

Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

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PCB connector, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



The figure shows a 10-position version of the product

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
- Quick and convenient testing using integrated test option



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 50 pc |
| GTIN | |
| GTIN | 4017918156671 |

Technical data

Item properties

| | |
|---------------------------|----------------------------|
| Brief article description | PCB connector |
| Plug-in system | MICRO COMBICON - FK-MC 0,5 |
| Type of contact | Female connector |
| Range of articles | FK-MC 0,5/...-ST |
| Pitch | 2.5 mm |
| Number of positions | 12 |
| Connection method | Push-in spring connection |
| Locking | without |
| Number of levels | 1 |
| Number of connections | 12 |

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Technical data

Item properties

| | |
|----------------------|----|
| Number of potentials | 12 |
|----------------------|----|

Electrical parameters

| | |
|-----------------------------|--------|
| Nominal current | 4 A |
| Nom. voltage | 160 V |
| Rated voltage | 100 V |
| Rated voltage (III/2) | 160 V |
| Rated voltage (II/2) | 320 V |
| Rated surge voltage (III/3) | 1.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2) | 2.5 kV |

Connection capacity

| | |
|---|--|
| Connection method | Push-in spring connection |
| pluggable | Yes |
| Conductor cross section solid | 0.14 mm ² ... 0.5 mm ² |
| Conductor cross section flexible | 0.14 mm ² ... 0.5 mm ² |
| Conductor cross section AWG / kcmil | 26 ... 20 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| Cylindrical gauge a x b / diameter | - / 1.4 mm |
| Stripping length | 8 mm |

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

| | |
|--|-----|
| Insulating material | POM |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | HB |

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Technical data

Dimensions for the product

| | |
|-----------------------------|---|
| Caption | Schematic representation – for additional information, see product range drawing in the Download Center |
| Length [l] | 19.05 mm |
| Width [w] | 30.6 mm |
| Height [h] | 11.75 mm |
| Pitch | 2.5 mm |
| Height (without solder pin) | 11.75 mm |

Packaging information

| | |
|----------------------------|---------------------|
| Type of packaging | packed in cardboard |
| Pieces per package | 50 |
| Denomination packing units | Pcs. |

General product information

| | |
|--------------|--|
| Type of note | Notes on operation |
| Note | 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. |

Ambient conditions

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

Termination and connection method

| | |
|--|---|
| Conductor connection test | The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force. |
| Test result | Test passed |
| Test – repeated connection and release | IEC 60999-1:1999-11 |
| | Test passed |
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
| | Test passed |

Pull-out test

| | |
|--|---|
| Pull-out test | IEC 60999-1:1999-11 |
| | Test passed |
| Conductor cross section / conductor type / tensile force | 0.2 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 0.5 mm ² / solid / > 20 N |
| | 0.5 mm ² / flexible / > 20 N |

Mechanical tests according to standard

| | |
|--------------------|-----------------------|
| Test specification | IEC 61984 |
| Visual inspection | IEC 60512-1-1:2002-02 |
| Dimension check | IEC 60512-1-2:2002-02 |

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Technical data

Mechanical tests according to standard

| | |
|-------------------------------------|------------------------|
| Resistance of inscriptions | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | IEC 60512-13-2:2006-02 |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |
| Polarization and coding | IEC 60512-13-5:2006-02 |
| Contact holder in insert | IEC 60512-15-1:2008-05 |
| Test force per pos. | 24 N |

Air clearances and creepage distances

| | |
|---|---|
| Clearances and creepage distances | IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05 |
| Specification | IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05 |
| Minimum clearance - inhomogeneous field (III/3) | 0.8 mm |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm |
| Minimum clearance - inhomogeneous field (II/2) | 1.5 mm |
| Minimum creepage distance value (III/3) | 1.8 mm |
| Minimum creepage distance value (III/2) | 0.8 mm |
| Minimum creepage distance value (II/2) | 1.6 mm |

Electrical tests - Function

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

Temperature cycles

| | |
|--------------------------------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Test current (minimum cross section) | 4 A |
| Test current (maximum cross section) | 6 A |
| Temperature cycles | 192 |

