

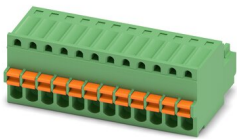
FK-MC 0,5/12-ST-2,5 - PCB connector



1881422

<https://www.phoenixcontact.com/in/products/1881422>

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PCB connector, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Socket, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: FK-MC 0,5/...-ST, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON FK-MC 0,5, 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
- Quick and convenient testing using integrated test option

Commercial Data

Item number	1881422
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAA
Product Key	AAAFCA
Catalog Page	Page 168 (C-1-2013)
GTIN	4017918156671
Weight per Piece (including packing)	7.42 g
Weight per Piece (excluding packing)	6.895 g
Customs tariff number	85366990
Country of origin	DE

FK-MC 0,5/12-ST-2,5 - PCB connector



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Technical Data

Product properties

Type	Standard
Product line	COMBICON Connectors XS
Product type	PCB plug
Product family	FK-MC 0,5/...-ST
Number of positions	12
Pitch	2.5 mm
Number of connections	12
Number of rows	1
Mounting flange	without
Number of potentials	12

Electrical properties

Nominal current I_N	4 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	2 mΩ
Rated voltage (III/3)	100 V
Rated surge voltage (III/3)	1.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

Connection data

Connection technology

Type	Standard
Connector system	COMBICON FK-MC 0,5
Nominal cross section	0.5 mm ²
Type of contact	Socket

Interlock

Locking type	without
Mounting flange	without

Conductor connection

Connection method	Push-in spring connection
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.14 mm ² ... 0.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 0.5 mm ²
Conductor cross section AWG	26 ... 20
Conductor cross section flexible, with ferrule without plastic	0.25 mm ² ... 0.5 mm ²

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sleeve	
Cylindrical gauge a x b / diameter	- / 1.4 mm
Stripping length	8 mm

Specifications for ferrules without insulating collar

recommended crimping tool	1201882 CRIMPFOX ZA 3
ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm ² ; Length: 7 mm ... 8 mm
	Cross section: 0.34 mm ² ; Length: 7 mm ... 8 mm
	Cross section: 0.5 mm ² ; Length: 8 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)

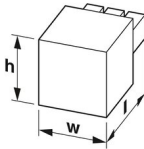
Material data - housing

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

Material data – actuating element

Color (Actuating element)	orange (2003)
Insulating material	PBT
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Pitch	2.5 mm

FK-MC 0,5/12-ST-2,5 - PCB connector



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Width [w]	30.6 mm
Height [h]	11.75 mm
Length [l]	19.05 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.
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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
	0.5 mm ² / solid / > 20 N
	0.5 mm ² / flexible / > 20 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
Result	Test passed

Visual inspection

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

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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 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	2.95 kV
Contact resistance R_1	2 m Ω
Contact resistance R_2	2.2 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	12

Insulation resistance

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

Temperature cycles

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

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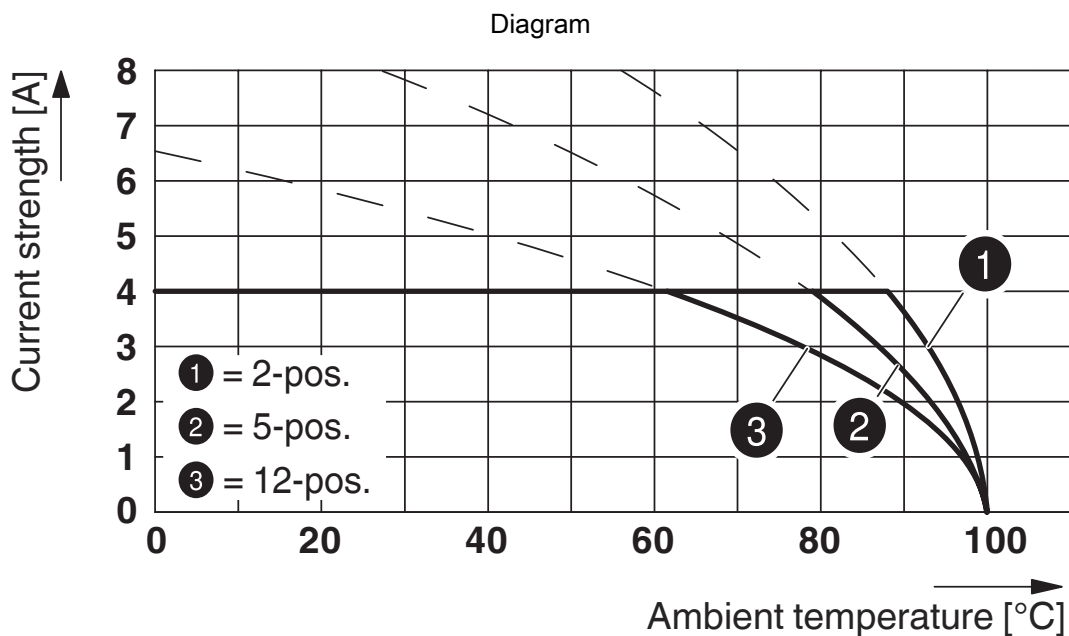
Air clearances and creepage distances |

Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	100 V
Rated surge voltage (III/3)	1.5 kV
minimum clearance value - non-homogenous field (III/3)	0.8 mm
minimum creepage distance (III/3)	1.8 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

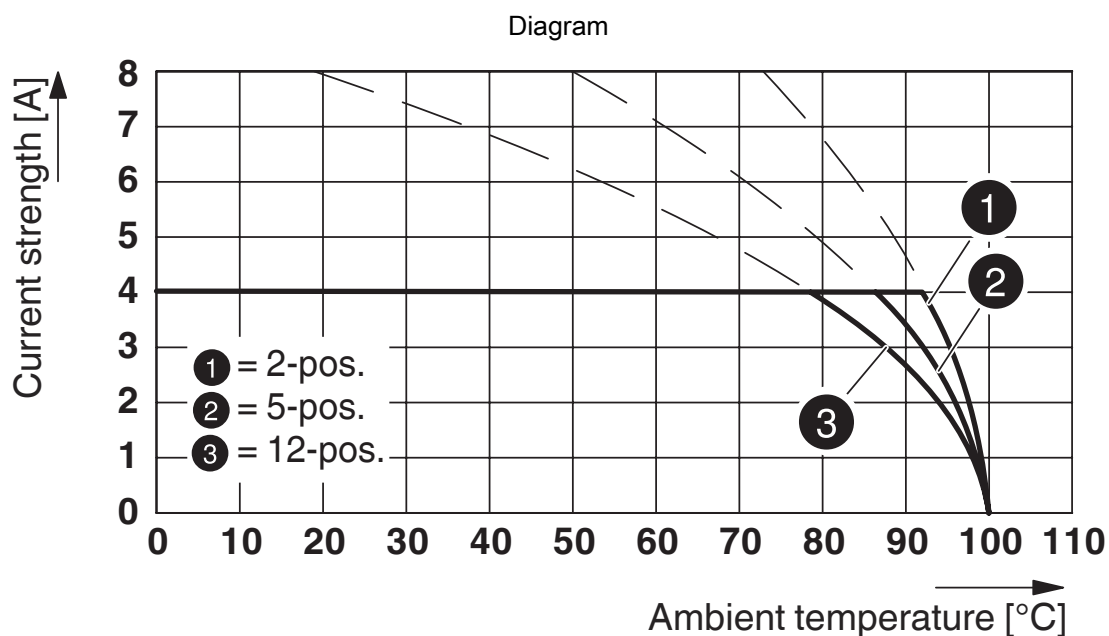
