

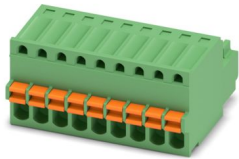
# FK-MC 0,5/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

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<sup>2</sup>, color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, 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 operation due to color-coded actuating push button
- 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	1881396
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA01
Product key	AAAFCA
Catalog page	Page 168 (C-1-2013)
GTIN	4017918156640
Weight per piece (including packing)	5.518 g
Weight per piece (excluding packing)	5.121 g
Customs tariff number	85366990
Country of origin	DE

# FK-MC 0,5/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

## Technical data

### Product properties

Product type	PCB connector
Product family	FK-MC 0,5/...-ST
Product line	COMBICON Connectors XS
Type	Standard
Number of positions	9
Pitch	2.5 mm
Number of connections	9
Number of rows	1
Number of potentials	9
Mounting flange	without

### 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 <sup>2</sup>
Contact connection type	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 <sup>2</sup> ... 0.5 mm <sup>2</sup>
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 20
Conductor cross section flexible, with ferrule without plastic	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>

# FK-MC 0,5/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

sleeve	
Cylindrical gauge a x b / diameter	- / 1.4 mm
Stripping length	8 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 <sup>2</sup> ; Length: 7 mm ... 8 mm
	Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm ... 8 mm
	Cross section: 0.5 mm <sup>2</sup> ; 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)

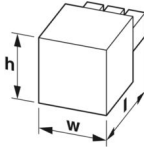
### Material data - housing

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/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

Width [w]	23.1 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.
--------------------	--

## 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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	0.5 mm <sup>2</sup> / solid / > 20 N
	0.5 mm <sup>2</sup> / 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

### 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

### 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 <sub>1</sub>	2 mΩ
Contact resistance R <sub>2</sub>	2.2 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

### Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /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 MΩ

### Temperature cycles

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

### Air clearances and creepage distances |

# FK-MC 0,5/ 9-ST-2,5 - PCB connector



1881396

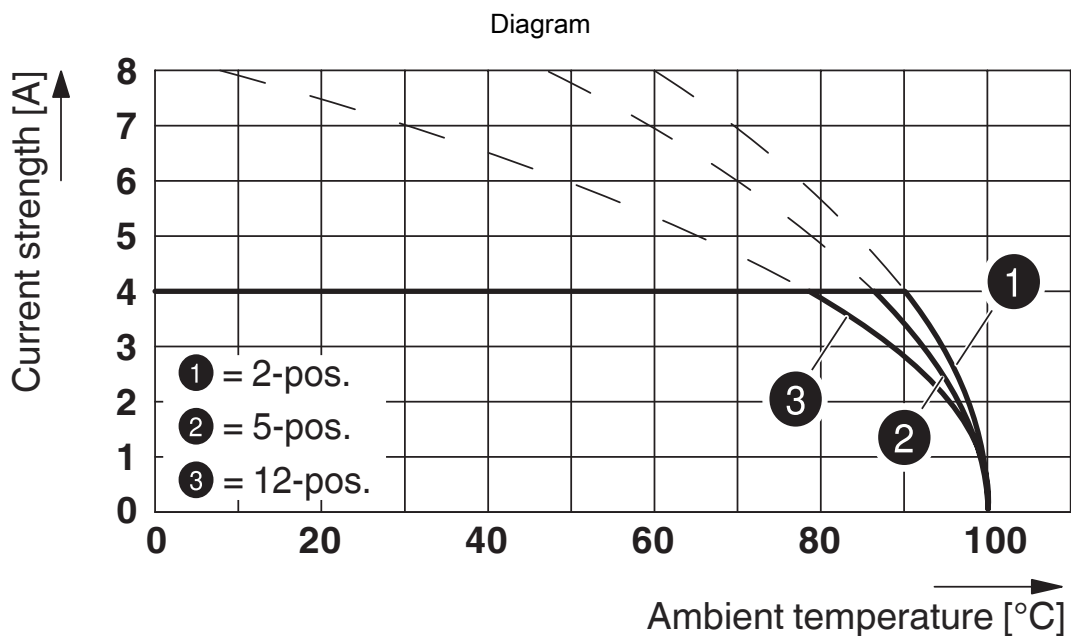
<https://www.phoenixcontact.com/us/products/1881396>

