

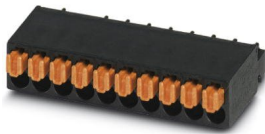
# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



1821096

<https://www.phoenixcontact.com/in/products/1821096>

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PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Locking: without, mounting: 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 use through colour coded actuation lever
- Optimized for tight installation situations: operation and conductor connection from one direction

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## Commercial Data

Order Key	1821096
Packing unit	200 pc
Minimum order quantity	200 pc
Sales Key	AAA
Product Key	AAAFAA
Catalog Page	Page 174 (C-1-2013)
GTIN	4046356789158
Weight per Piece (including packing)	0.58 g
Weight per Piece (excluding packing)	0.58 g
Customs tariff number	85366990
Country of origin	PL

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## Technical Data

### Product properties

Type	Standard
Number of positions	2
Number of connections	2
Number of rows	1
Connector system	MICRO COMBICON - FMC 0,5
Mounting flange	without
Number of potentials	2

### Electrical properties

Maximum load current	6 A
Rated voltage (II/2)	160 V
Rated voltage (III/2)	160 V
Rated surge voltage (II/2)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (III/3)	2.5 kV
Nominal voltage $U_N$	32 V
Nominal current $I_N$	6 A
Nominal current $I_N$	6 A

### Connection data

#### Connection technology

Type	Standard
Connector system	MICRO COMBICON - FMC 0,5
Nominal cross section	0.5 mm <sup>2</sup>
Type of contact	Female connector

#### Interlock

Locking type	without
Mounting flange	without

#### Conductor connection

Connection method	Push-in spring connection
Conductor cross section solid	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 sleeve	0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.14 mm <sup>2</sup> ... 0.25 mm <sup>2</sup>
Stripping length	7 mm

### Material specifications

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## 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 - 7 µm Sn)
Metal surface terminal point (middle layer)	Nickel (2 - 3 µm Ni)
Metal surface contact area (top layer)	Gold (0.25 Au)
Metal surface contact area (middle layer)	Nickel (2 - 3 µm Ni)

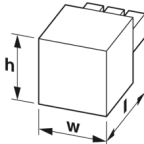
## Material data - housing

Housing color	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

Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

## Dimensions

Dimensional drawing	
Width	5.58 mm
Height	5.35 mm
Length	14 mm
Pitch	2.54 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
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Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm <sup>2</sup> / solid / > 10 N
	0.14 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	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	2 N

## Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Result	Test passed
Test force per pos.	20 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 - 500 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Sweep speed	5g (60,1 - 500 Hz)
Test duration per axis	2 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>	2.7 mΩ
Contact resistance R <sub>2</sub>	2.6 mΩ
Insertion/withdrawal cycles	100

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Insulation resistance, neighboring positions	> 5 MΩ
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## Climatic test

Specification	DIN 50018:2013-05
Corrosive stress	1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles
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

### Electrical properties

Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2.7 mΩ
Pollution degree	2

### 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 60112:2003-01)	CTI 175
Rated insulation voltage (III/3)	32 V
Rated surge voltage (III/3)	2.5 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