Packaging specifications

Type of packaging	packed in cardboard
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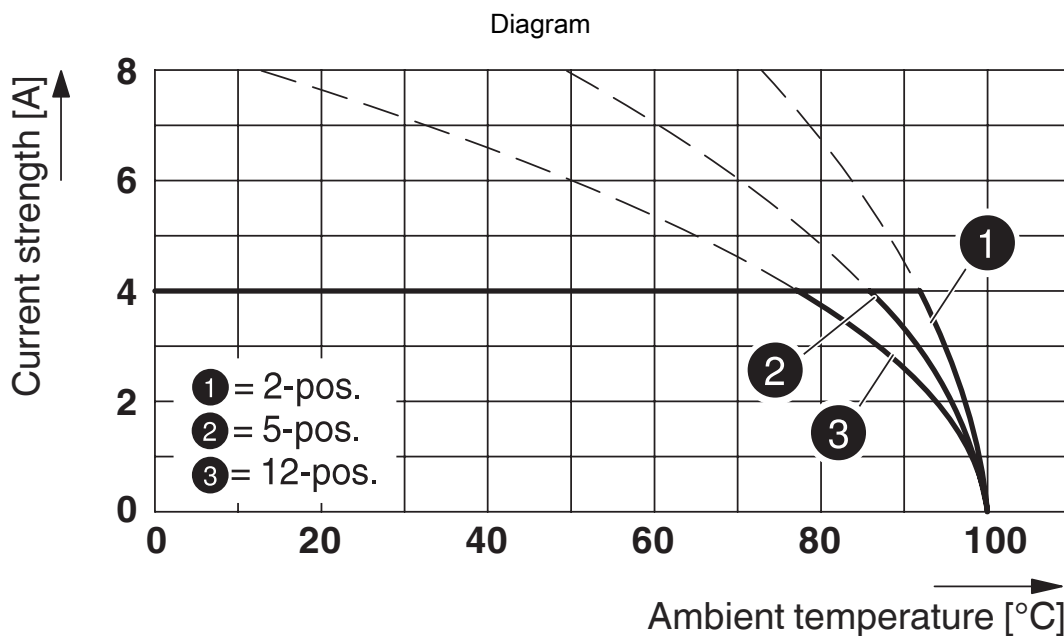
Drawings



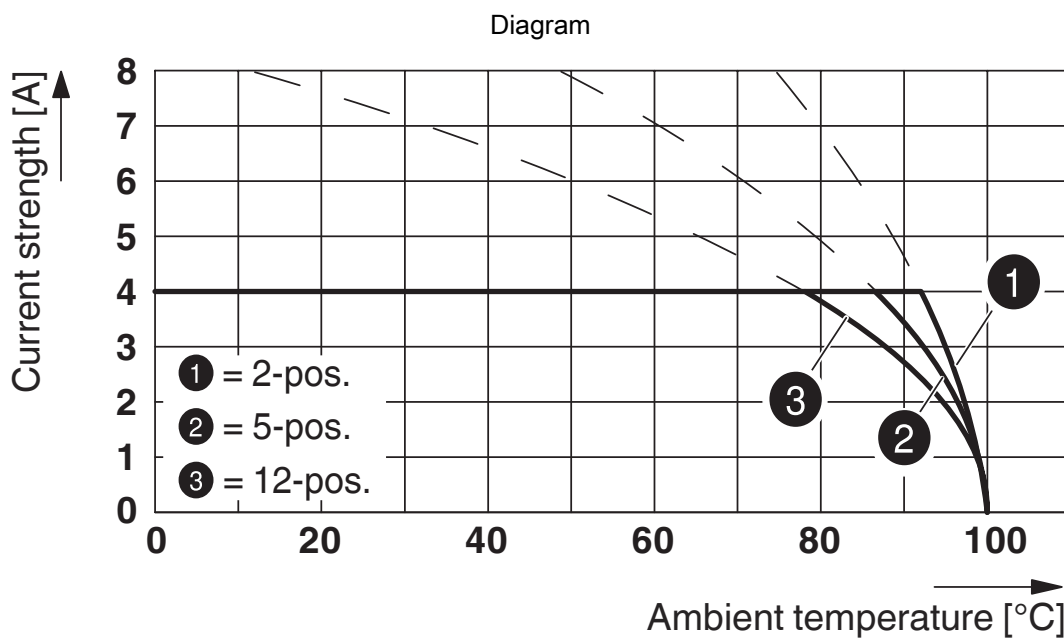
Type: FK-MC 0,5/...-ST-2,5 with MCD 0,5/...-G1-2,5



