

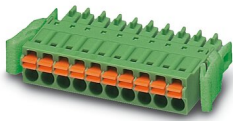
Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



1952160

<https://www.phoenixcontact.com/us/products/1952160>

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 16, number of rows: 1, number of positions: 16, number of connections: 16, product range: FMC 1,5/...-ST-RF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, 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

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



1952160

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Commercial Data

Item number	1952160
Packing unit	1 pc
Minimum order quantity	50 pc
Sales Key	A01
Product Key	AABFAC
Catalog Page	Page 201 (C-1-2013)
GTIN	4017918942809
Weight per Piece (including packing)	9.56 g
Weight per Piece (excluding packing)	8.894 g
Customs tariff number	85366990
Country of origin	DE

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1952160

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Technical Data

Product properties

Type	Standard
Product line	COMBICON Connectors S
Product type	PCB plug
Number of positions	16
Pitch	3.5 mm
Number of connections	16
Number of rows	1
Mounting flange	Self-locking flange
Number of potentials	16

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Pollution degree	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

Connection data

Connection technology

Type	Standard
Connector system	COMBICON MC 1,5
Nominal cross section	1.5 mm ²
Type of contact	Female connector

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 solid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.14 mm ² ... 0.75 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / -

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1952160

<https://www.phoenixcontact.com/us/products/1952160>

Stripping length	10 mm
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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 ² ; Length: 7 mm
	Cross section: 0.34 mm ² ; Length: 7 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 1 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 1.5 mm ² ; 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 ² ; Length: 8 mm
	Cross section: 0.25 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.34 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm ² ; 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

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	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

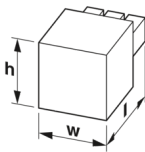
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1952160

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Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	66.1 mm
Height [h]	7.8 mm
Length [l]	22.9 mm
Installed height	7.8 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
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / 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

Polarization and coding

Specification	IEC 60512-13-5:2006-02
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1952160

<https://www.phoenixcontact.com/us/products/1952160>

Result	Test passed
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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 - 60.1 Hz)
Sweep speed	5g (60.1 - 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 mΩ
Contact resistance R_2	2.8 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

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
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1952160

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Insulation resistance, neighboring positions	> 5 MΩ
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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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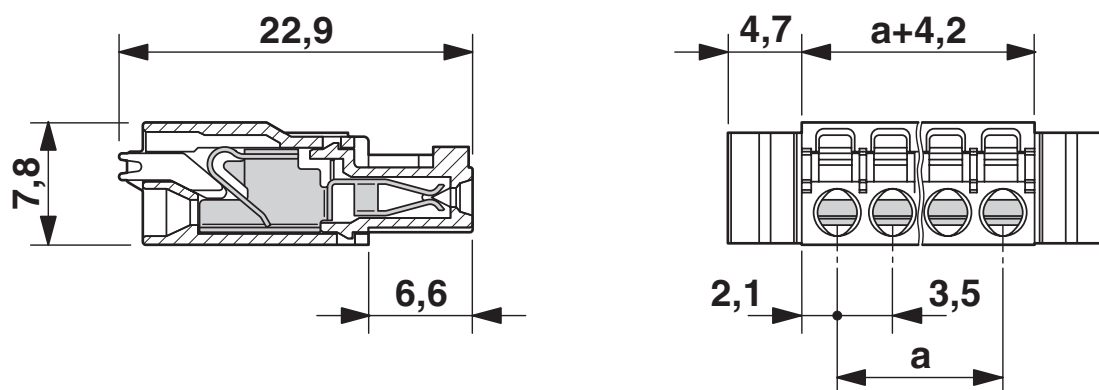
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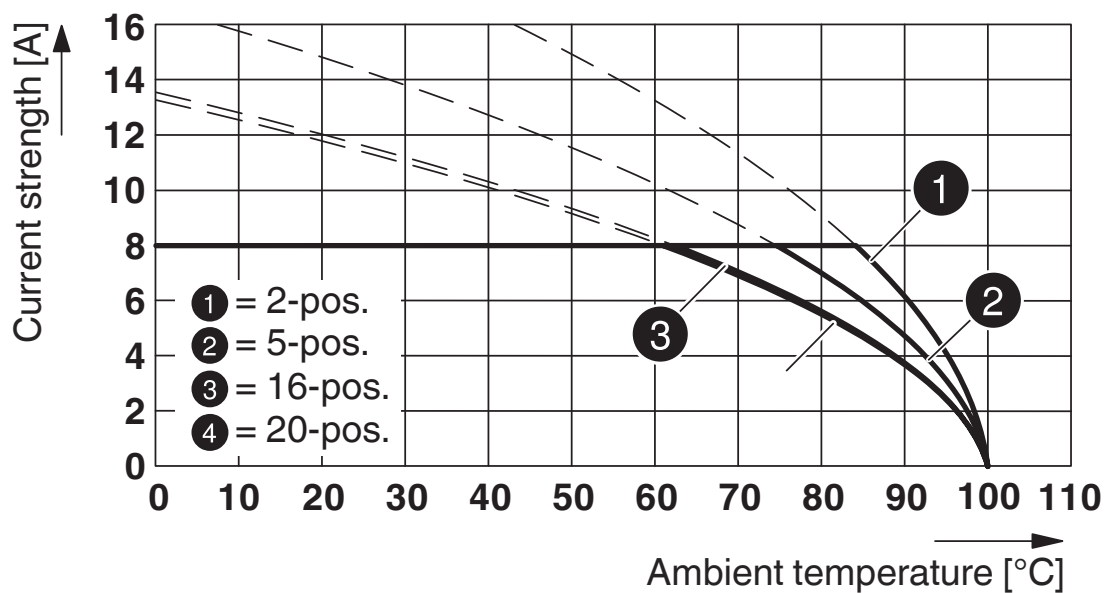
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Drawings

