

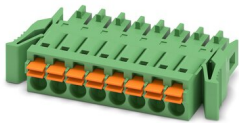
# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



1952089

<https://www.phoenixcontact.com/in/products/1952089>

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PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Socket, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: FMC 1,5/..-ST-RF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: Snap-in locking, mounting: Self-locking flange, 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
- Intuitive locking mechanism prevents accidental disconnection

## Commercial Data

Item number	1952089
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAB
Product Key	AABFAC
Catalog Page	Page 201 (C-1-2013)
GTIN	4017918942724
Weight per Piece (including packing)	5.1 g
Weight per Piece (excluding packing)	4.78 g
Customs tariff number	85366990
Country of origin	DE

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## Technical Data

### Product properties

Type	Standard
Product line	COMBICON Connectors S
Product type	PCB plug
Product family	FMC 1,5/..-ST-RF
Number of positions	8
Pitch	3.5 mm
Number of connections	8
Number of rows	1
Mounting flange	Self-locking flange
Number of potentials	8

### Electrical properties

Nominal current $I_N$	8 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	2.7 mΩ
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
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

### Connection data

#### Connection technology

Type	Standard
Connector system	COMBICON MC 1,5
Nominal cross section	1.5 mm <sup>2</sup>
Type of contact	Socket

#### Interlock

Locking type	Snap-in locking
Mounting flange	Self-locking flange

#### Conductor connection

Connection method	Push-in spring connection
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

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sleeve	
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
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 <sup>2</sup> ; Length: 7 mm
	Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm
	Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 1.5 mm <sup>2</sup> ; 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 <sup>2</sup> ; Length: 8 mm
	Cross section: 0.25 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 0.34 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm <sup>2</sup> ; 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

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 ()	()
Insulating material	PBT

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector

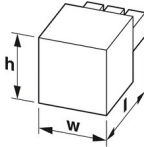


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Insulating material group	IIIa
CTI according to IEC 60112	275
Flammability rating according to UL 94	V0

## Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	38.1 mm
Height [h]	7.8 mm
Length [l]	22.9 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 <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	1.5 mm <sup>2</sup> / solid / > 40 N
	1.5 mm <sup>2</sup> / flexible / > 40 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N

### Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

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## 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 $R_1$	2.7 m $\Omega$
Contact resistance $R_2$	2.8 m $\Omega$
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 M $\Omega$

### 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

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## 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

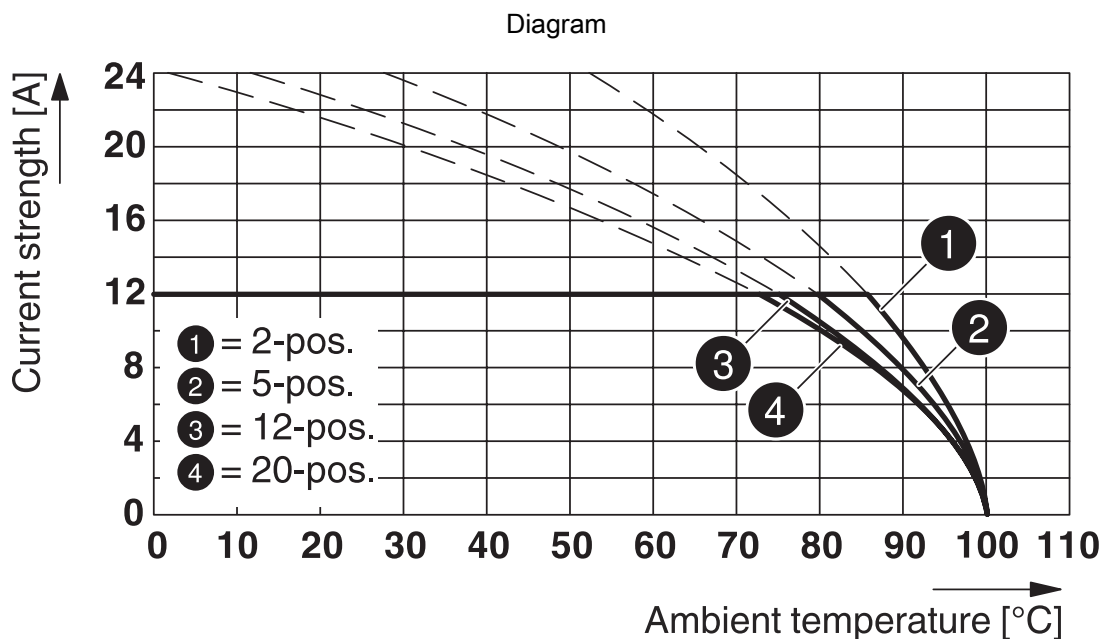
## Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	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

