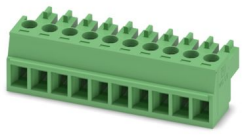
MC 1,5/10-ST-3,81 - PCB connector

1803659

https://www.phoenixcontact.com/pc/products/1803659

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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: Sn, contact connection type: Socket, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MC 1,5/.. -ST, 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: without, mounting method: without, 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

Commercial data

Item number	1803659
Packing unit	50 pc
Minimum order quantity	50 pc
Product key	AABABA
GTIN	4017918045968
Weight per piece (including packing)	7.406 g
Weight per piece (excluding packing)	7.024 g
Customs tariff number	85366990
Country of origin	DE

Technical data

Product properties

Product type	PCB connector
Product family	MC 1,5/..-ST
Product line	COMBICON Connectors S
Type	Standard
Number of positions	10
Pitch	3.81 mm
Number of connections	10
Number of rows	1
Number of potentials	10
Mounting type	without

Electrical properties

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	without
Mounting type	without

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross-section rigid	0.08 mm² ... 1.5 mm²
Conductor cross-section flexible	0.08 mm² ... 1.5 mm²
Conductor cross-section AWG	28 ... 16

Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
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

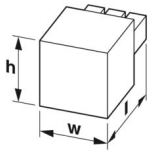
Material data - contact

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	
Pitch	3.81 mm
Width [w]	38.89 mm
Height [h]	11.1 mm
Length [l]	16.1 mm

Notes

Note on application	The 0.08 mm² conductors must be placed in the center of the clamping space when installing them. This must be checked after installation.

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 / > 10 N
	0.14 mm² / flexible / > 10 N
	1.5 mm² / solid / > 40 N
	1.5 mm² / flexible / > 40 N

Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
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

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
Test directions	X-, Y- and Z-axis

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

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 |

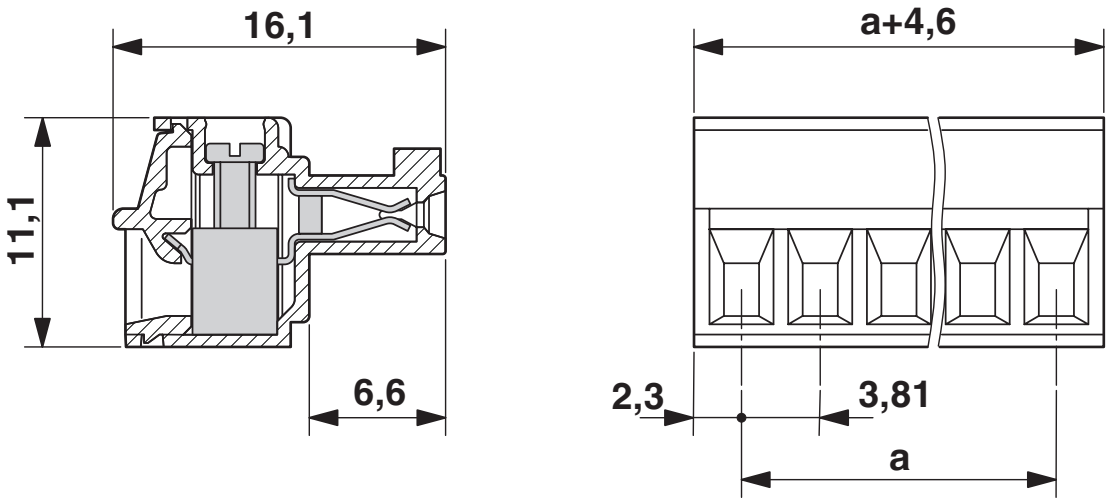
Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2 mm
Note on connection 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