Dimensional drawing



Diagram



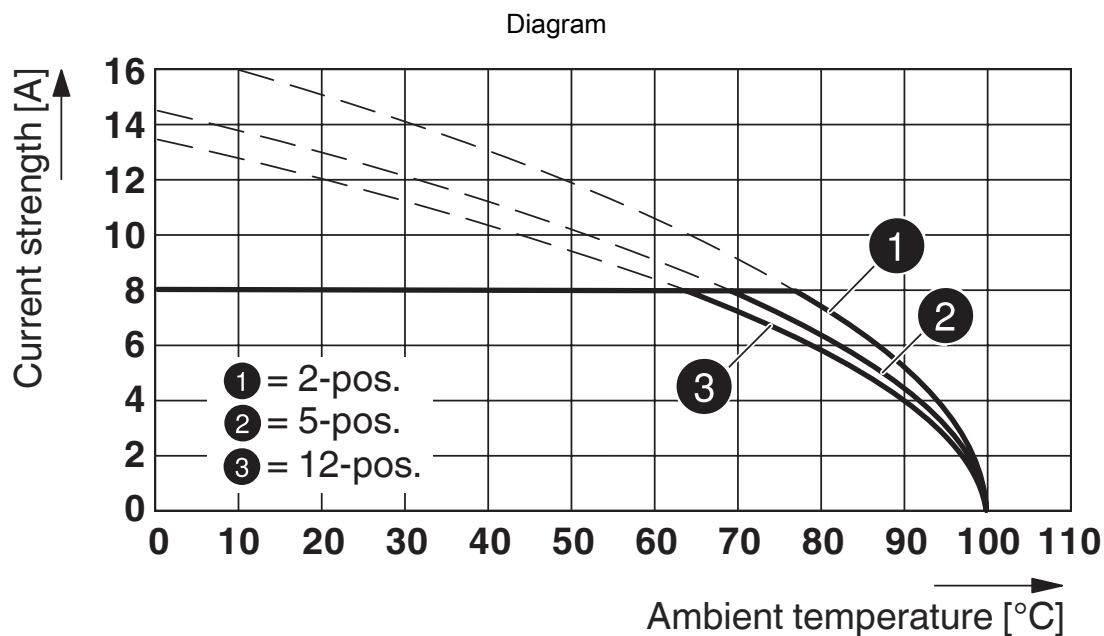
Type: FMC 1,5/...-ST-3,5-RF with MCDNV 1,5/...-G1-3,5 RNP...THR