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



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

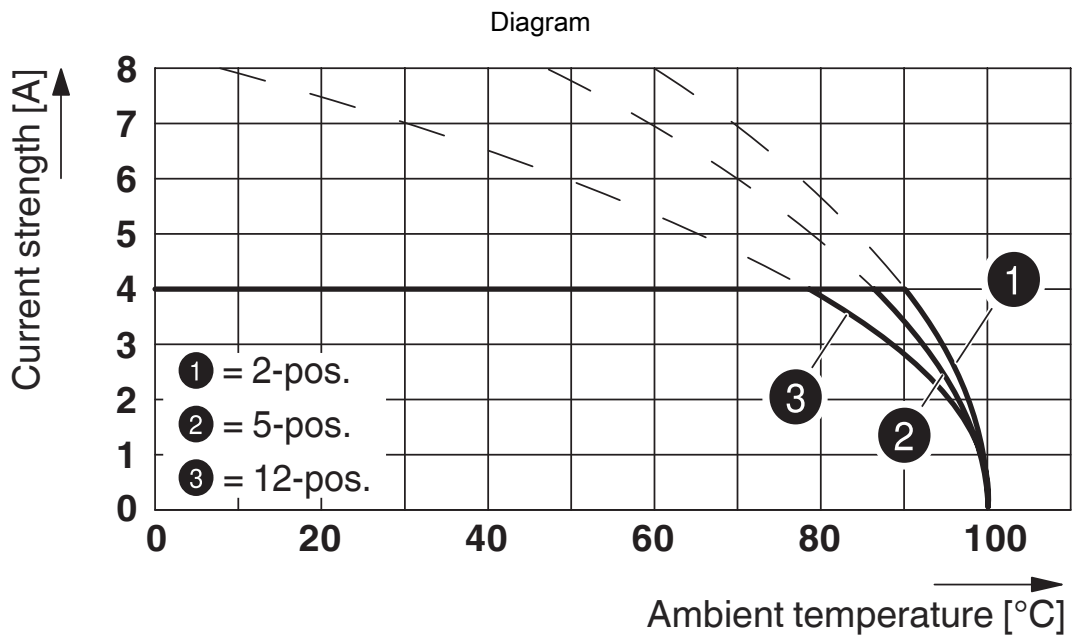


Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5 THT

FK-MC 0,5/12-ST-2,5 - PCB connector