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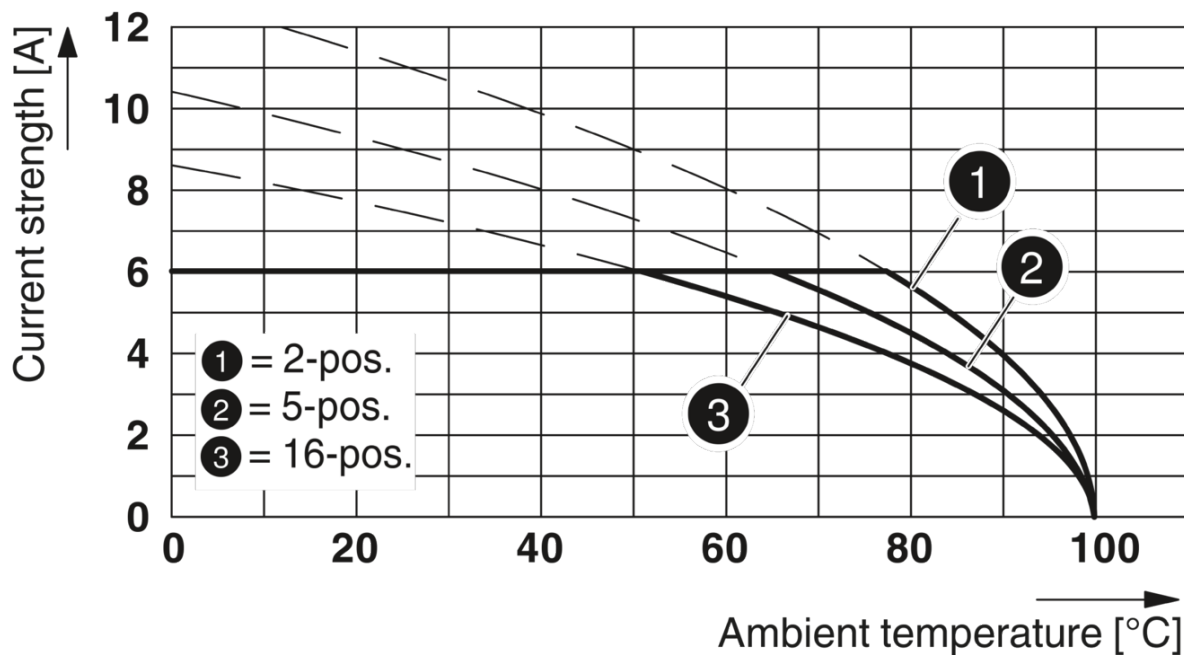
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	0.5 mm
minimum creepage distance (II/2)	1.6 mm