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF

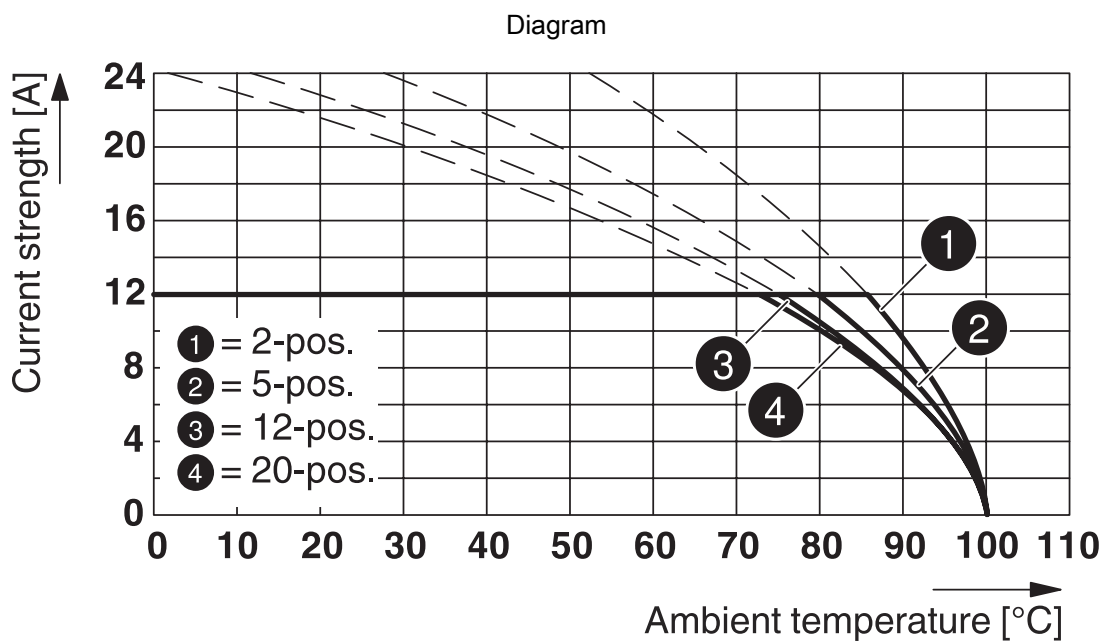


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Type: FMC 1,5/...-ST-3,5-RF with IFMC 1,5/...-ST-3,5-RN



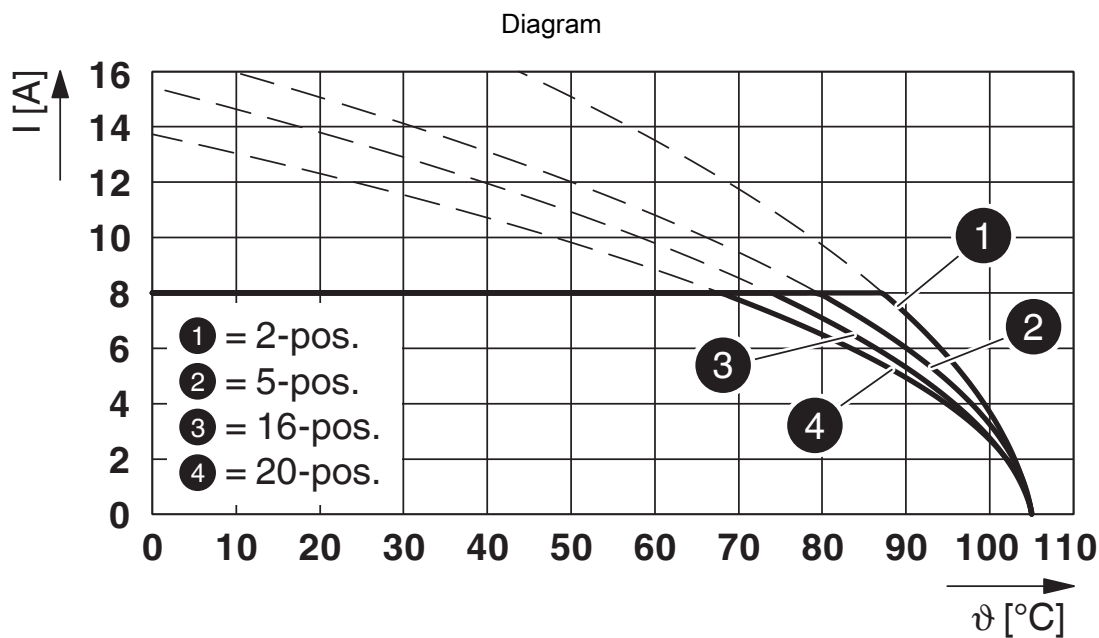
Type: FMC 1,5/...-ST-3,5-RF with MCV 1,5/...-G-3,5-RN