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

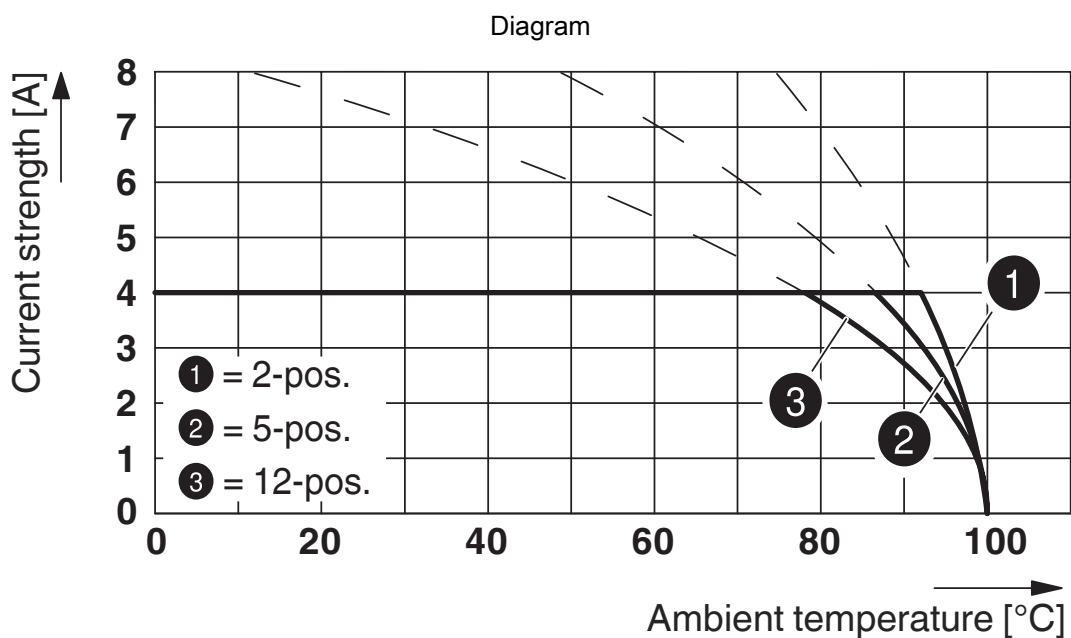
## Packaging specifications

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

