHLEN - 0804073

<https://www.phoenixcontact.com/us/products/0804073>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 x 2.8 mm

Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/us/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



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Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Screwdriver

Screwdriver - SZS 0,4X2,5 VDE - 1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



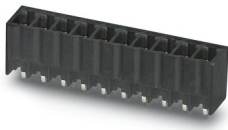
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PCB header

PCB header - MCV 1,5/ 3-G-3,5 P20 THRR32 - 1780901

<https://www.phoenixcontact.com/us/products/1780901>

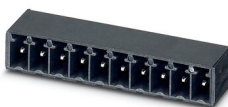


PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCV 1,5/...-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape, For user information and design recommendations for through-hole reflow technology, go to: Downloads

PCB header

PCB header - MC 1,5/ 3-G-3,5 P26 THR - 1788521

<https://www.phoenixcontact.com/us/products/1788521>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/...-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



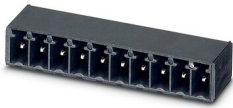
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PCB header

PCB header - MC 1,5/ 3-G-3,5 P26 THRR32 - 1788534

<https://www.phoenixcontact.com/us/products/1788534>

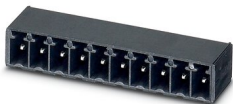


PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape

PCB header

PCB header - MC 1,5/ 3-G-3,5 P20 THRR32 - 1788754

<https://www.phoenixcontact.com/us/products/1788754>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



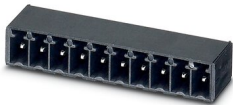
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PCB header

PCB header - MC 1,5/ 3-G-3,5 P14 THR - 1788961

<https://www.phoenixcontact.com/us/products/1788961>

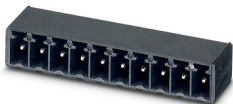


PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

PCB header

PCB header - MC 1,5/ 3-G-3,5 P14 THRR32 - 1788974

<https://www.phoenixcontact.com/us/products/1788974>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-G-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



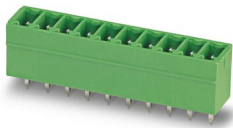
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PCB header

PCB header - MCV 1,5/ 3-G-3,5 - 1843619

<https://www.phoenixcontact.com/us/products/1843619>

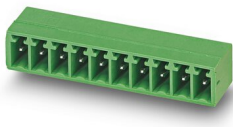


PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCV 1,5/..-G, pitch: 3.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

PCB header

PCB header - MC 1,5/ 3-G-3,5 - 1844223

<https://www.phoenixcontact.com/us/products/1844223>



PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-G, pitch: 3.5 mm, screw head form: L Slotted, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

Printed-circuit board connector - FMC 1,5/ 3-ST-3,5



1952270

<https://www.phoenixcontact.com/us/products/1952270>

PCB header

PCB header - MCO 1,5/ 3-G1R-3,5 KMGY - 2278322

<https://www.phoenixcontact.com/us/products/2278322>



PCB headers, nominal cross section: 1.5 mm², color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCO 1,5/..-G1R, pitch: 3.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, locking: without, type of packaging: packed in cardboard, Product with pin output on right side

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