MC 1,5/18-STF-3,81 - PCB connector

1848478

https://www.phoenixcontact.com/us/products/1848478

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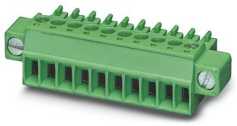

PCB connector, nominal cross section: 1.5 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 18, number of rows: 1, number of positions: 18, number of connections: 18, product range: MC 1,5/.. -STF, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Screwable flange for superior mechanical stability

Commercial data

Item number	1848478
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABABB
Catalog page	Page 83 (CC-2005)
GTIN	4017918102845
Weight per piece (including packing)	13.93 g
Weight per piece (excluding packing)	13.469 g
Customs tariff number	85366990
Country of origin	US

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Technical data

Product properties

Product type	PCB connector
Product family	MC 1,5/..-STF
Product line	COMBICON Connectors S
Type	Standard
Number of positions	18
Pitch	3.81 mm
Number of connections	18
Number of rows	1
Number of potentials	18
Mounting flange	Screw flange

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Contact resistance	1.3 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 mm²
Contact connection type	Socket

Interlock

Locking type	Screw locking mechanism
Mounting flange	Screw flange
Tightening torque	0.3 Nm

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.14 mm² ... 1.5 mm²
Conductor cross section flexible	0.14 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Conductor cross section flexible, with ferrule without plastic	0.25 mm² ... 1.5 mm²

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sleeve	
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 0.75 mm²
2 conductors with same cross section, solid	0.08 mm² ... 0.5 mm²
2 conductors with same cross section, flexible	0.08 mm² ... 0.75 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.34 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 0.5 mm²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	7 mm
Drive form screw head	Slotted (L)
Tightening torque	0.22 Nm ... 0.25 Nm

Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6

Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6

Material specifications

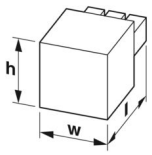
Material data - contact

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

Dimensions

Dimensional drawing	

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Pitch	3.81 mm
Width [w]	78.97 mm
Height [h]	11.1 mm
Length [l]	16.1 mm

Mounting

Flange

Tightening torque	0.3 Nm

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 mm² / solid / > 7 N
	0.14 mm² / flexible / > 7 N
	1.5 mm² / solid / > 40 N
	1.5 mm² / flexible / > 40 N

Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N

Torque test

Specification	IEC 60999-1:1999-11

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

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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)
Acceleration	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	1.3 mΩ
Contact resistance R_2	1.5 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

Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

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	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