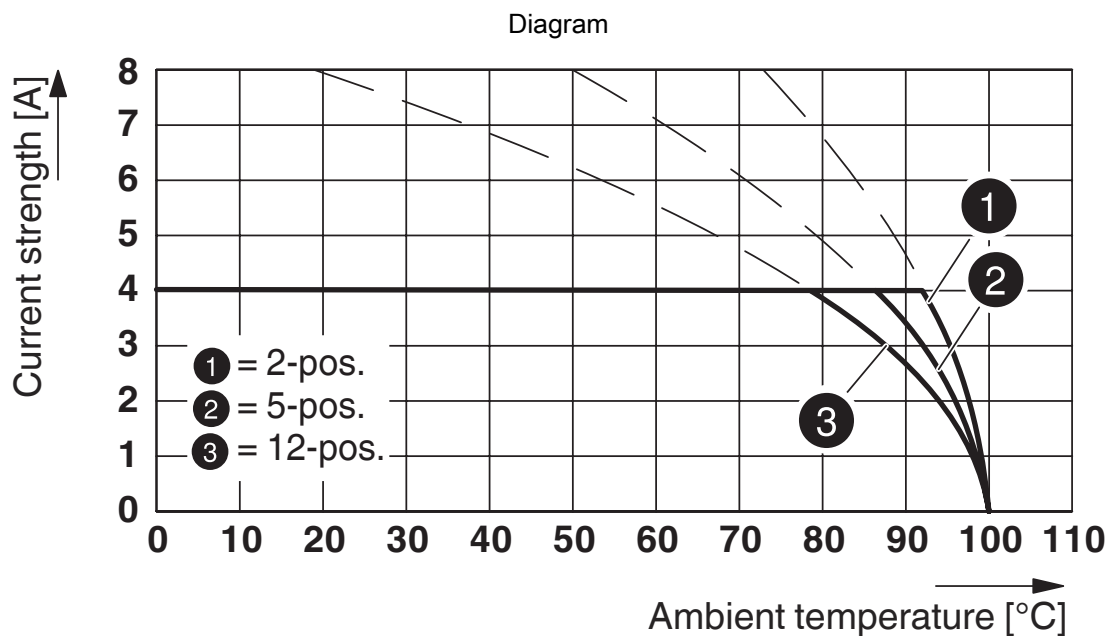
## Drawings



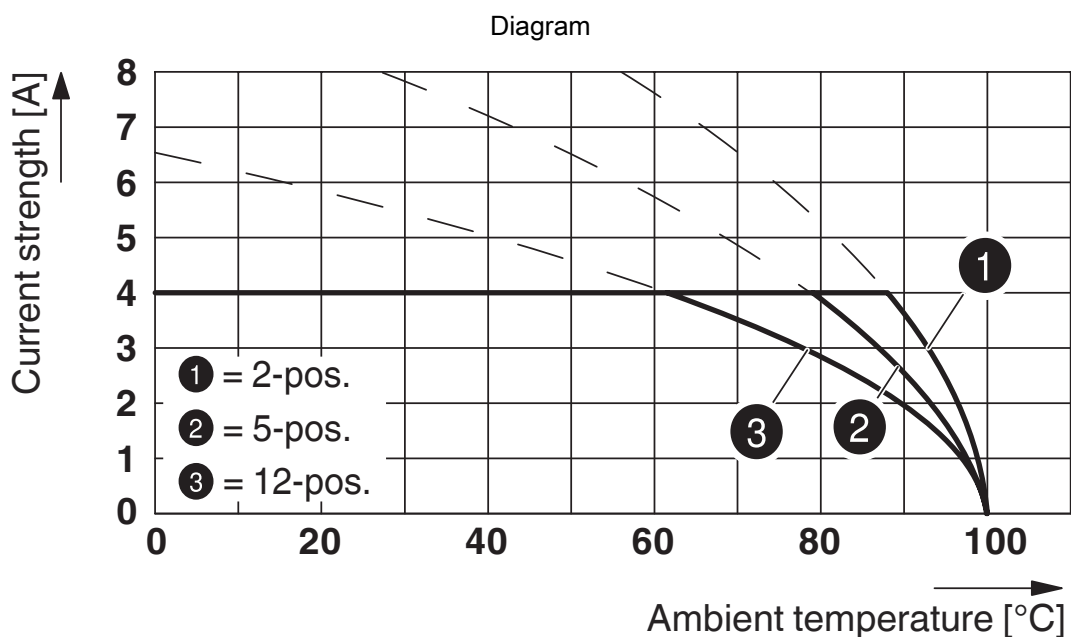
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 THT