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF

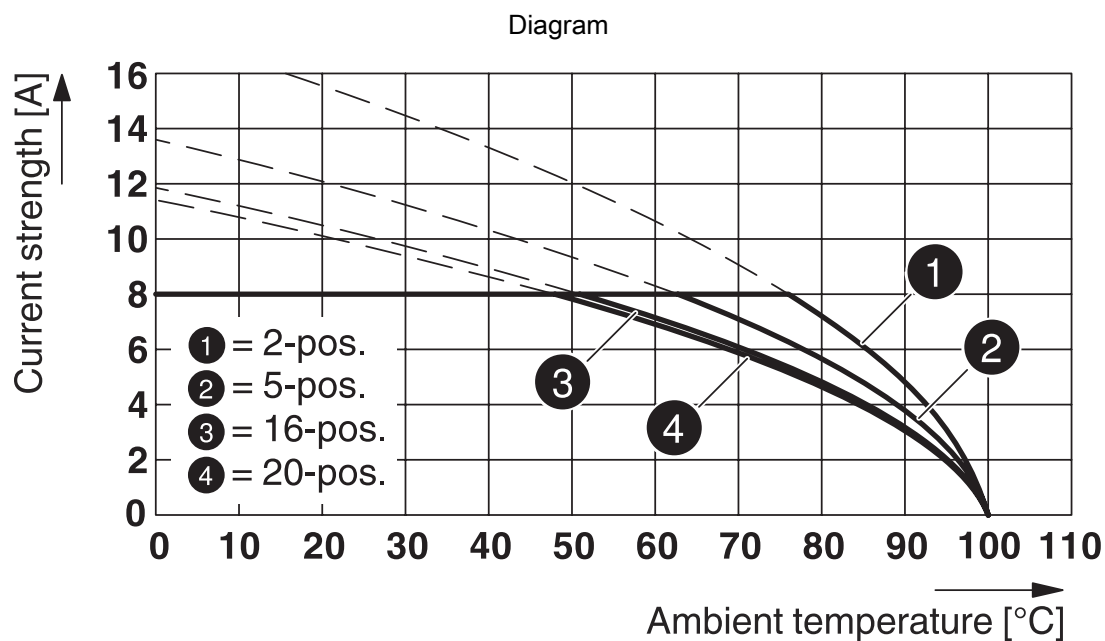


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Type: FMC 1,5/...-ST-3,5-RF with MC 1,5/...-G-3,5-RN



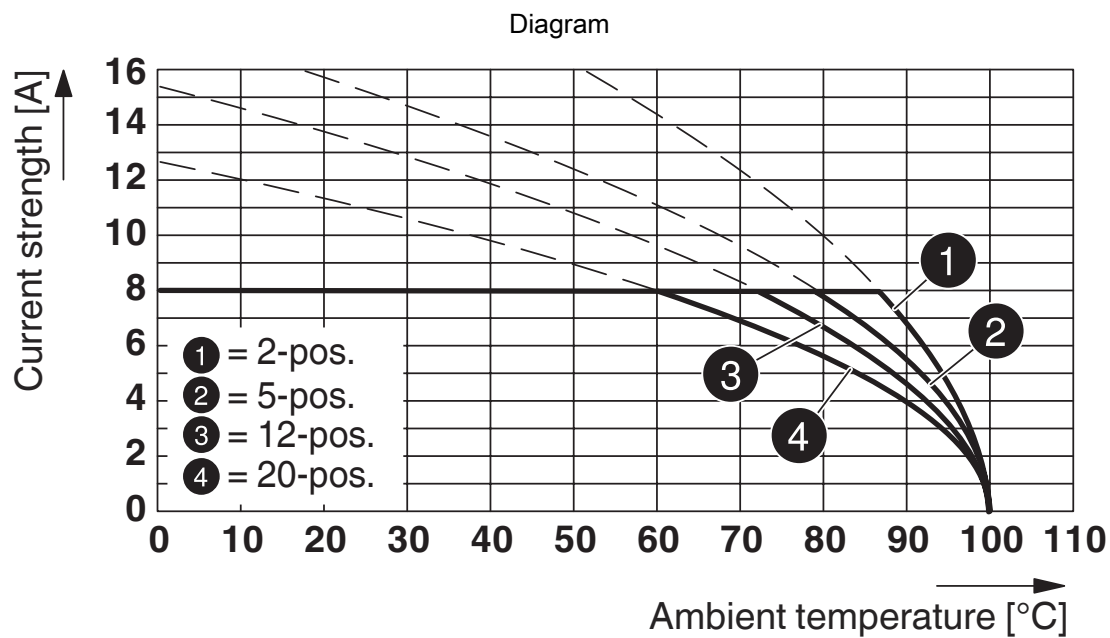
Type: FMC 1,5/...-ST-3,5-RF with MCDN 1,5/...-G1-3,5 RNP..THR