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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
Note on connection cross section	With connected conductor 1.5 mm² (solid).
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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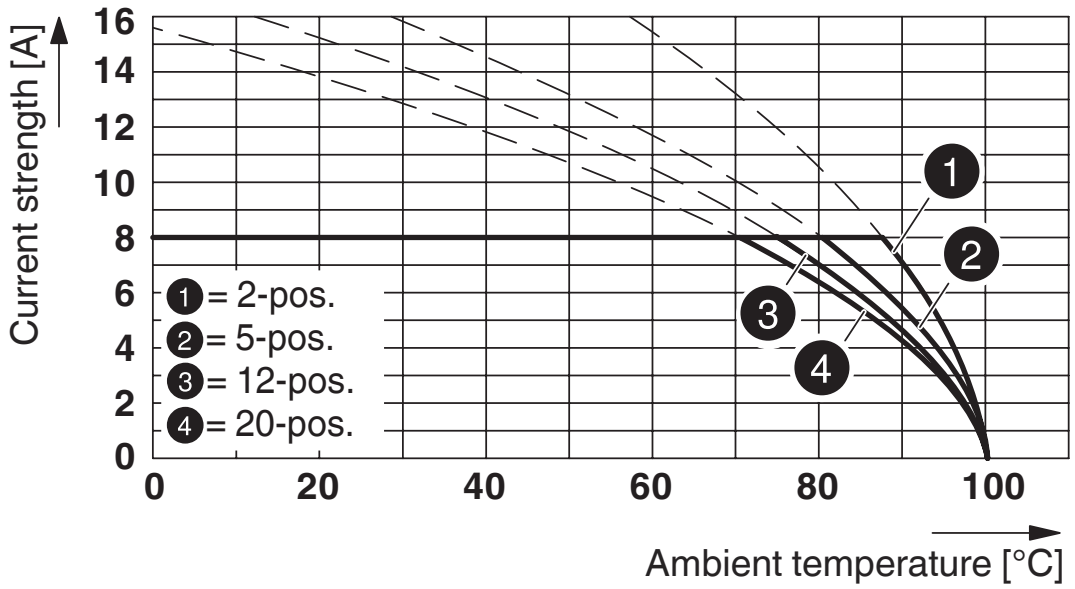
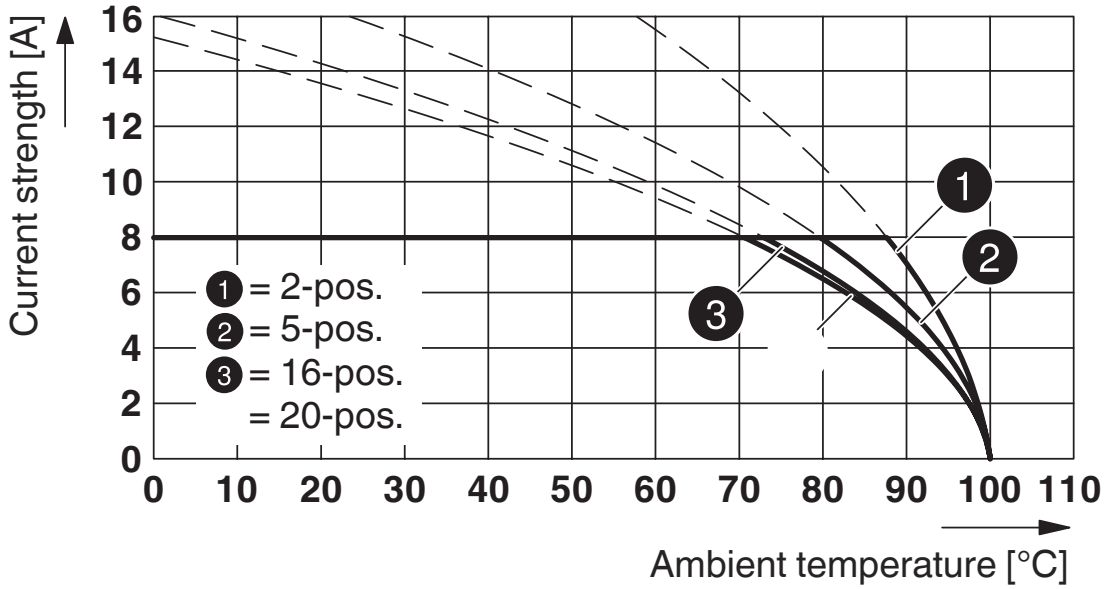
Drawings

Diagram



Type: MC 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81

Diagram



Type: MC 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81 P26THR

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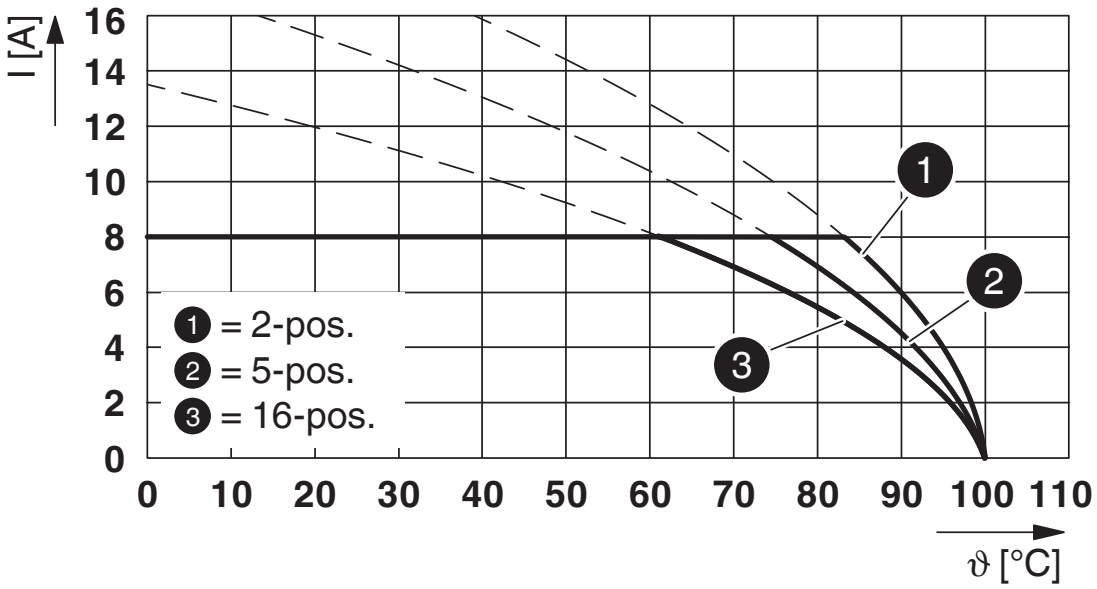
Diagram