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



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



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

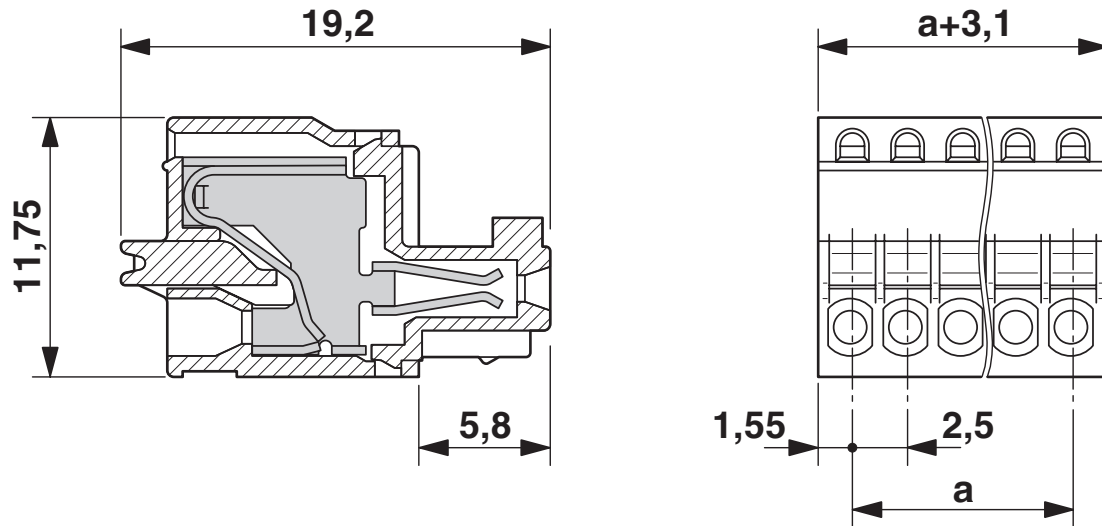


# FK-MC 0,5/ 9-ST-2,5 - PCB connector

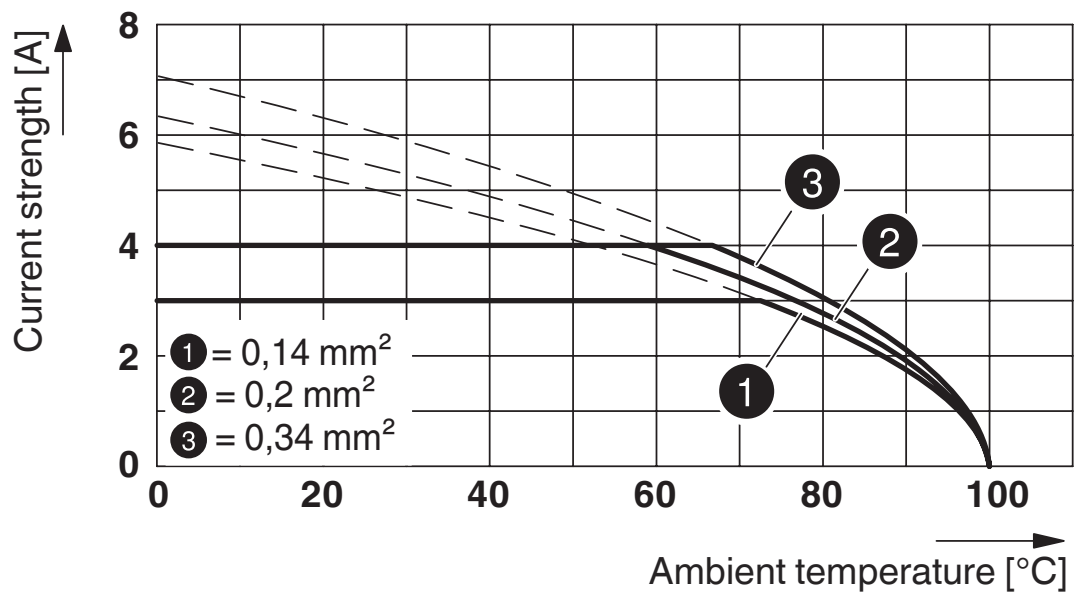