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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

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Approvals

	IECEE CB Scheme Approval ID: DE1-60987-B1B2			
	Nominal Voltage U _N	Nominal Current I _N	Cross Section AWG	Cross Section mm ²
	160 V	8 A	-	0.2 - 1.5

	EAC Approval ID: B.01687
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	cULus Recognized Approval ID: E60425-19920306			
	Nominal Voltage U _N	Nominal Current I _N	Cross Section AWG	Cross Section mm ²
	Use group B			
	150 V	8 A	24 - 16	-
	Use group C			
	Factory wiring	50 V	8 A	24 - 16

	VDE report with production monitoring Approval ID: 40011723			
	Nominal Voltage U _N	Nominal Current I _N	Cross Section AWG	Cross Section mm ²
	160 V	8 A	-	0.2 - 1.5

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Classifications

ECLASS

ECLASS-9.0	27440309
ECLASS-10.0.1	27440309
ECLASS-11.0	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

Marker card

Marker card - SK U/2,8 WH:UNBEDRUCKT - 0803883

<https://www.phoenixcontact.com/us/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

Marker pen

Marker pen - B-STIFT - 1051993

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



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

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

<https://www.phoenixcontact.com/us/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 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Screwdriver

Screwdriver - SZS 0,4X2,5 VDE - 1205037

<https://www.phoenixcontact.com/us/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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Ferrule

Ferrule - A 0,25- 5 - 3202465

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

Ferrule, length: 5 mm, color: silver



Ferrule

Ferrule - A 0,25- 7 - 3202478

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

Ferrule, length: 7 mm, color: silver



Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - A 0,34- 7 - 3009202

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

Ferrule, length: 7 mm, color: silver



Ferrule

Ferrule - A 0,5 - 8 - 3202481

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

Ferrule, length: 8 mm, color: silver



Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - A 0,5 -10 - 3202494

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



Ferrule, length: 10 mm, color: silver

Ferrule

Ferrule - A 0,75- 8 - 3202504

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



Ferrule, length: 8 mm, color: silver

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - A 0,75-10 - 3200234

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



Ferrule, length: 10 mm, color: silver

Ferrule

Ferrule - A 1 - 8 - 3202517

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



Ferrule, length: 8 mm, color: silver

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - A 1 -10 - 3200250

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



Ferrule, length: 10 mm, color: silver

Ferrule

Ferrule - A 1,5 -10 - 3200276

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



Ferrule, length: 10 mm, color: silver

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - Al 0,14- 8 GY -1000 - 3203011

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



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

Ferrule

Ferrule - Al 0,34- 8 TQ - 3203066

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



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

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - Al 0,34-10 TQ - 3241129

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



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

Ferrule

Ferrule - Al 0,5 - 8 WH - 3200014

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



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

Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - Al 0,5 -10 WH - 3201275

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

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



Ferrule

Ferrule - Al 0,75- 8 GY - 3200519

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

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



Printed-circuit board connector - FMC 1,5/16-ST-3,5-RF



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Ferrule

Ferrule - Al 0,75-10 GY - 3201288

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

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



Ferrule

Ferrule - Al 0,25- 8 YE - 3203037

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

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



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