Type: MC 1,5/...-STF-3,81 with MCD 1,5/...-GF-3,81

Dimensional drawing

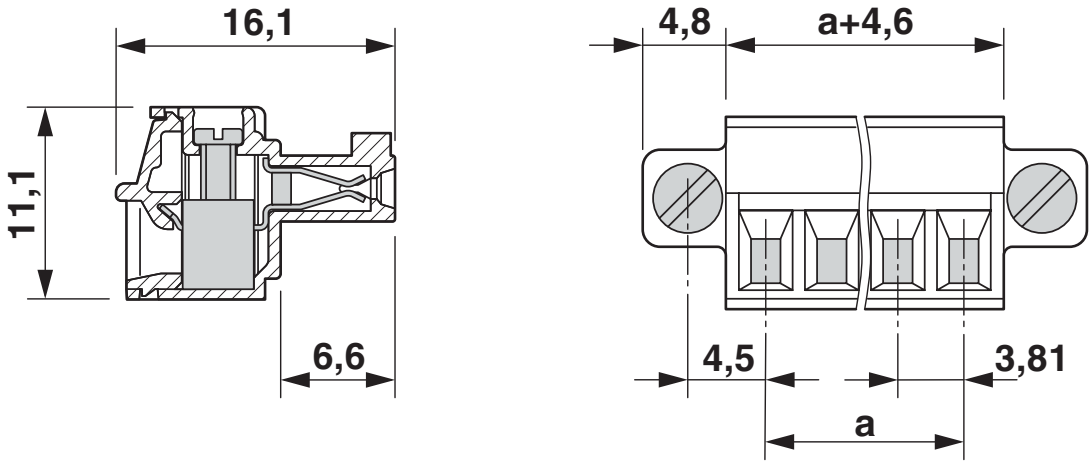


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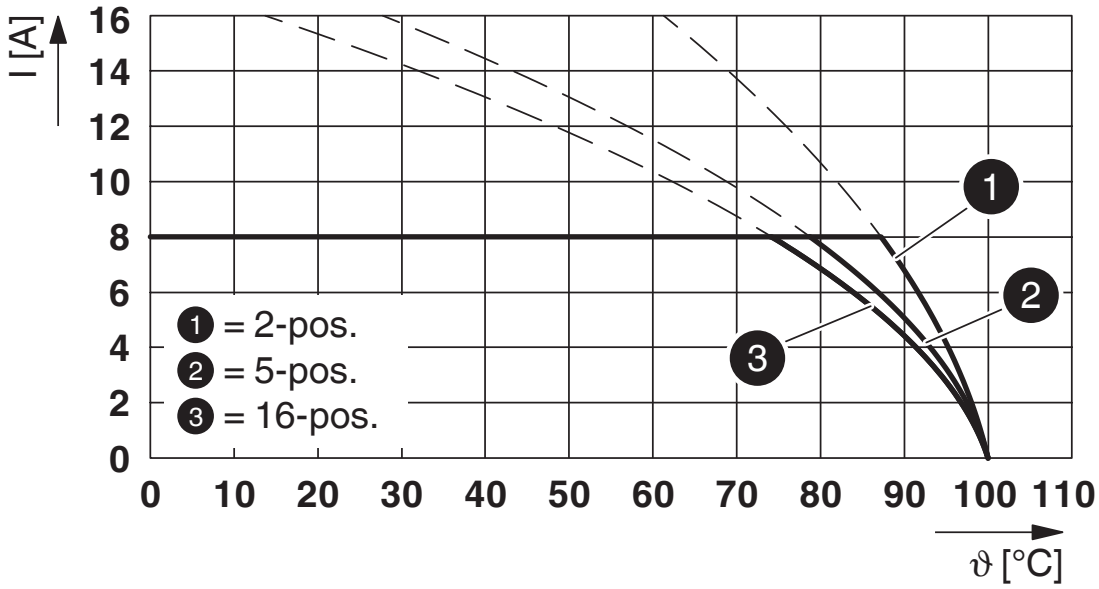
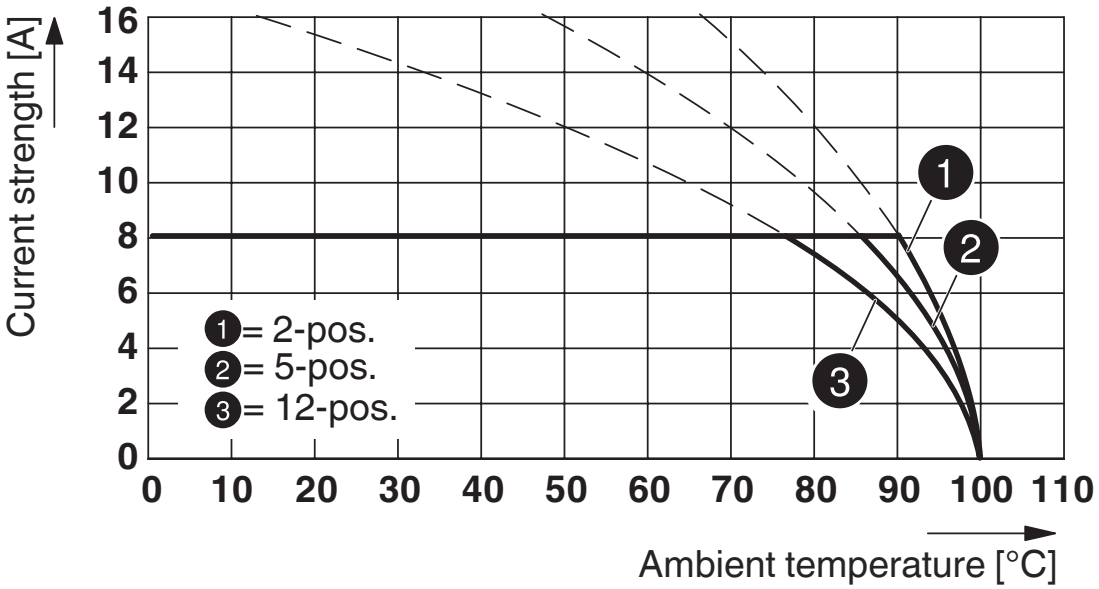
Diagram