Current carrying capacity / derating curves

| | |
|------------------|--|
| Caption | Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 |
| Specification | IEC 61984:2008-10 |
| Reduction factor | 0.8 |
| Note | Representation based on IEC 60512-5-2:2002-02 |
| | For number of positions, see diagram |

Mechanical tests (A)

| | |
|--|-------------|
| Test specification | IEC 61984 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N | Test passed |

Durability tests (B)

| | |
|---------------|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
|---------------|-----------------------|

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Technical data

Durability tests (B)

| | |
|--|---------|
| Contact resistance R ₁ | 2 mΩ |
| Insertion/withdrawal cycles | 25 |
| Contact resistance R ₂ | 2.2 mΩ |
| Impulse withstand voltage at sea level | 2.95 kV |
| Power-frequency withstand voltage | 1.39 kV |
| Insulation resistance, neighboring positions | 80 GΩ |

Thermal tests (C)

| | |
|---|-----------------------|
| Specification | IEC 60512-5-1:2002-02 |
| Number of positions | 12 |
| Conductor cross section | 0.5 mm ² |
| Test current | 4 A DC |
| Upper limiting temperature requirements <100 °C | Test passed |

Climatic tests (D)

| | |
|--|---|
| Specification | ISO 6988:1985-02 |
| Cold stress | -40 °C/2 h |
| Thermal stress | 100 °C/168 h |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV |
| Power-frequency withstand voltage | 1.39 kV |

Environmental and durability tests (E)

| | |
|---------------------------------------|-------------------------------------|
| Specification | IEC 61984:2008-10 |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

Standards and Regulations

| | |
|--|--------|
| Connection in acc. with standard | EN-VDE |
| | CUL |
| Flammability rating according to UL 94 | V0 |

