

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

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: 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: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: FRONT-MC 1,5/..-ST, pitch: 3.81 mm, connection method: Front screw connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Optimized for tight installation situations: operation and conductor connection from one direction

Commercial Data

Item number	1712670
Packing unit	50 pc
Minimum order quantity	1 pc
Product Key	AABALA
GTIN	4055626291796
Weight per Piece (including packing)	11.39 g
Weight per Piece (excluding packing)	11.39 g
Customs tariff number	85366990
Country of origin	DE

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

Technical Data

Product properties

Product line	COMBICON Connectors S
Product type	PCB plug
Product family	FRONT-MC 1,5/...-ST
Number of positions	9
Pitch	3.81 mm
Number of connections	9
Number of rows	1
Number of potentials	9
Solder pins per potential	1

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	1.6 m Ω
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
	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 ²
Type of contact	Female connector

Interlock

Locking type	without
Mounting flange	without

Conductor connection

Connection method	Front screw connection
Conductor/PCB connection direction	0 °
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

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	0.25 mm ² ... 0.5 mm ²
2 conductors with same cross section, solid	0.14 mm ² ... 0.5 mm ²
2 conductors with same cross section, flexible	0.14 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.34 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 0.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	9 mm
Tightening torque	0.22 Nm ... 0.25 Nm

Specifications for ferrules without insulating collar

ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm ² ; Length: 7 mm ... 9 mm
	Cross section: 0.34 mm ² ; Length: 7 mm ... 9 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 9 mm
	Cross section: 0.75 mm ² ; Length: 8 mm ... 9 mm
	Cross section: 1 mm ² ; Length: 8 mm ... 9 mm
	Cross section: 1.5 mm ² ; Length: 9 mm

Specifications for ferrules with insulating collar

ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.25 mm ² ; Length: 8 mm ... 9 mm
	Cross section: 0.34 mm ² ; Length: 8 mm ... 9 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 9 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

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

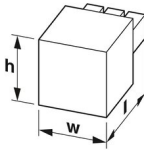
<https://www.phoenixcontact.com/pc/products/1712670>

Temperature for the ball pressure test according to EN 60695-10-2	125 °C
---	--------

Material data – actuating element

Color ()	()
----------	----

Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	35.08 mm
Height [h]	12.3 mm
Length [l]	21.7 mm

Mechanical tests

Test for conductor damage and slackening

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	0.14 mm ² / solid / > 10 N
	0.14 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.	7 N
Withdraw strength per pos. approx.	5 N

Torque test

Specification	IEC 60999-1:1999-11
---------------	---------------------

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
---------------	------------------------

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

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_1	1.6 m Ω
Contact resistance R_2	1.7 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

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

Specification	IEC 60512-5-1:2002-02
Tested number of positions	20

Insulation resistance

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

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
-------------------	---------------------