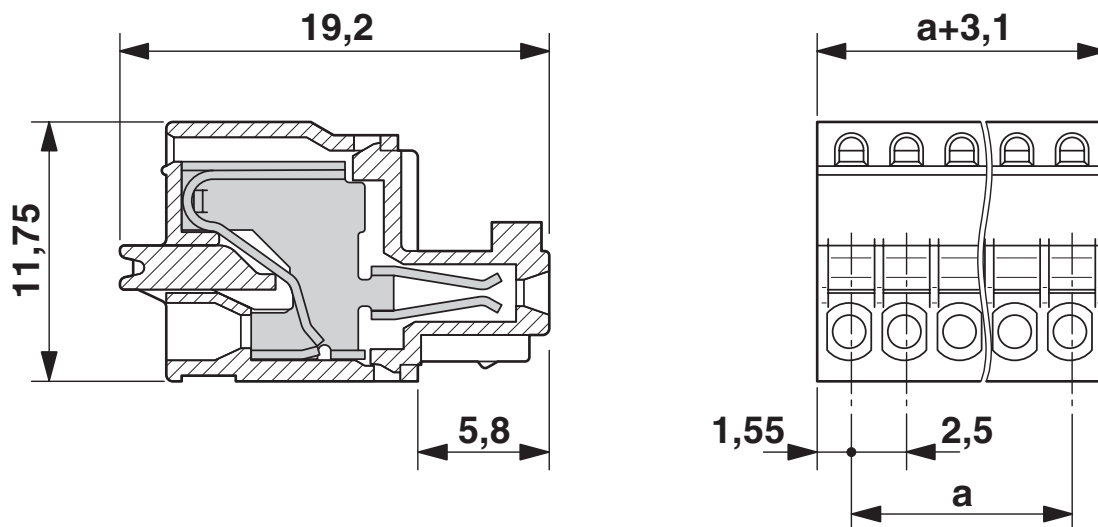
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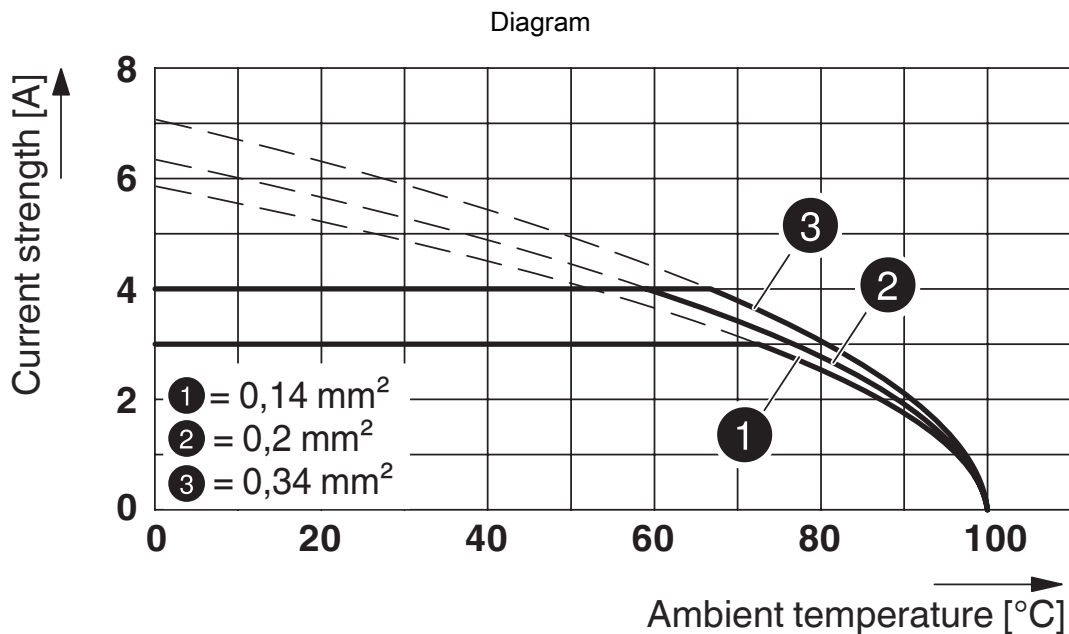
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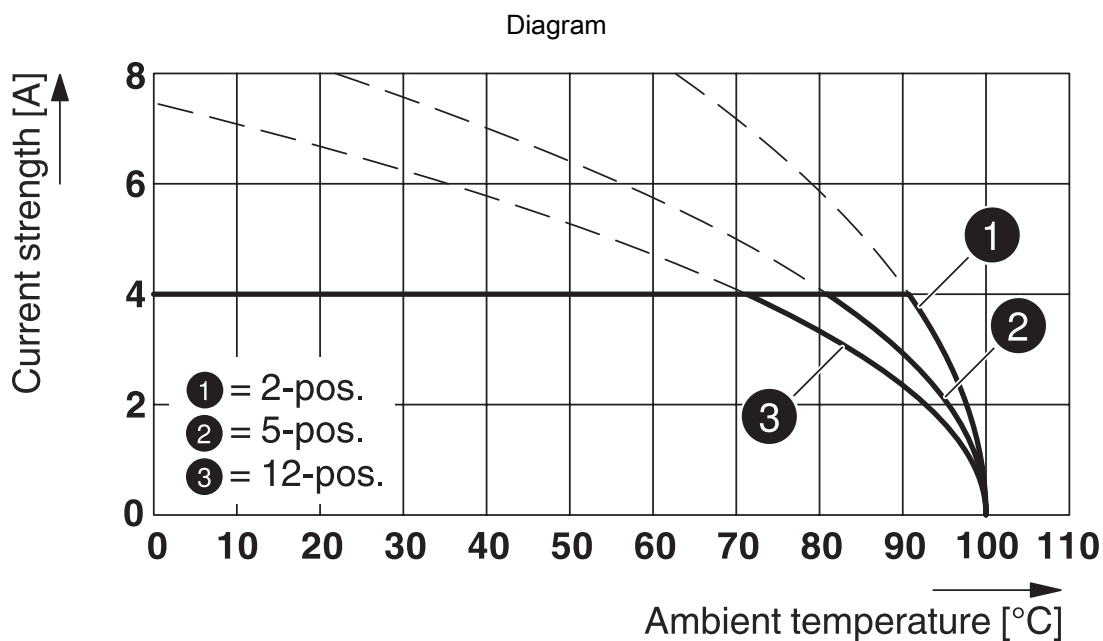
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 THT