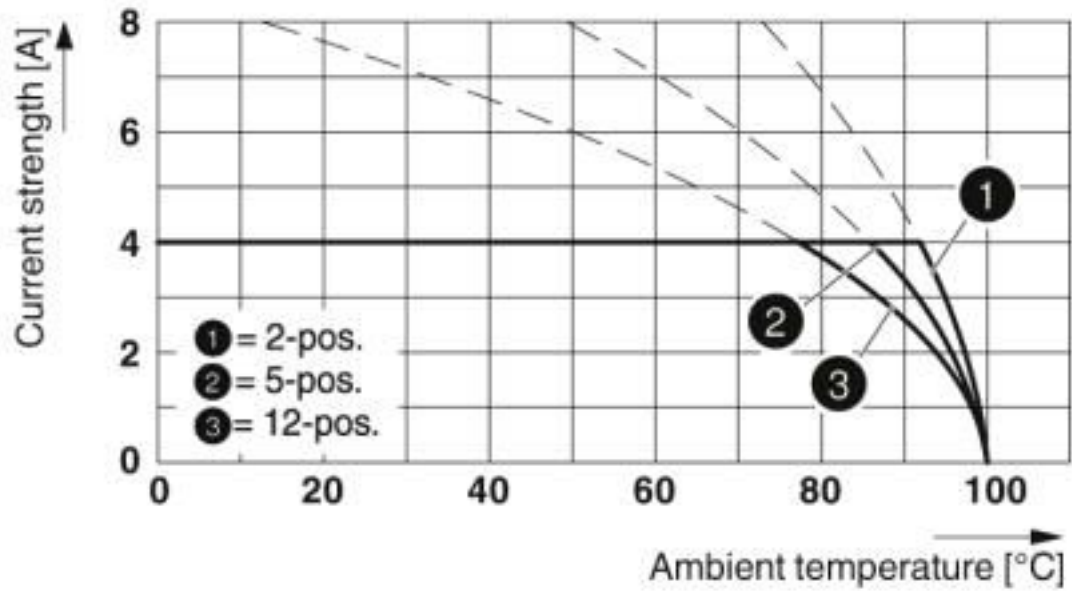
Environmental Product Compliance

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

Drawings

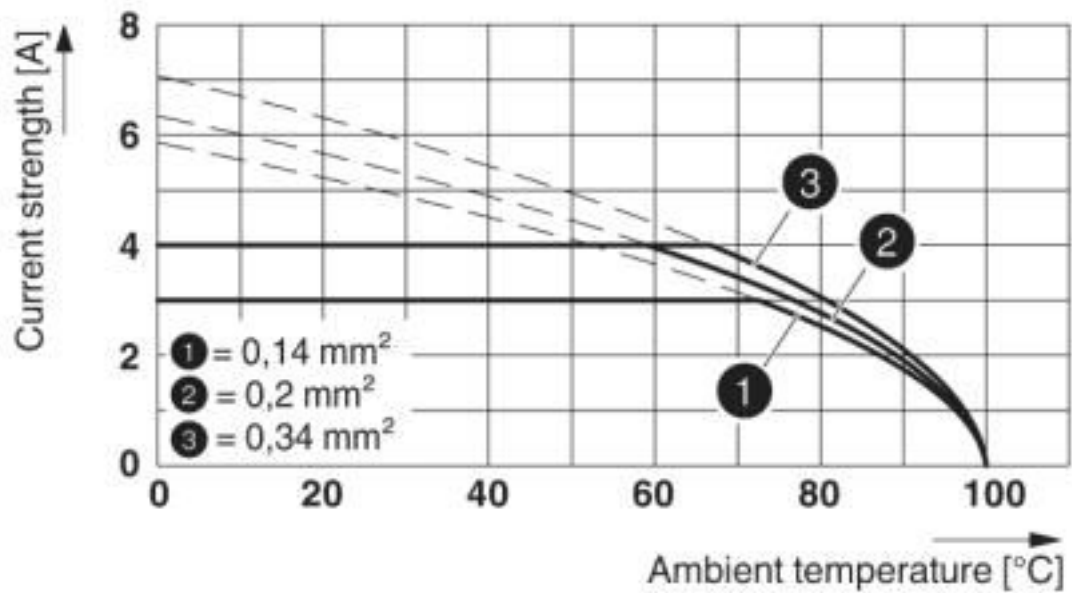
Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5