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector

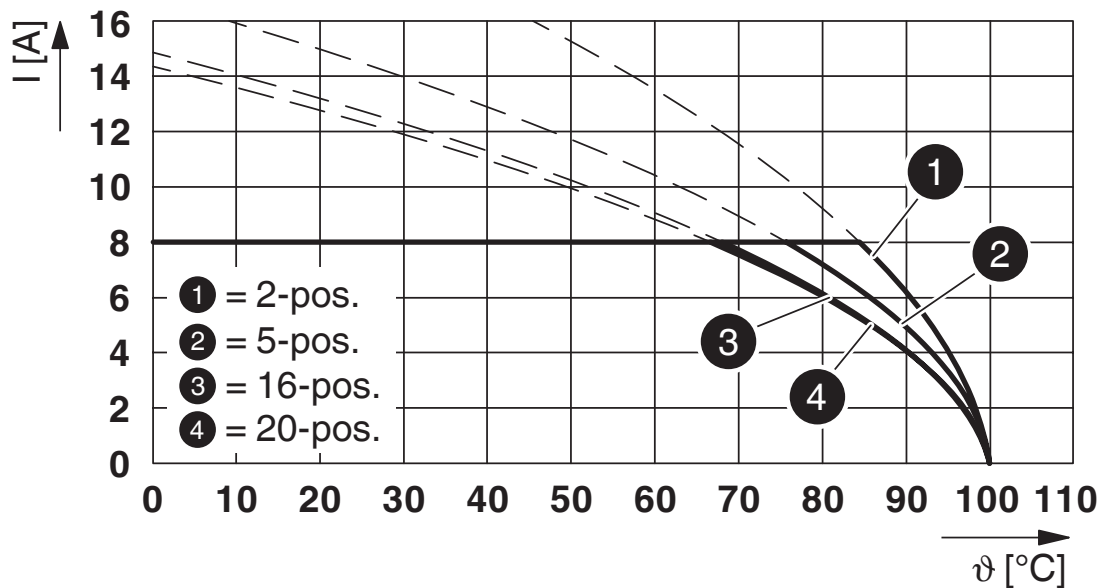


1712670

<https://www.phoenixcontact.com/pc/products/1712670>

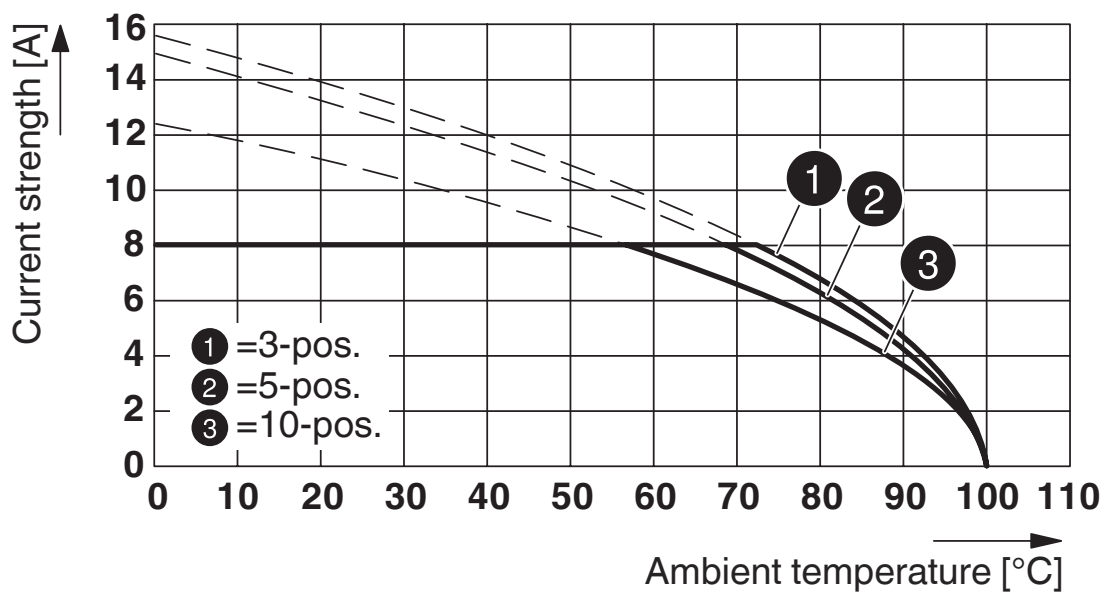
Drawings

Diagram



Type: FRONT-MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81

Diagram



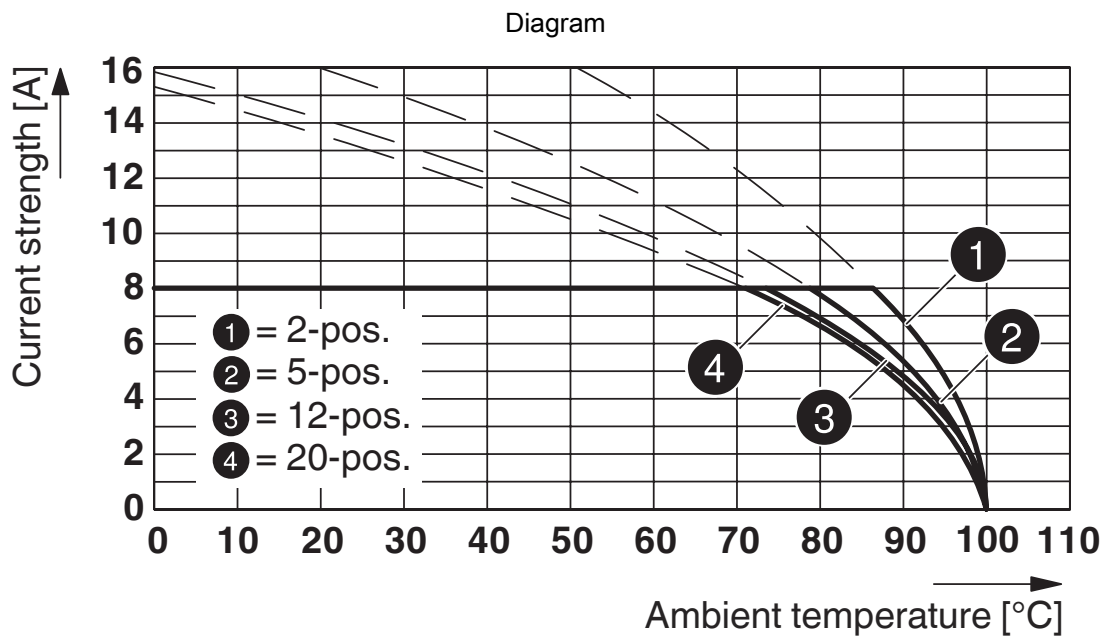
Type: FRONT-MC 1,5/...-ST-3,81 with MCO 1,5/...-GR-3,81