Dimensional drawing





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



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

FK-MC 0,5/12-ST-2,5 - PCB connector




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Approvals

	IECEE CB Scheme Approval ID: DE1-56068-B1B2				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2	
	100 V	4 A	-	0.2 - 0.5	

	EAC Approval ID: B.01687				
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	cULus Recognized Approval ID: E60425-19990913				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2	
	125 V	4 A	28 - 20	-	

	VDE Gutachten mit Fertigungsüberwachung Approval ID: 40013394				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2	
	100 V	4 A	-	0.2 - 0.5	

FK-MC 0,5/12-ST-2,5 - PCB connector



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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002638
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UNSPSC

UNSPSC 21.0	39121400
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FK-MC 0,5/12-ST-2,5 - PCB connector



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Environmental Product Compliance

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

FK-MC 0,5/12-ST-2,5 - PCB connector



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Accessories

SZS 0,4X2,0 - Screwdriver

1205202

<https://www.phoenixcontact.com/in/products/1205202>

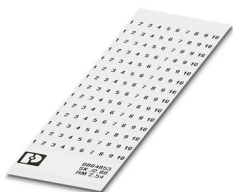


Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

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

0804853

<https://www.phoenixcontact.com/in/products/0804853>



Marker 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

FK-MC 0,5/12-ST-2,5 - PCB connector

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MC 0,5/12-G-2,5 - PCB header

1881545

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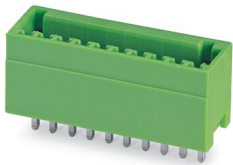


PCB headers, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: MC 0,5/..-G, pitch: 2.5 mm, mounting: Wave soldering, conductor/PCB connection direction: 0 °, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

MCV 0,5/12-G-2,5 - PCB header

1881655

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PCB headers, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: MCV 0,5/..-G, pitch: 2.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

FK-MC 0,5/12-ST-2,5 - PCB connector

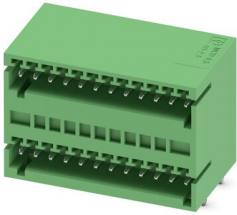
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MCD 0,5/12-G1-2,5 - PCB header

1894901

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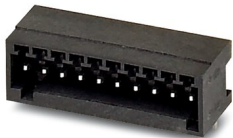


PCB headers, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 24, number of rows: 2, number of positions: 12, number of connections: 24, product range: MCD 0,5/..-G1, pitch: 2.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

MC 0,5/12-G-2,5 THT - PCB header

1939316

<https://www.phoenixcontact.com/in/products/1939316>



PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: MC 0,5/..-G-THT, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

FK-MC 0,5/12-ST-2,5 - PCB connector

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MCD 0,5/12-G1-2,5 HT BK - PCB header

1955141

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PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 24, number of rows: 2, number of positions: 12, number of connections: 24, product range: MCD 0,5/..-G1-HT, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, 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".

MC 0,5/12-G-2,5 THT R44 - PCB header

1963748

<https://www.phoenixcontact.com/in/products/1963748>



PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: MC 0,5/..-G-THT, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 44 mm wide tape, For user information and design recommendations for through-hole reflow technology, go to: Downloads

FK-MC 0,5/12-ST-2,5 - PCB connector



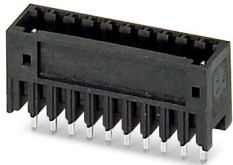
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MCV 0,5/12-G-2,5 THT R44 - PCB header

1963861

<https://www.phoenixcontact.com/in/products/1963861>



PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: MCV 0,5/..-G-THT, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 44 mm wide tape, User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads"

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