## Packaging specifications

Type of packaging	packed in cardboard
Outer packaging type	Carton

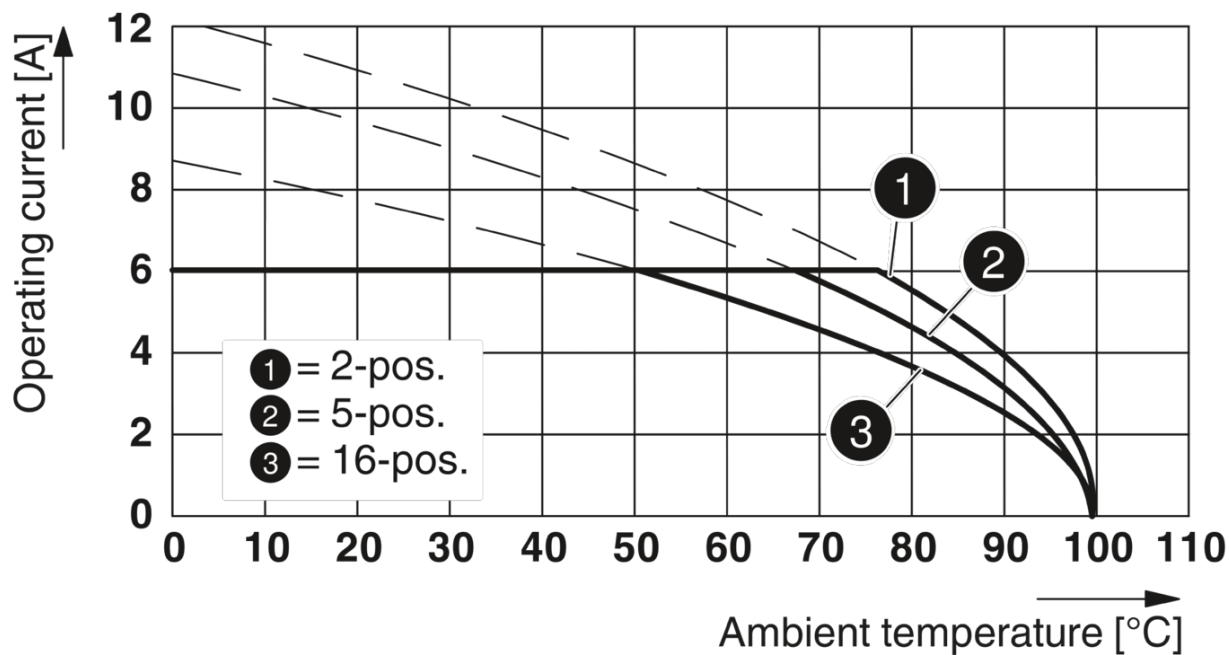