Type: MC 1,5/...-STF-3,81 with SMC 1,5/...-GF-3,81

Diagram



Type: MC 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81 P26 THR

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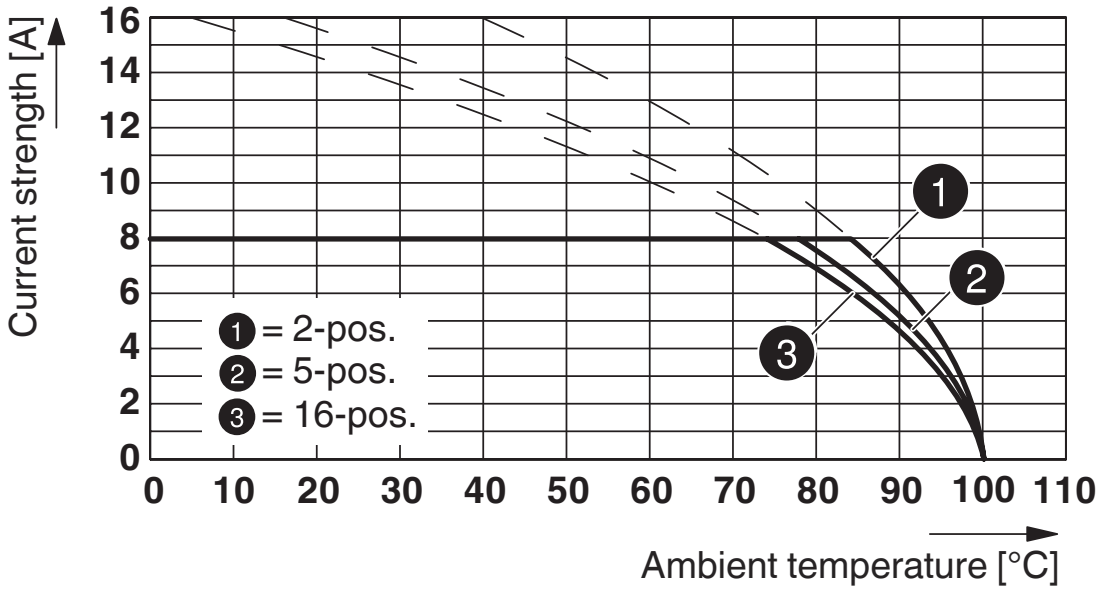
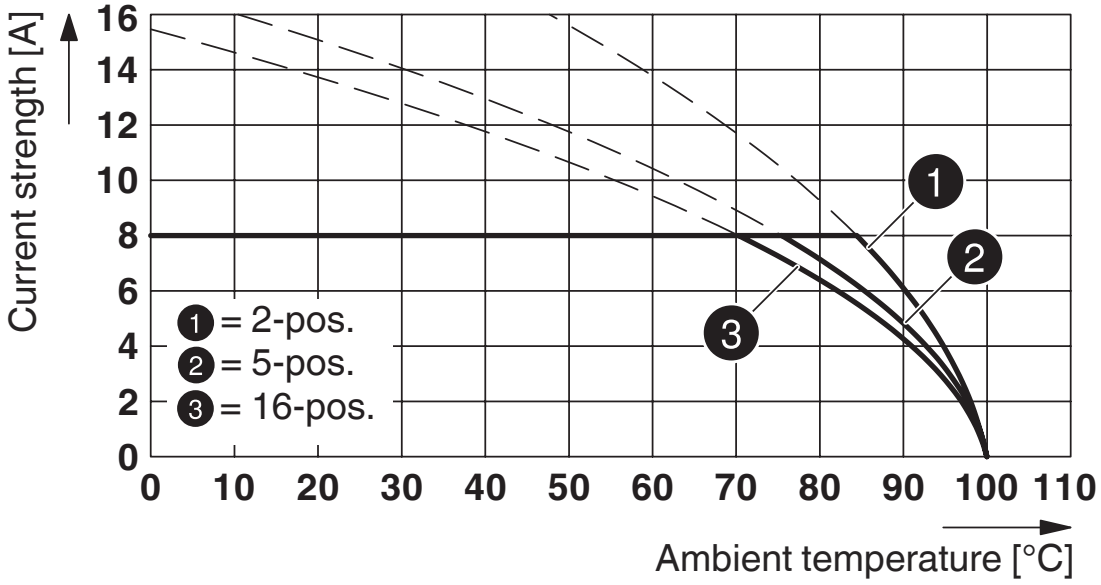
Diagram



Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with solder connection)

Diagram



Type: MC 1,5/...-STF-3,81 with IMC 1,5/...-STGF-3,81

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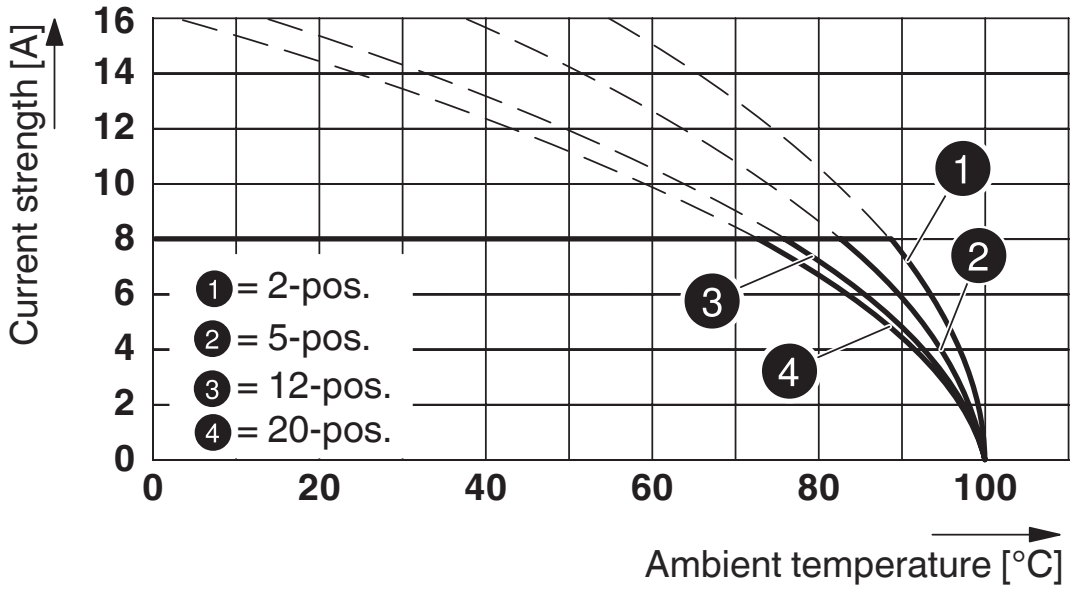
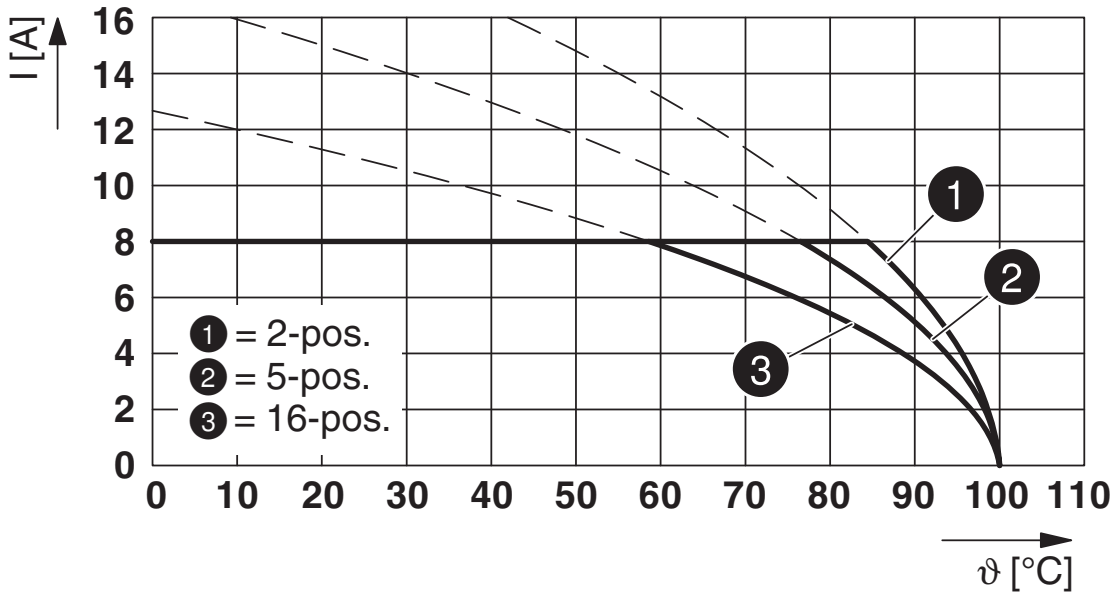
Diagram