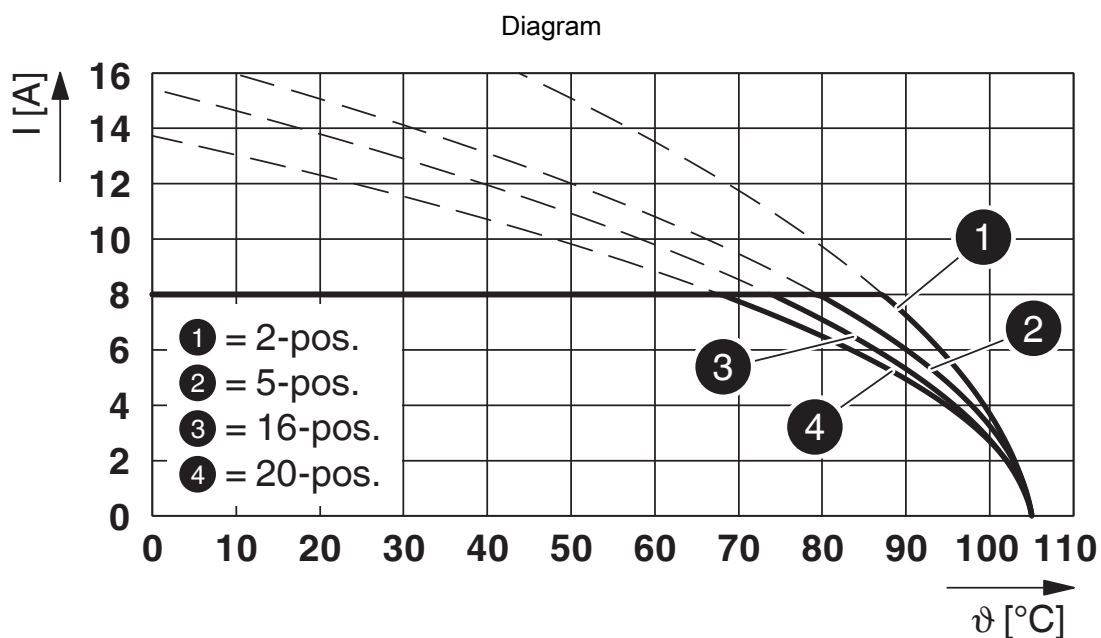
## Packaging specifications

Type of packaging	packed in cardboard
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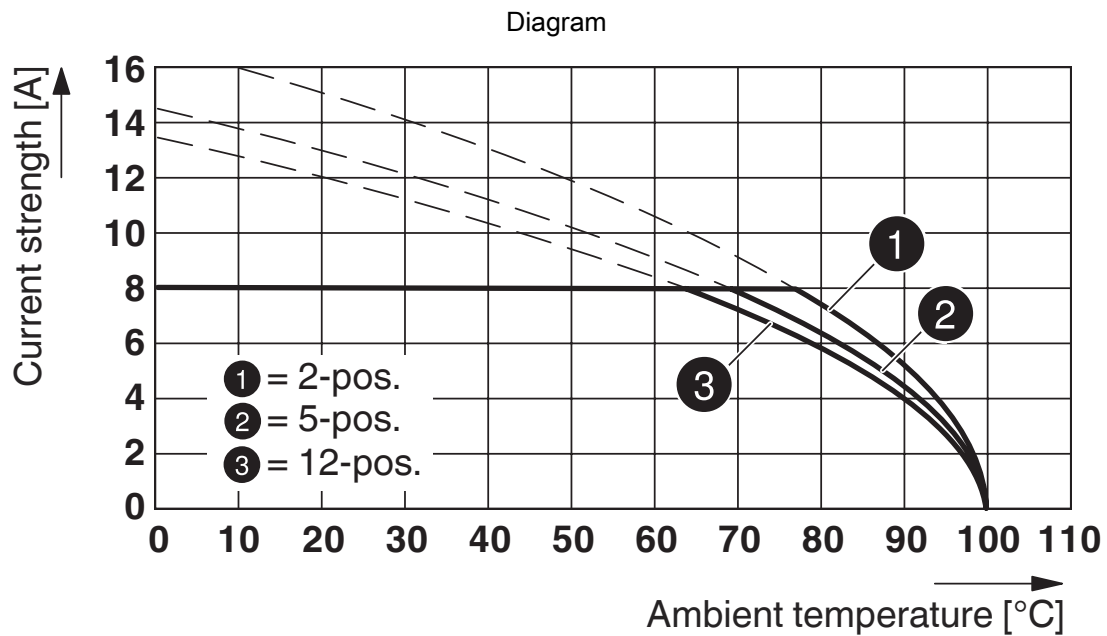
Drawings