Drawings

Diagram

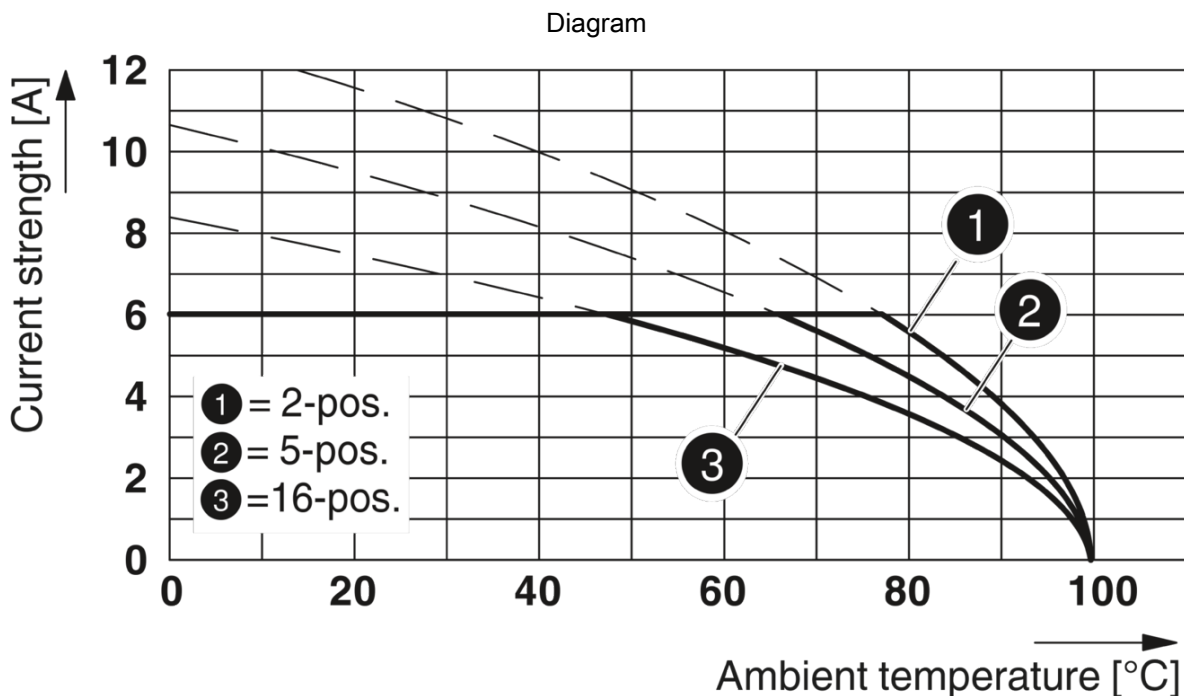
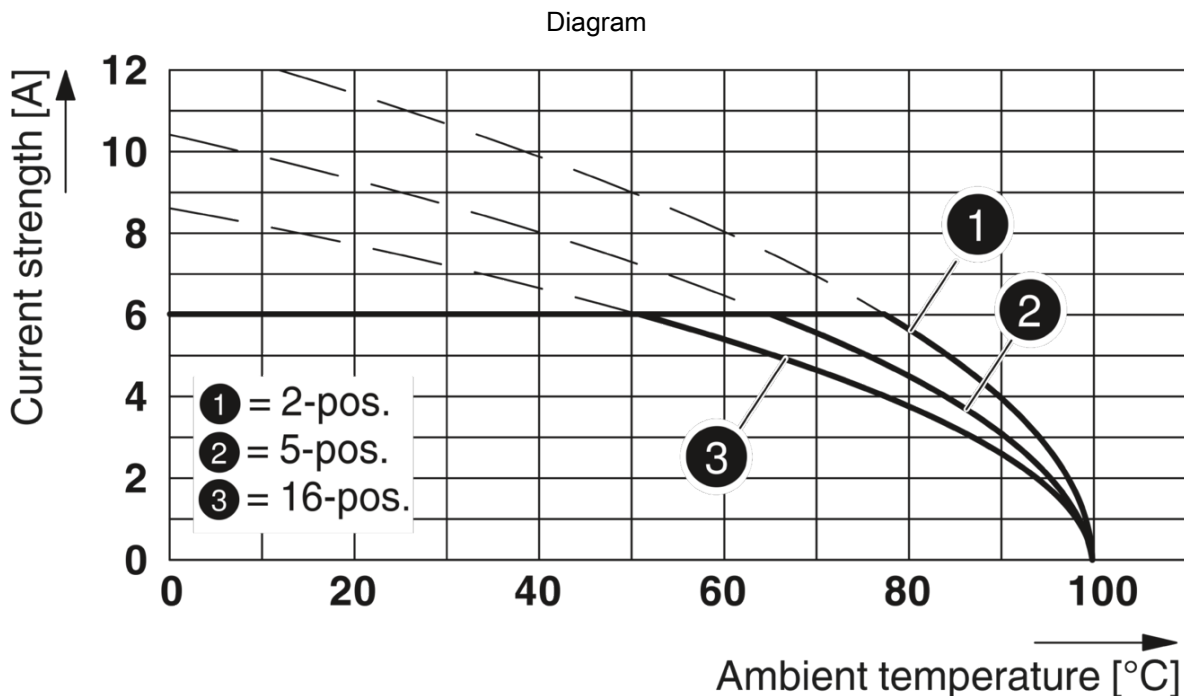