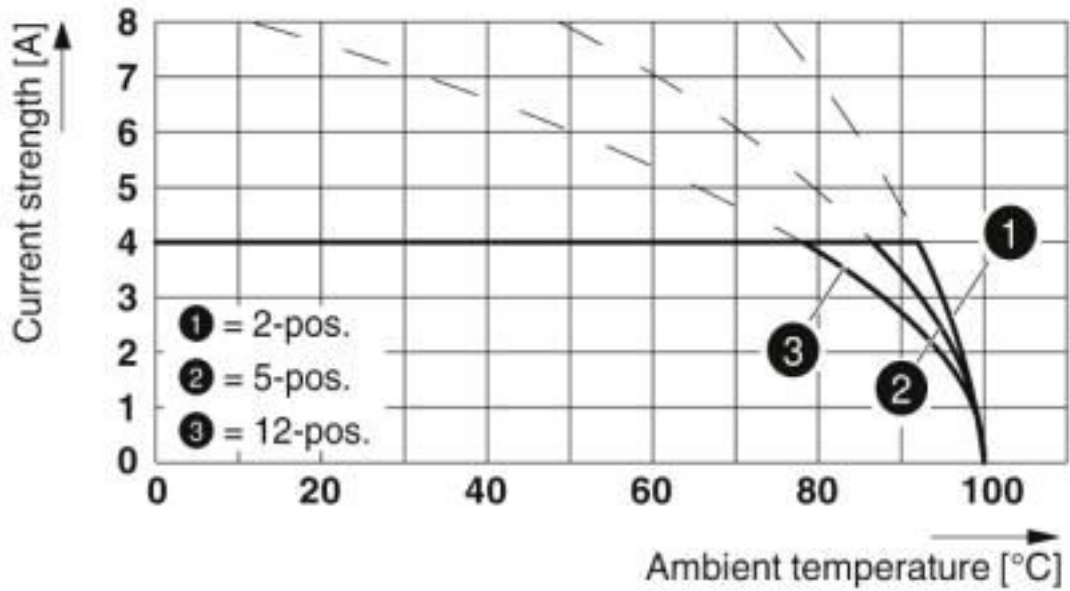
Diagram



Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5

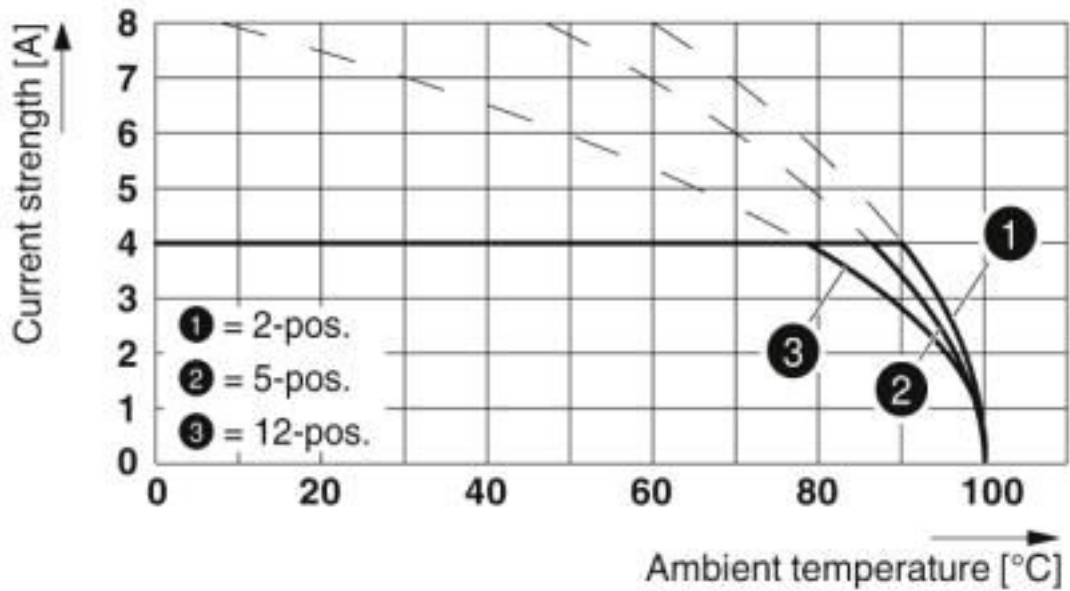
Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5 THT