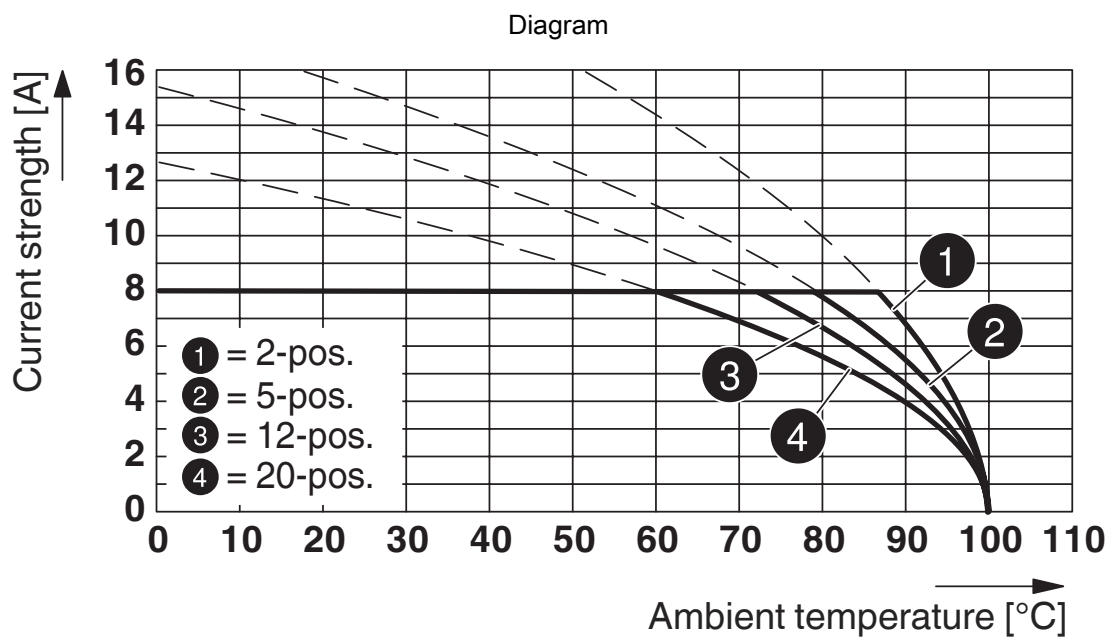
Type: FMC 1,5/...-ST-3,5-RF with MCV 1,5/...-G-3,5-RN



Type: FMC 1,5/...-ST-3,5-RF with MC 1,5/...-G-3,5-RN



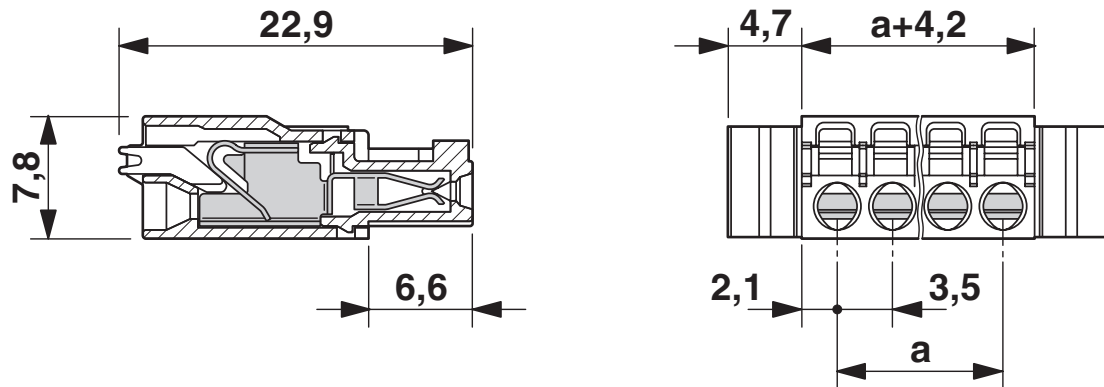
Type: FMC 1,5/...-ST-3,5-RF with IFMC 1,5/...-ST-3,5-RN