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector

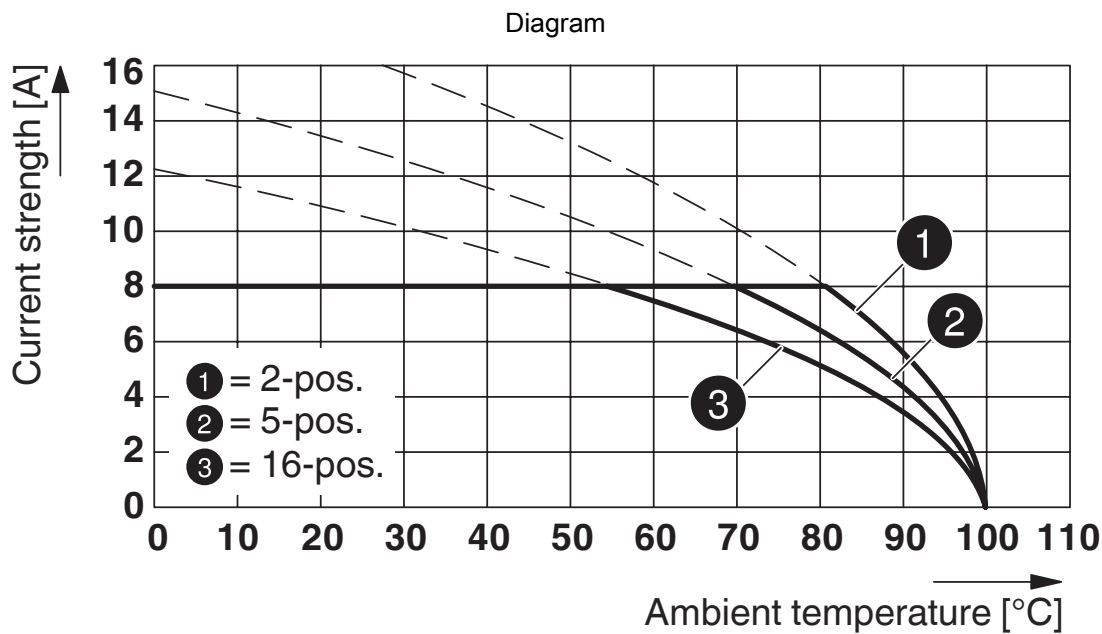


1712670

<https://www.phoenixcontact.com/pc/products/1712670>



Type: FRONT-MC 1,5/...-ST-3,81 with MCV 1,5/...-G-3,81



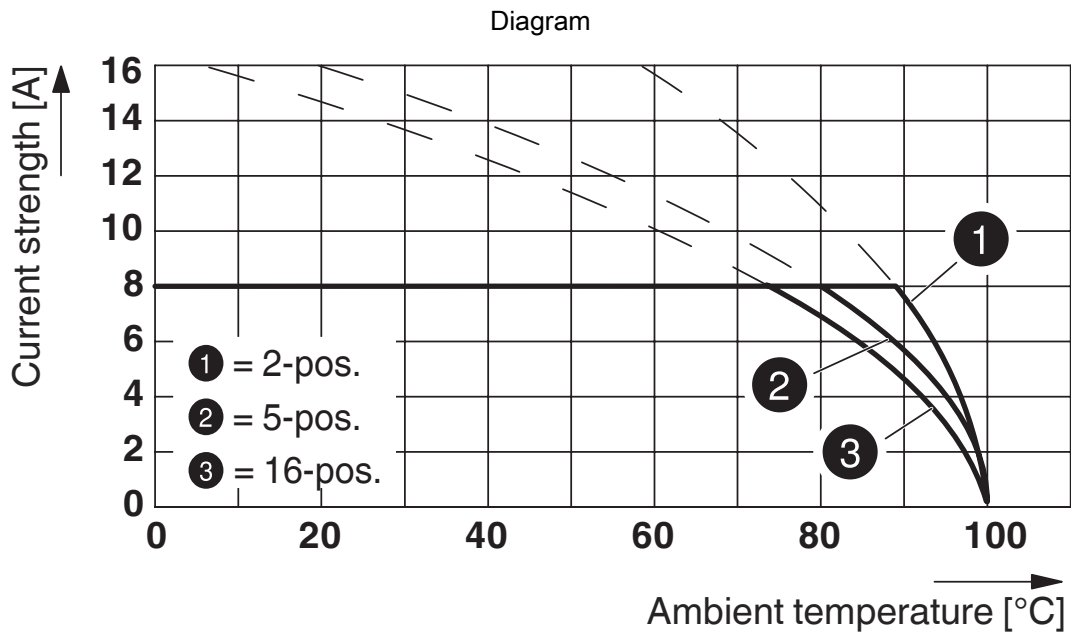
Type: FRONT-MC 1,5/...-ST-3,81 with MCDV 1,5/...-G1-3,81