1881396

<https://www.phoenixcontact.com/us/products/1881396>

Dimensional drawing



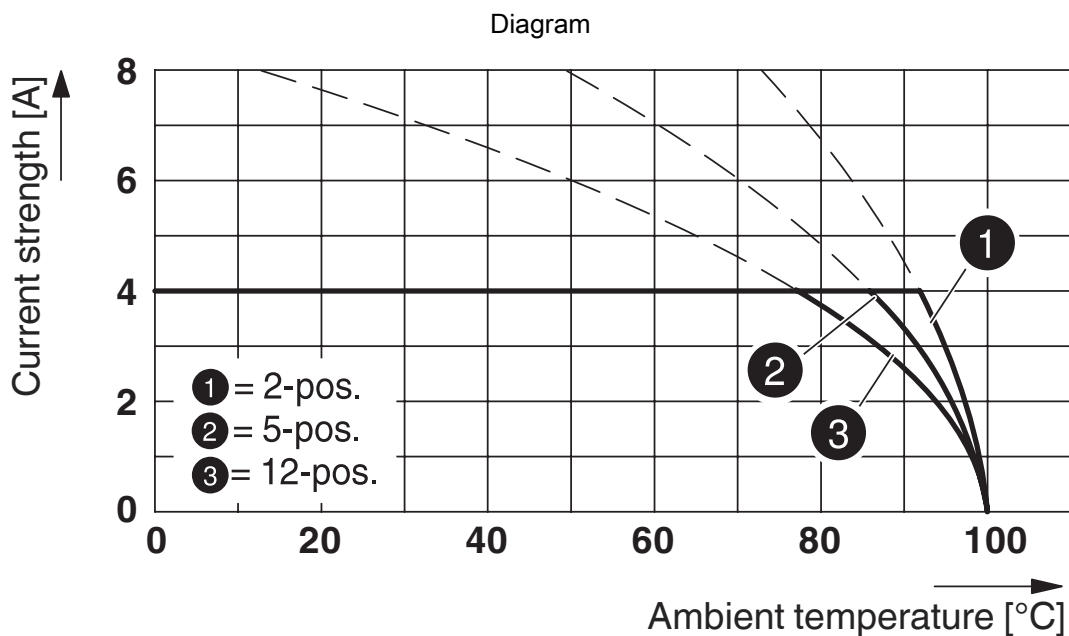
Diagram



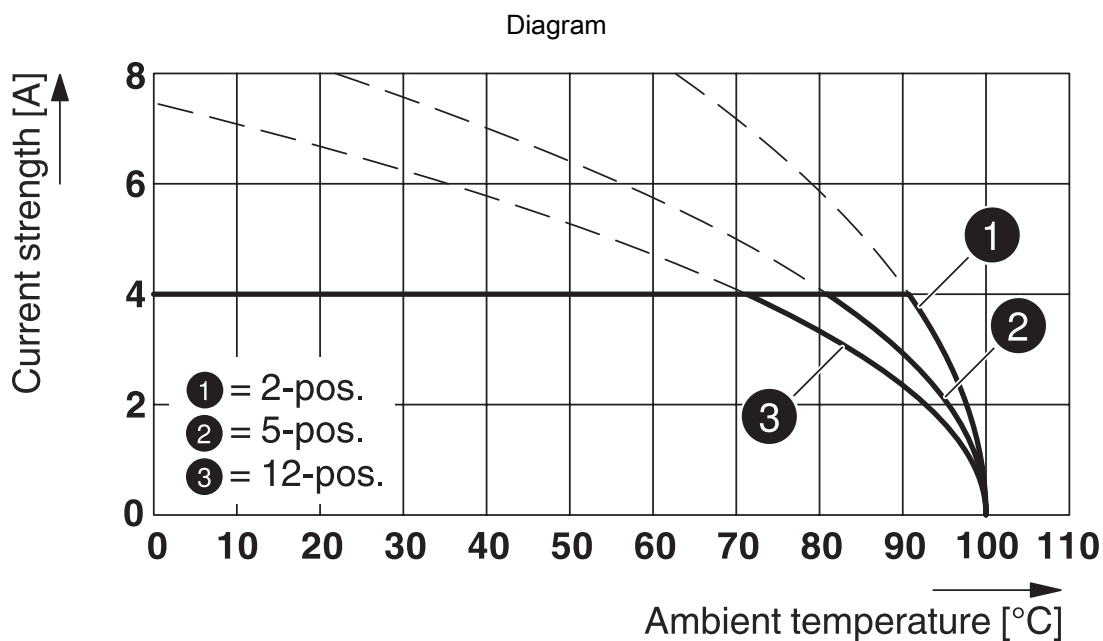
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5