Type: MC 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81

Diagram



Type: MC 1,5/...-STF-3,81 with MCDV 1,5/...-GF-3,81

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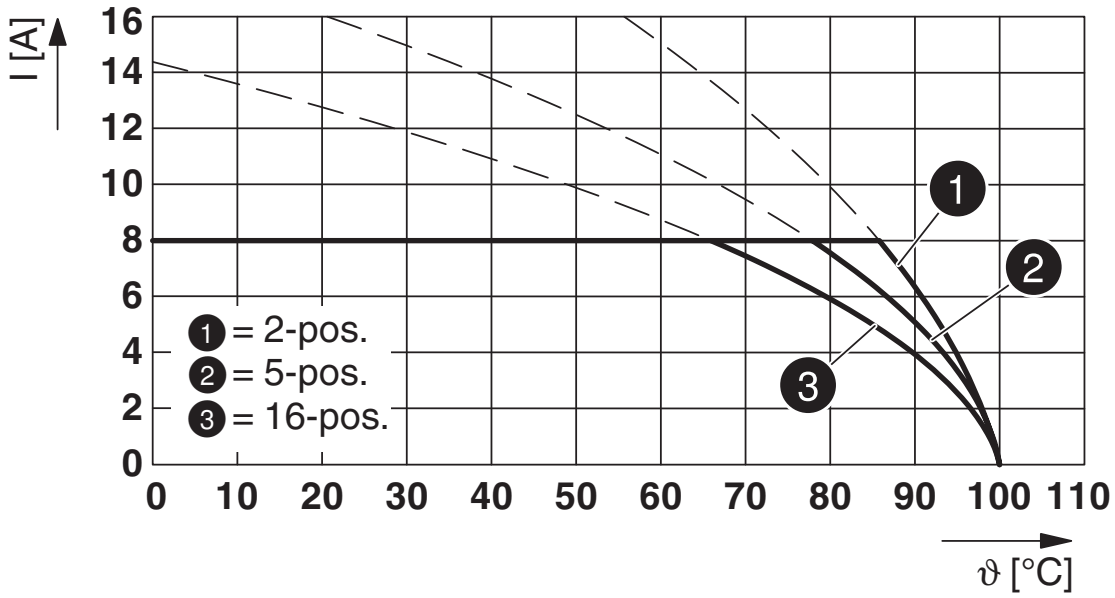
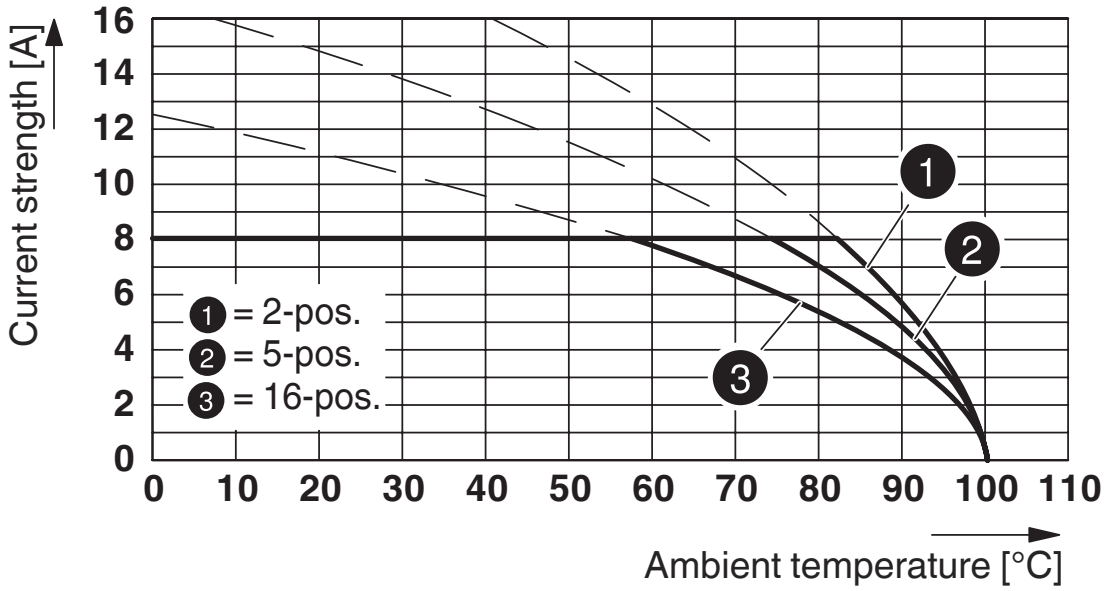
Diagram