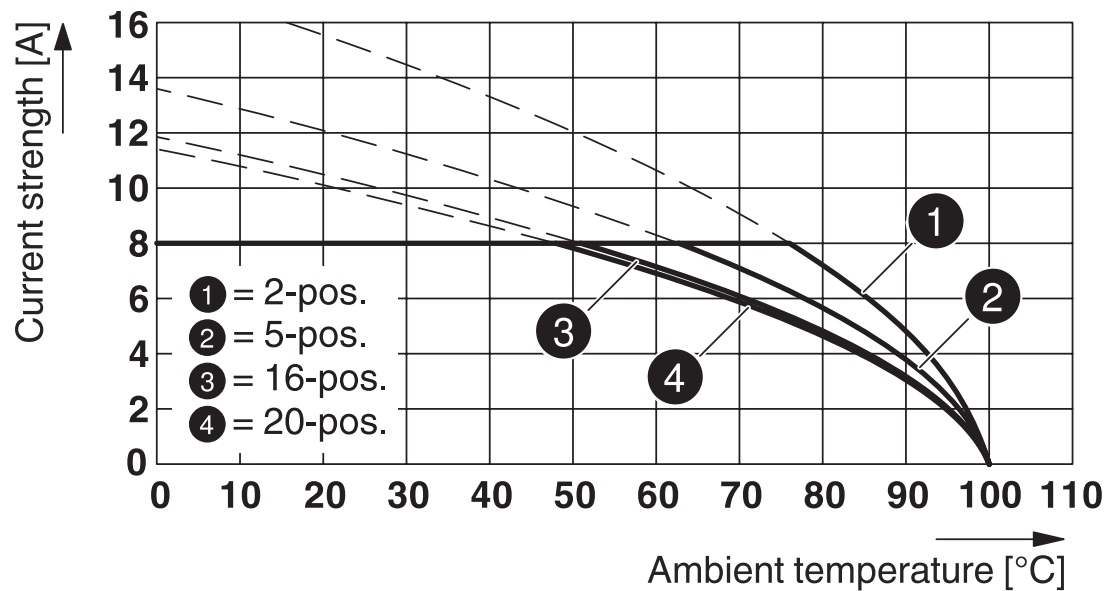
Type: FMC 1,5/...-ST-3,5-RF with MCV 1,5/...-G-3,5-RN P...THRR...