1881396

<https://www.phoenixcontact.com/us/products/1881396>



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/ 9-ST-2,5 - PCB connector





1881396

<https://www.phoenixcontact.com/us/products/1881396>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1881396>

 <b>cULus Recognized</b> Approval ID: E60425-19990913				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
Use group B				
	125 V	4 A	28 - 20	-

 <b>VDE Gutachten mit Fertigungsüberwachung</b> 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/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC002638
----------	----------

### UNSPSC

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

# FK-MC 0,5/ 9-ST-2,5 - PCB connector



1881396

<https://www.phoenixcontact.com/us/products/1881396>

## 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%
-------------------------------------	----------------------------

# FK-MC 0,5/ 9-ST-2,5 - PCB connector

1881396

<https://www.phoenixcontact.com/us/products/1881396>

## Accessories

### SZS 0,4X2,0 - Screwdriver

1205202

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



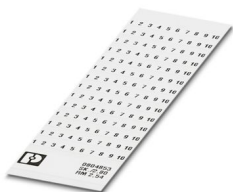
Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

---

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

0804853

<https://www.phoenixcontact.com/us/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/ 9-ST-2,5 - PCB connector

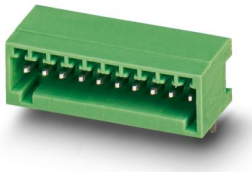
1881396

<https://www.phoenixcontact.com/us/products/1881396>

## MC 0,5/ 9-G-2,5 - PCB header

1881516

<https://www.phoenixcontact.com/us/products/1881516>



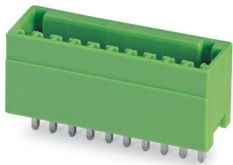
PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: MC 0,5/..-G, pitch: 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/ 9-G-2,5 - PCB header

1881626

<https://www.phoenixcontact.com/us/products/1881626>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, 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/ 9-ST-2,5 - PCB connector



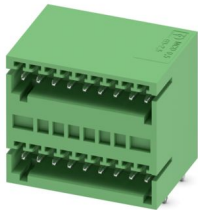
1881396

<https://www.phoenixcontact.com/us/products/1881396>

## MCD 0,5/ 9-G1-2,5 - PCB header

1894875

<https://www.phoenixcontact.com/us/products/1894875>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 18, number of rows: 2, number of positions: 9, number of connections: 18, 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

---

## MCD 0,5/ 9-G1-2,5 HT BK - PCB header

1961216

<https://www.phoenixcontact.com/us/products/1961216>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 18, number of rows: 2, number of positions: 9, number of connections: 18, 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".



# FK-MC 0,5/ 9-ST-2,5 - PCB connector

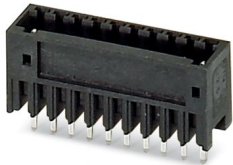
1881396

<https://www.phoenixcontact.com/us/products/1881396>

## MCV 0,5/ 9-G-2,5 THT - PCB header

1963609

<https://www.phoenixcontact.com/us/products/1963609>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, 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: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

## MC 0,5/ 9-G-2,5 THT R44 - PCB header

1963719

<https://www.phoenixcontact.com/us/products/1963719>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, 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/ 9-ST-2,5 - PCB connector

1881396

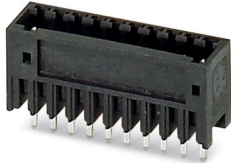
<https://www.phoenixcontact.com/us/products/1881396>



## MCV 0,5/ 9-G-2,5 THT R44 - PCB header

1963829

<https://www.phoenixcontact.com/us/products/1963829>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, 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"

---

Phoenix Contact 2024 © - 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](mailto:info@phoenixcon.com)