Type: MC 1,5/...-STF-3,81 with MCDV 1,5/...-G1F-3,81

Diagram



Type: MC 1,5/...-STF-3,81 with MCD 1,5/...-G1F-3,81

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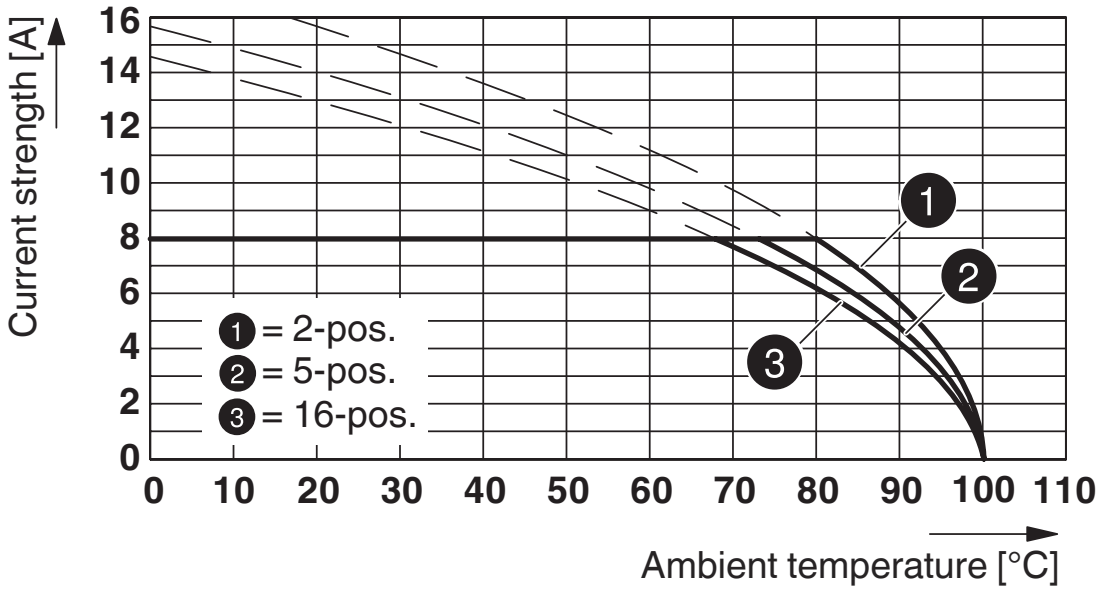
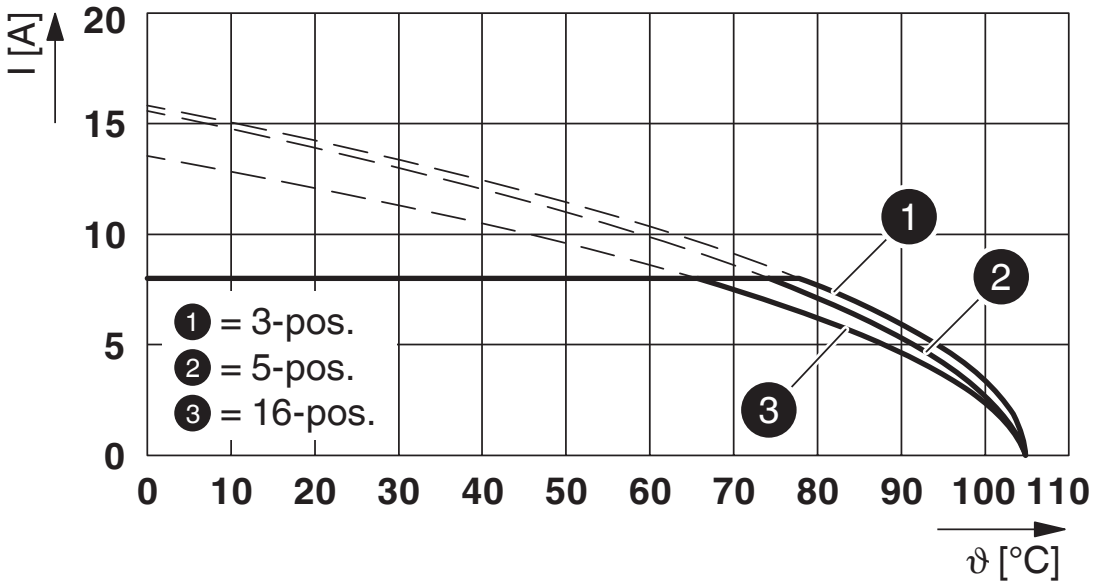
Diagram



Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with flat plug)

Diagram



Type: MC 1,5/...-STF-3,81 with MCVK 1,5/...-GF-3,81

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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1848478

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	-

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 - 14	-
Use group D				
	300 V	8 A	30 - 14	-

VDE Zeichengenehmigung
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

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC002638

UNSPSC

UNSPSC 21.0	39121400

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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%

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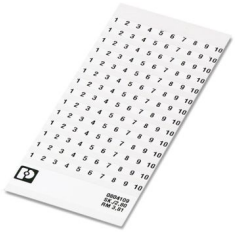
Accessories

SK 3,81/2,8:FORTL.ZAHLEN - Marker card

0804109

https://www.phoenixcontact.com/us/products/0804109



Marker card, Sheet, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm, Number of individual labels: 14

SZS 0,4X2,5 VDE - Screwdriver

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

0803883

https://www.phoenixcontact.com/us/products/0803883

Marker card, Din A4, 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

B-STIFT - Marker pen

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

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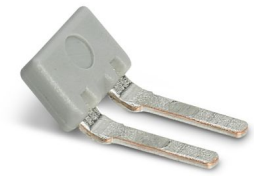
EBPL 2-3,81 - Insertion bridge

1733495

https://www.phoenixcontact.com/us/products/1733495

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch

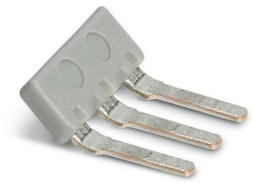


EBPL 3-3,81 - Insertion bridge

1733505

https://www.phoenixcontact.com/us/products/1733505

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch



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EBPL 4-3,81 - Insertion bridge

1733518

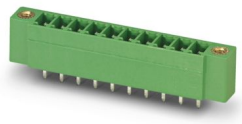
https://www.phoenixcontact.com/us/products/1733518

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch

MCV 1,5/18-GF-3,81 - PCB header

1844948

https://www.phoenixcontact.com/us/products/1844948



PCB headers, nominal cross section: 1.5 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 18, number of rows: 1, number of positions: 18, number of connections: 18, product range: MCV 1,5/..-GF, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

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MC 1,5/18-STF-3,81 - PCB connector

1848478

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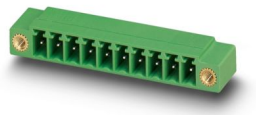
MC 1,5/18-GF-3,81 - PCB header

1848423

https://www.phoenixcontact.com/us/products/1848423



PCB headers, nominal cross section: 1.5 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 18, number of rows: 1, number of positions: 18, number of connections: 18, product range: MC 1,5/..-GF, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

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