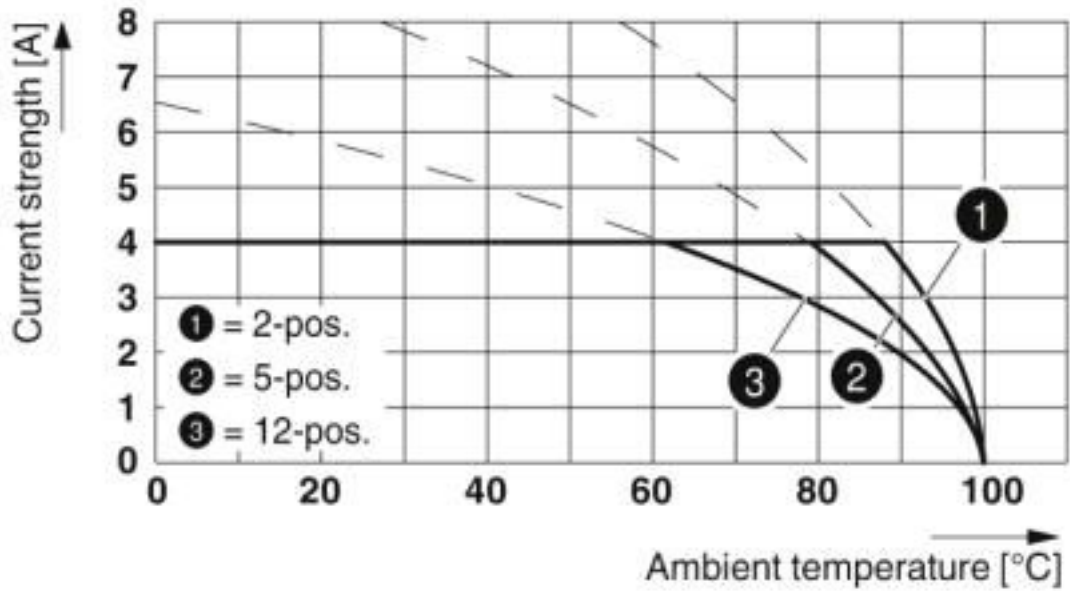
Diagram



Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 THT

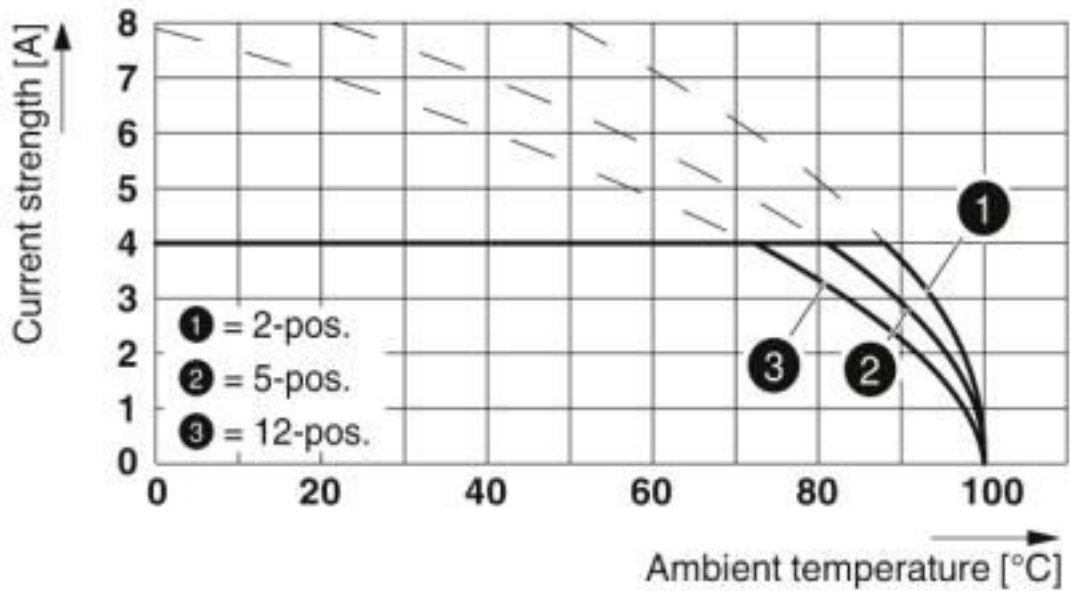
Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCD 0,5/...-G1-2,5

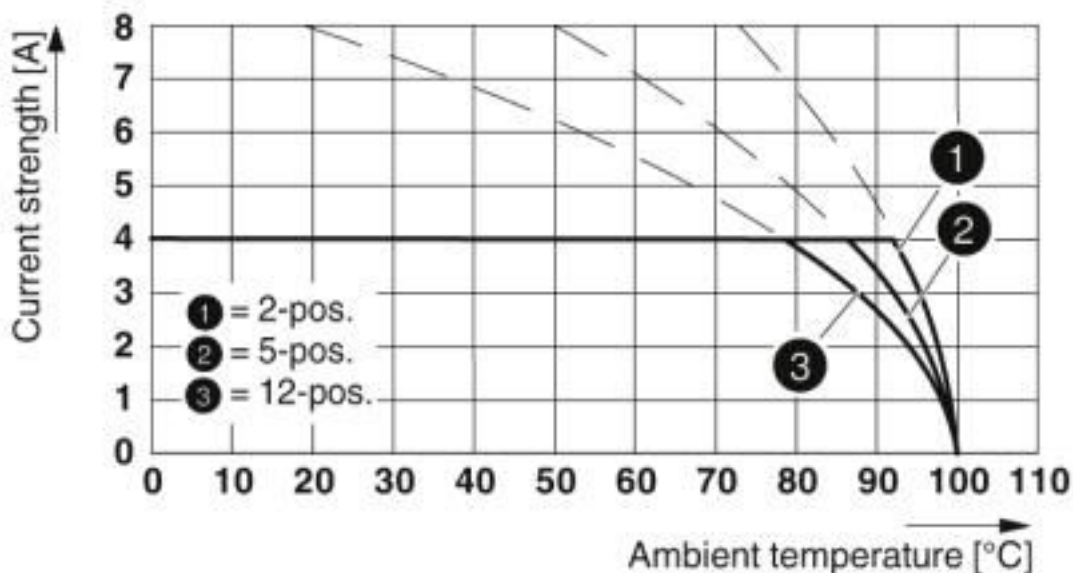
Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCDV 0,5/...-G1-2,5