Type: FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 P20 THR R..

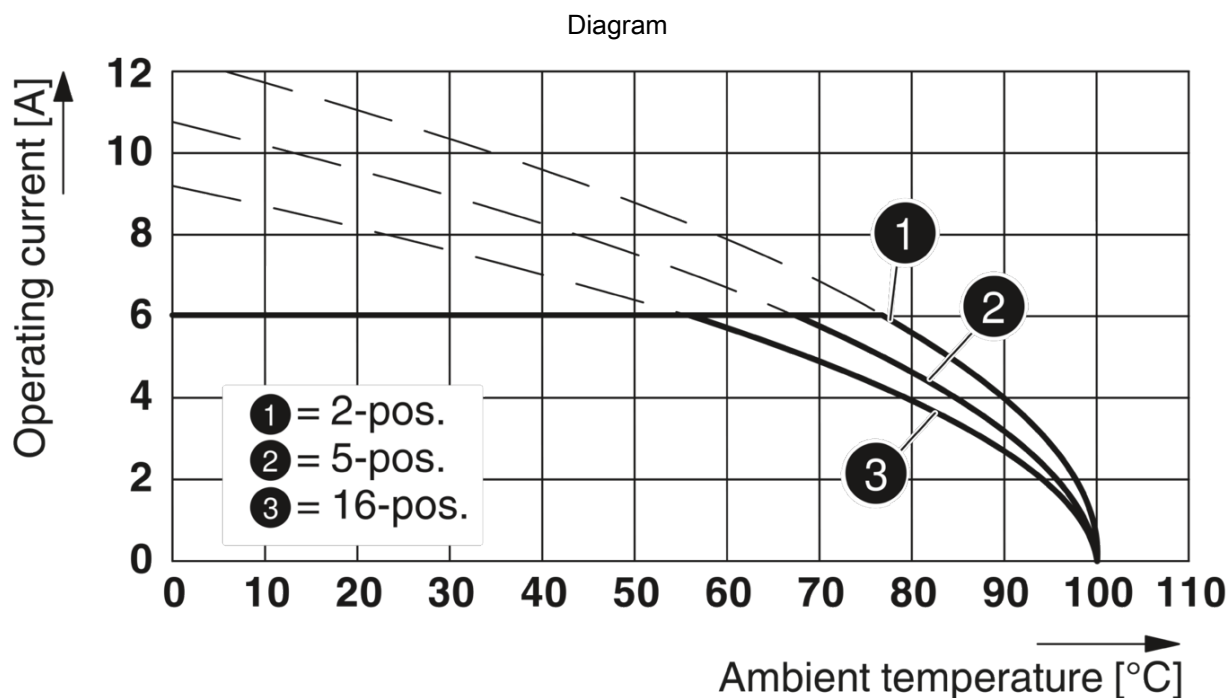
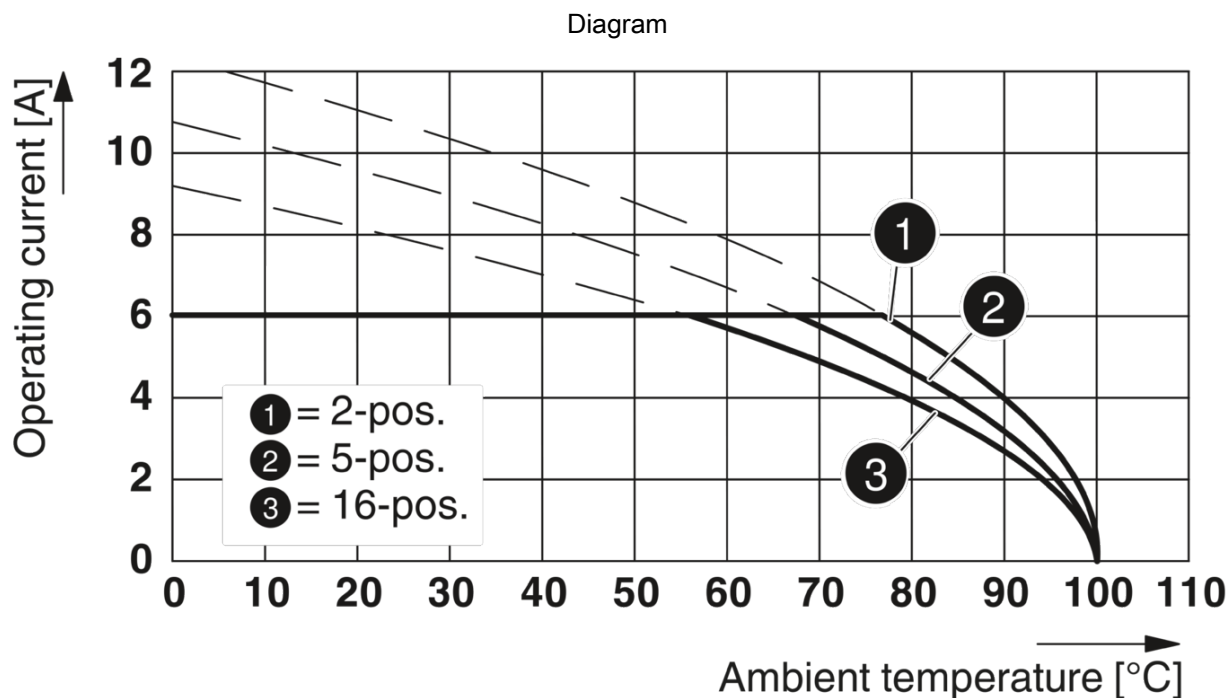
Diagram