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector

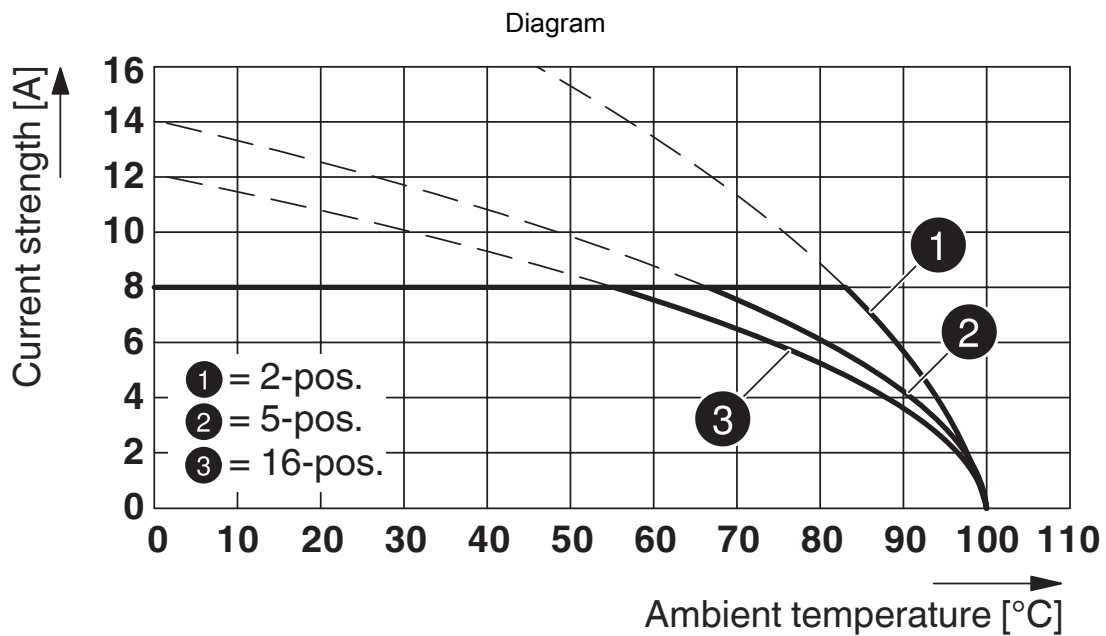


1712670

<https://www.phoenixcontact.com/pc/products/1712670>



Type: FRONT-MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81



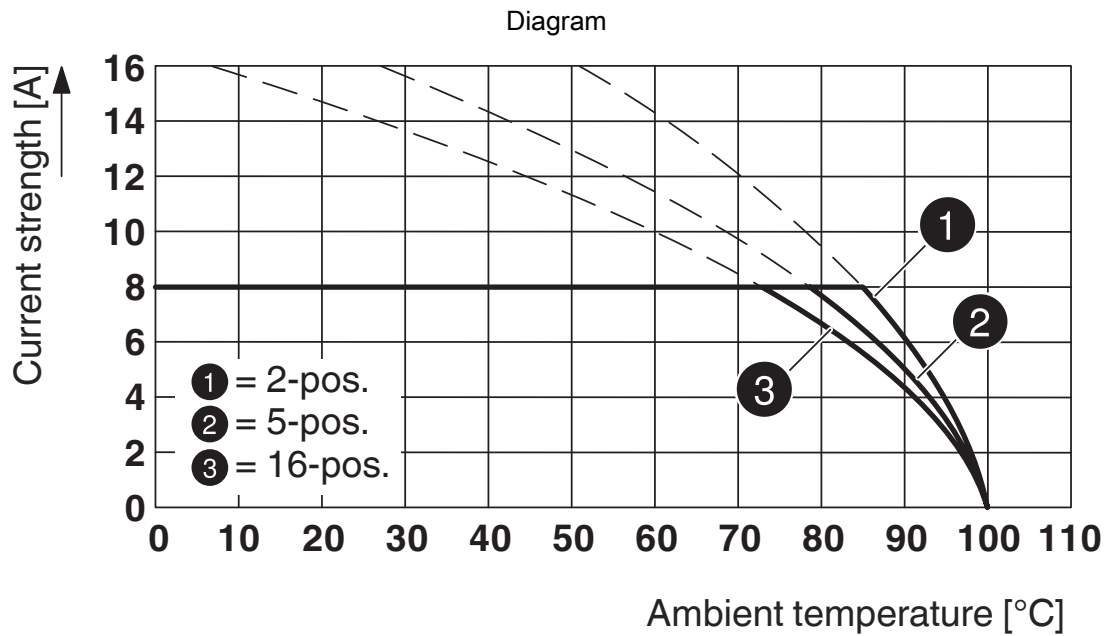
Type: FRONT-MC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector

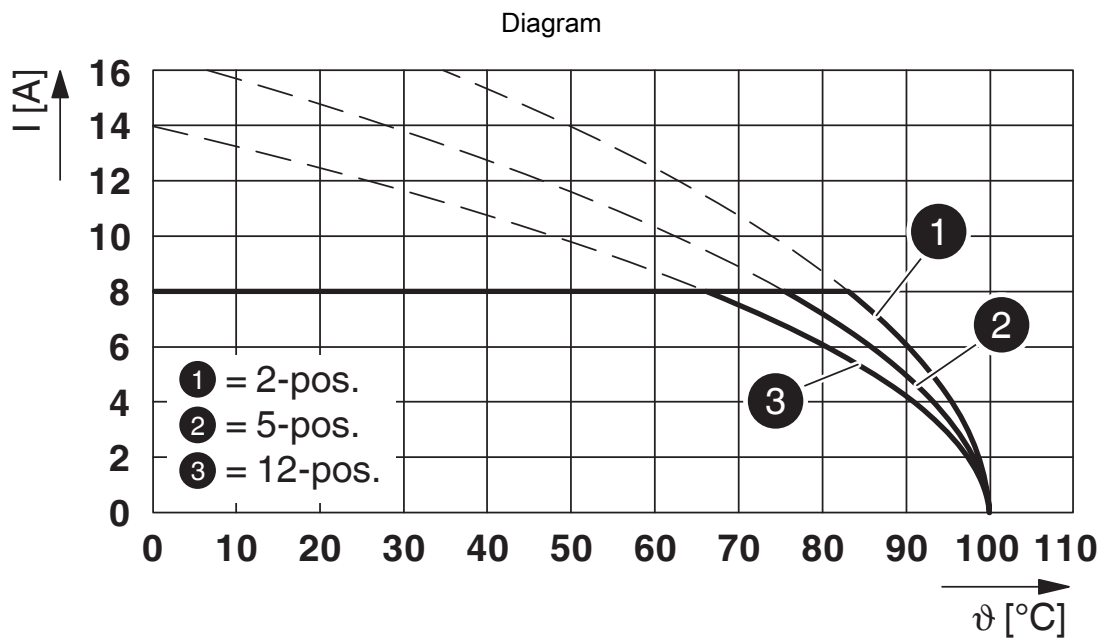


1712670

<https://www.phoenixcontact.com/pc/products/1712670>



Type: FRONT-MC 1,5/...-ST-3,81 with IMC 1,5/...-ST-3,81



Type: FRONT-MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81 P... THR


FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector





1712670


<https://www.phoenixcontact.com/pc/products/1712670>


Approvals

 CSA Approval ID: 13631				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B	300 V	8 A	28 - 16	-
Use group D	300 V	8 A	28 - 16	-

 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				
--	--	--	--	--

 cULus Recognized Approval ID: E60425-20110128				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B	300 V	8 A	30 - 16	-
Use group D	300 V	8 A	30 - 16	-

 VDE Zeichengenehmigung Approval ID: 40011723				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	8 A	-	-

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002638
----------	----------

UNSPSC

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

FRONT-MC 1,5/ 9-ST-3,81BD2S9X1 - Printed-circuit board connector



1712670

<https://www.phoenixcontact.com/pc/products/1712670>

Environmental Product Compliance

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

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com

单击下面可查看定价，库存，交付和生命周期等信息

[>>Phoenix Contact\(菲尼克斯\)](#)