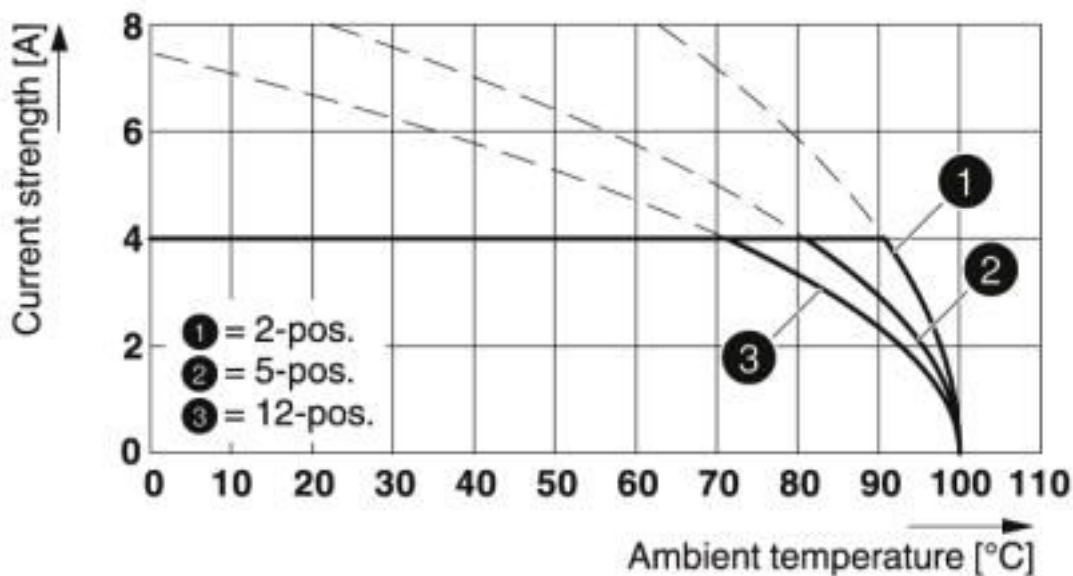
Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5

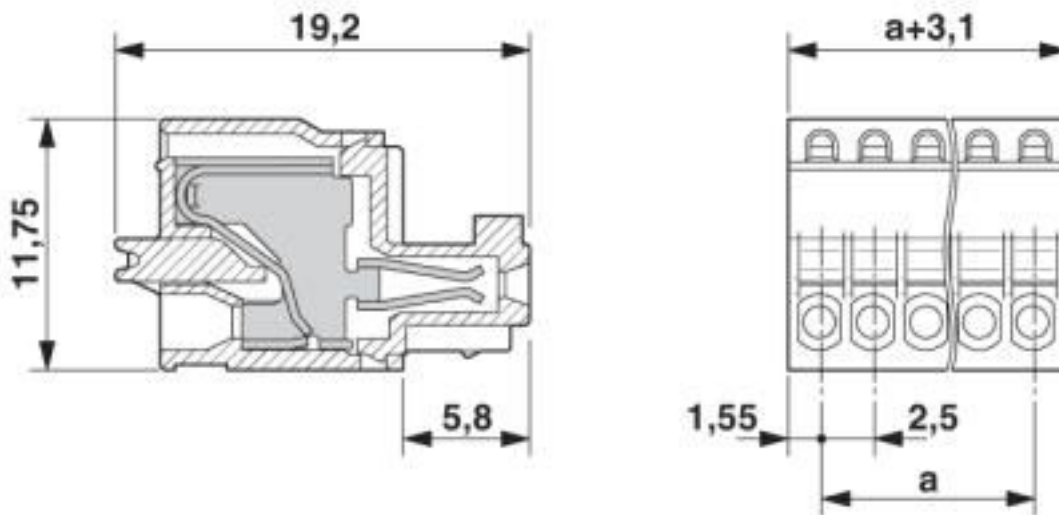
Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCD 0,5/...-G1-2,5 HT BK

Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| eCl@ss 4.0 | 27260700 |
| eCl@ss 4.1 | 27260700 |
| eCl@ss 5.0 | 27260700 |
| eCl@ss 5.1 | 27260700 |
| eCl@ss 6.0 | 27260700 |
| eCl@ss 7.0 | 27440309 |
| eCl@ss 8.0 | 27440309 |
| eCl@ss 9.0 | 27440309 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002638 |
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11 | 39121409 |
| UNSPSC 12.01 | 39121409 |
| UNSPSC 13.2 | 39121409 |
| UNSPSC 18.0 | 39121409 |
| UNSPSC 19.0 | 39121409 |

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Classifications

UNSPSC

| | |
|-------------|----------|
| UNSPSC 20.0 | 39121409 |
| UNSPSC 21.0 | 39121409 |

Approvals

Approvals


Approvals


CCA / IEC EE CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

Ex Approvals

Approval details

| | |
|----------------------------|----------------|
| CCA | CCA/ DE1 34250 |
| Nominal voltage UN | 100 V |
| Nominal current IN | 4 A |
| mm ² /AWG/kcmil | 0.2-5 |

| | | | |
|----------------------------|---|---|----------------|
| IECEE CB Scheme |  | http://www.iecee.org/ | DE1-56068-B1B2 |
| Nominal voltage UN | 100 V | | |
| Nominal current IN | 4 A | | |
| mm ² /AWG/kcmil | 0.2-5 | | |

| | | | |
|---|---|---|----------|
| VDE Gutachten mit Fertigungsüberwachung |  | http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx | 40013394 |
| Nominal voltage UN | 100 V | | |
| Nominal current IN | 4 A | | |
| mm ² /AWG/kcmil | 0.2-5 | | |

| | | |
|-----|---|---------|
| EAC |  | B.01687 |
|-----|---|---------|

Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Approvals

| | | | |
|----------------------------|--|---|-----------------|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-19930913 |
| | | B | |
| Nominal voltage UN | | 125 V | |
| Nominal current IN | | 4 A | |
| mm ² /AWG/kcmil | | 28-20 | |

Accessories

Accessories

Labeled terminal marker

Marker card - SK 2,54/2,8:FORTL.ZAHLEN - 0804853



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

Screwdriver tools

Screwdriver - SZS 0,4X2,0 - 1205202



Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

Additional products

Feed-through header - MC 0,5/12-G-2,5 - 1881545



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm

Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Accessories

Printed-circuit board connector - MCV 0,5/12-G-2,5 - 1881655



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

Feed-through header - MCD 0,5/12-G1-2,5 - 1894901



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm

Feed-through header - MCDV 0,5/12-G1-2,5 - 1895010



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

Printed-circuit board connector - MC 0,5/12-G-2,5 THT - 1939316



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

Printed-circuit board connector - MCD 0,5/12-G1-2,5 HT BK - 1955141



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, Standard component made of highly temperature resistant plastic; suitable for reflow process. User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads".

Printed-circuit board connector - FK-MC 0,5/12-ST-2,5 - 1881422

Accessories

Printed-circuit board connector - MCDV 0,5/12-G1-2,5 HT BK - 1961342



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, Standard component made of highly temperature resistant plastic; suitable for reflow process. User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads".

Feed-through header - MCV 0,5/12-G-2,5 THT - 1963638



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

Printed-circuit board connector - MC 0,5/12-G-2,5 THT R44 - 1963748



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

Feed-through header - MCV 0,5/12-G-2,5 THT R44 - 1963861



PCB headers, nominal current: 4 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of positions: 12, pitch: 2.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads"

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