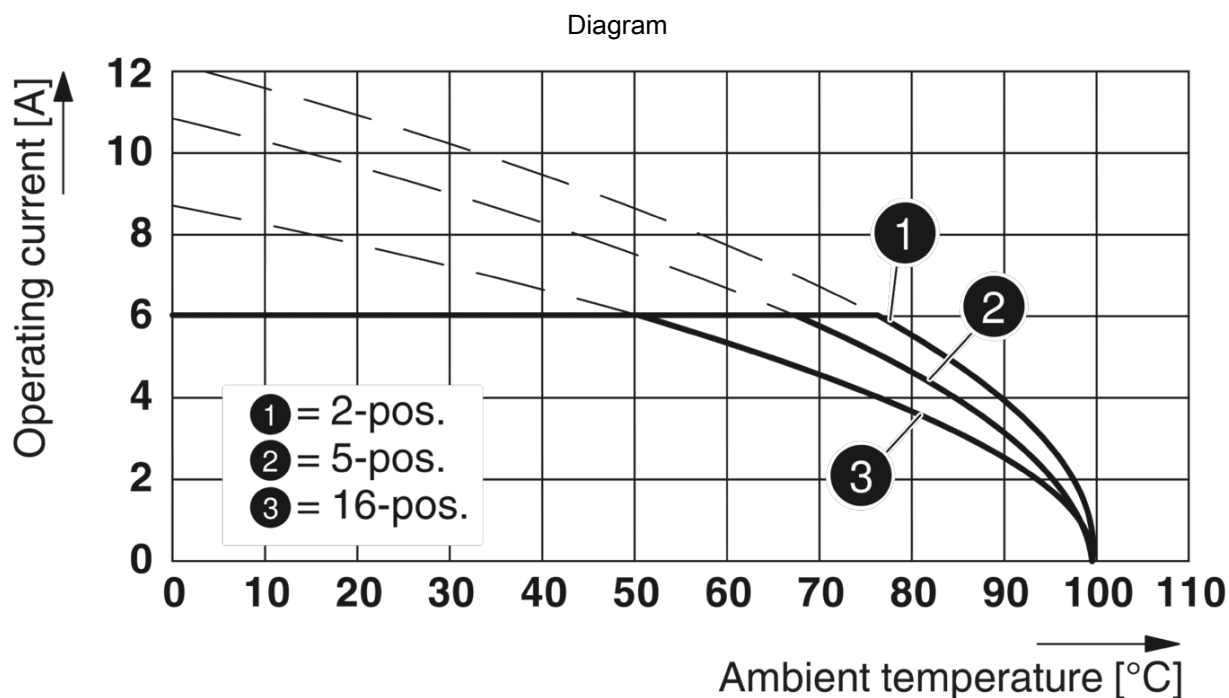
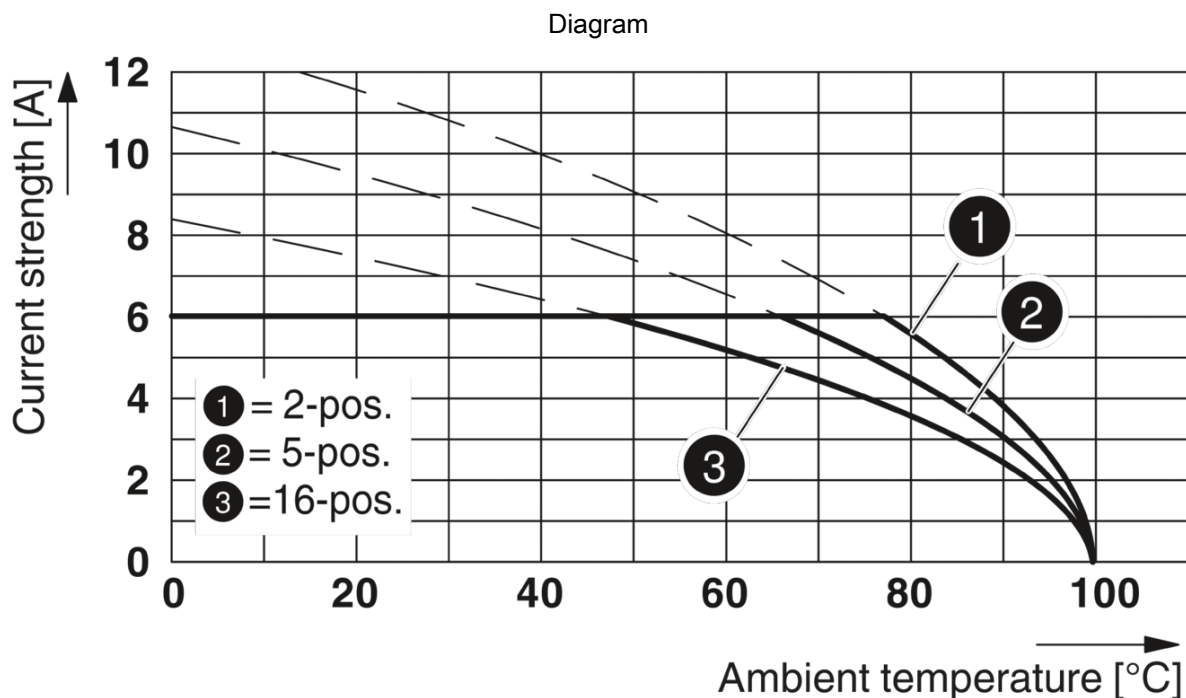




Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R..



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



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


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## Approvals

IECEE CB Scheme 	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	160 V	6 A	-	0.14 - 0.5

## EAC

cULus Recognized 	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B	150 V	6 A	26 - 20	-
Use group C				
Factory wiring	50 V	6 A	26 - 20	-

VDE Gutachten mit Fertigungsüberwachung 	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	160 V	6 A	-	0.14 - 0.5

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## Classifications

### ECLASS

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

### ETIM

ETIM 6.0	EC002638
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### UNSPSC

UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## Environmental Product Compliance

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

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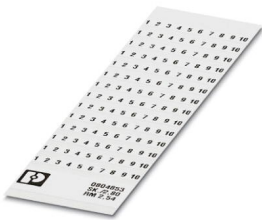
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## Accessories

### Marker card

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

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

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## Ferrule

Ferrule - A 0,25- 7 - 3202478



Ferrule, length: 7 mm, color: silver

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## Ferrule

Ferrule - A 0,34- 7 - 3009202



Ferrule, length: 7 mm, color: silver



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## Printed-circuit board connector

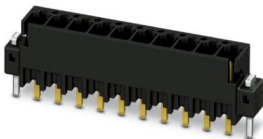
Printed-circuit board connector - MC 0,5/ 2-G-2,54 P20 THR R24 - 1821245



PCB headers, nominal cross section:  $0.5 \text{ mm}^2$ , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MC 0,5/..-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Sample values available under SAMPLE MC...

## Printed-circuit board connector

Printed-circuit board connector - MCV 0,5/ 2-G-2,54 P20 THR R24 - 1821397



PCB headers, nominal cross section:  $0.5 \text{ mm}^2$ , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MCV 0,5/..-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Sample values available under SAMPLE MC...

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54

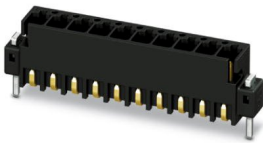


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## Printed-circuit board connector

Printed-circuit board connector - MCV 0,5/ 2-G-2,54 SMD R24 - 1821546



PCB headers, nominal cross section:  $0.5 \text{ mm}^2$ , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MCV 0,5/..-G-SMD, pitch: 2.54 mm, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Sample values available under SAMPLE MC...

## Printed-circuit board connector

Printed-circuit board connector - MC 0,5/ 2-G-2,54 SMD R24 - 1821698



PCB headers, nominal cross section:  $0.5 \text{ mm}^2$ , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MC 0,5/..-G-SMD, pitch: 2.54 mm, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Sample values available under SAMPLE MC...

# Printed-circuit board connector - FMC 0,5/ 2-ST-2,54



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## Crimping pliers

Crimping pliers - CRIMPFOX 6 - 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 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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