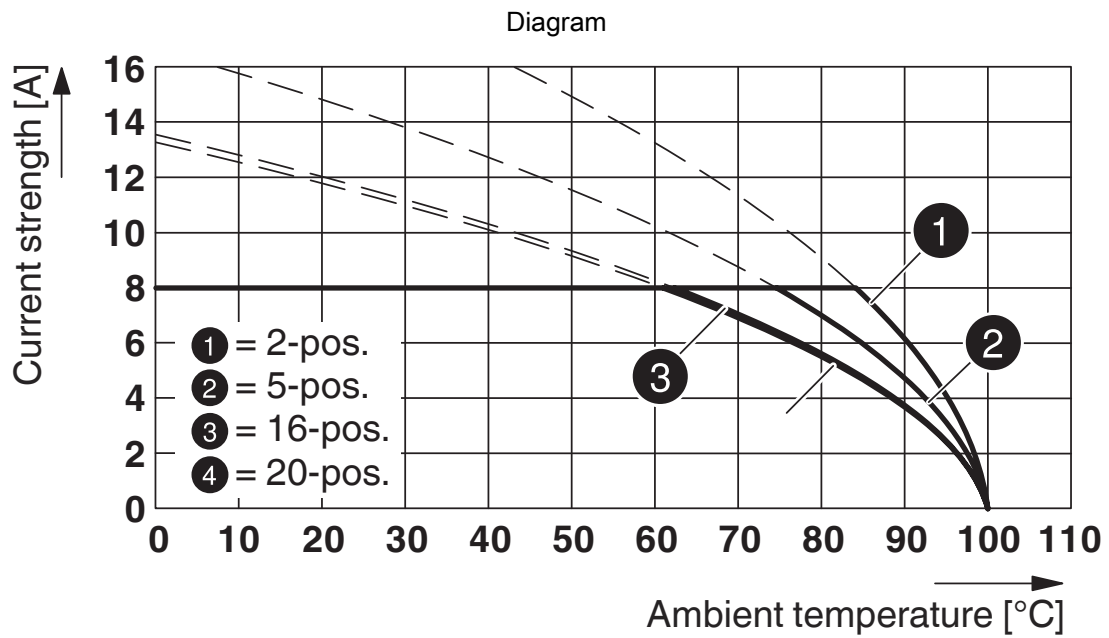
Dimensional drawing



Diagram



Type: FMC 1,5/...-ST-3,5-RF with MCDN 1,5/...-G1-3,5 RNP..THR



Type: FMC 1,5/...-ST-3,5-RF with MCDNV 1,5/...-G1-3,5 RNP...THR

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector





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## Approvals

 <b>IECEE CB Scheme</b> Approval ID: DE1-60987-B1B2				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	160 V	8 A	-	0.2 - 1.5

 <b>EAC</b> Approval ID: B.01687				
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 <b>cULus Recognized</b> Approval ID: E60425-19920306				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	150 V	8 A	24 - 16	-
	50 V	8 A	24 - 16	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40011723				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	160 V	8 A	-	0.2 - 1.5

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board 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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## Environmental Product Compliance

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

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## Accessories

### SK U/2,8 WH:UNBEDRUCKT - Marker card

0803883

<https://www.phoenixcontact.com/in/products/0803883>



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 2.8 mm, Number of individual labels: 3600

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### B-STIFT - Marker pen

1051993

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



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

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## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/in/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 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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

1205037

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



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

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## A 0,25- 5 - Ferrule

3202465

<https://www.phoenixcontact.com/in/products/3202465>



Ferrule, length: 5 mm, color: silver

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## A 0,25- 7 - Ferrule

3202478

<https://www.phoenixcontact.com/in/products/3202478>



Ferrule, length: 7 mm, color: silver



# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## A 0,34- 7 - Ferrule

3009202

<https://www.phoenixcontact.com/in/products/3009202>



Ferrule, length: 7 mm, color: silver

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## A 0,5 - 8 - Ferrule

3202481

<https://www.phoenixcontact.com/in/products/3202481>



Ferrule, length: 8 mm, color: silver

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## A 0,5 -10 - Ferrule

3202494

<https://www.phoenixcontact.com/in/products/3202494>



Ferrule, length: 10 mm, color: silver

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## A 0,75- 8 - Ferrule

3202504

<https://www.phoenixcontact.com/in/products/3202504>



Ferrule, length: 8 mm, color: silver

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## A 0,75-10 - Ferrule

3200234

<https://www.phoenixcontact.com/in/products/3200234>



Ferrule, length: 10 mm, color: silver

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## A 1 - 8 - Ferrule

3202517

<https://www.phoenixcontact.com/in/products/3202517>



Ferrule, length: 8 mm, color: silver

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## A 1 -10 - Ferrule

3200250

<https://www.phoenixcontact.com/in/products/3200250>



Ferrule, length: 10 mm, color: silver

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## A 1,5 -10 - Ferrule

3200276

<https://www.phoenixcontact.com/in/products/3200276>



Ferrule, length: 10 mm, color: silver

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## AI 0,14- 8 GY -1000 - Ferrule

3203011

<https://www.phoenixcontact.com/in/products/3203011>



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: gray

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## AI 0,34- 8 TQ - Ferrule

3203066

<https://www.phoenixcontact.com/in/products/3203066>



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: turquoise

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## AI 0,34-10 TQ - Ferrule

3241129

<https://www.phoenixcontact.com/in/products/3241129>



Ferrule, sleeve length: 10 mm, length: 14.5 mm, color: turquoise

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## AI 0,5 - 8 WH - Ferrule

3200014

<https://www.phoenixcontact.com/in/products/3200014>



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## AI 0,5 -10 WH - Ferrule

3201275

<https://www.phoenixcontact.com/in/products/3201275>



Ferrule, sleeve length: 10 mm, length: 16 mm, color: white

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## AI 0,75- 8 GY - Ferrule

3200519

<https://www.phoenixcontact.com/in/products/3200519>



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

# FMC 1,5/ 8-ST-3,5-RF - Printed-circuit board connector



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## AI 0,75-10 GY - Ferrule

3201288

<https://www.phoenixcontact.com/in/products/3201288>



Ferrule, sleeve length: 10 mm, length: 16 mm, color: gray

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## AI 0,25- 8 YE - Ferrule

3203037

<https://www.phoenixcontact.com/in/products/3203037>



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: yellow

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