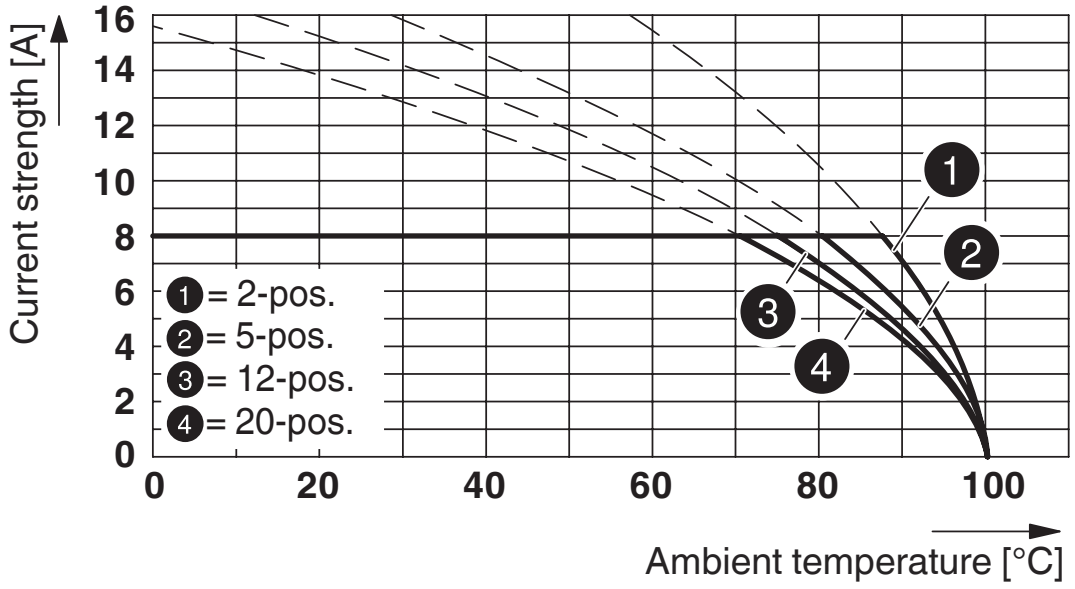
Type of packaging	packed in cardboard

Drawings

Dimensional drawing

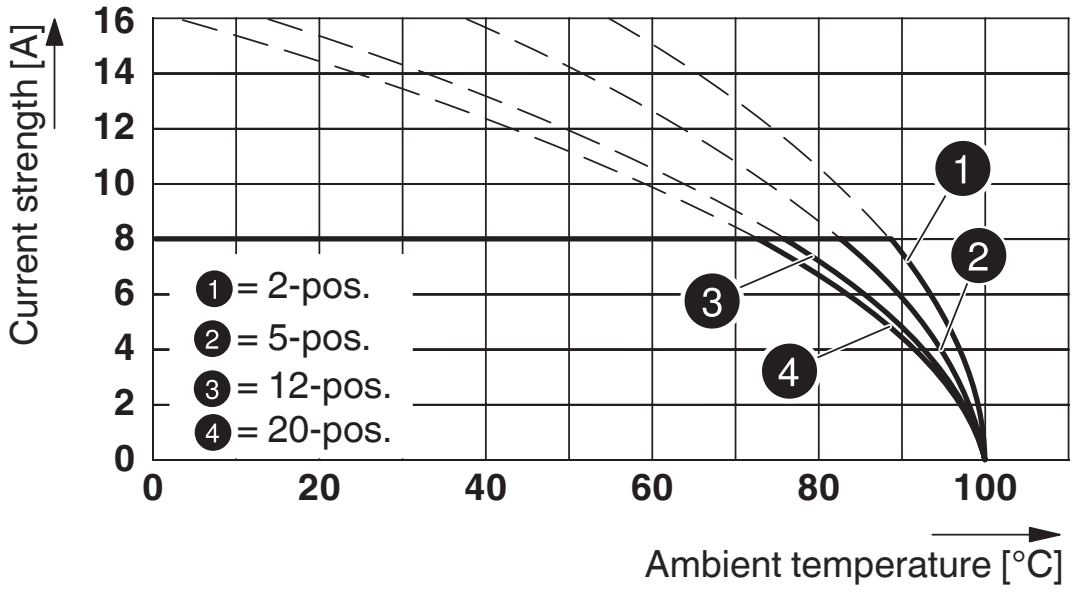


Diagram



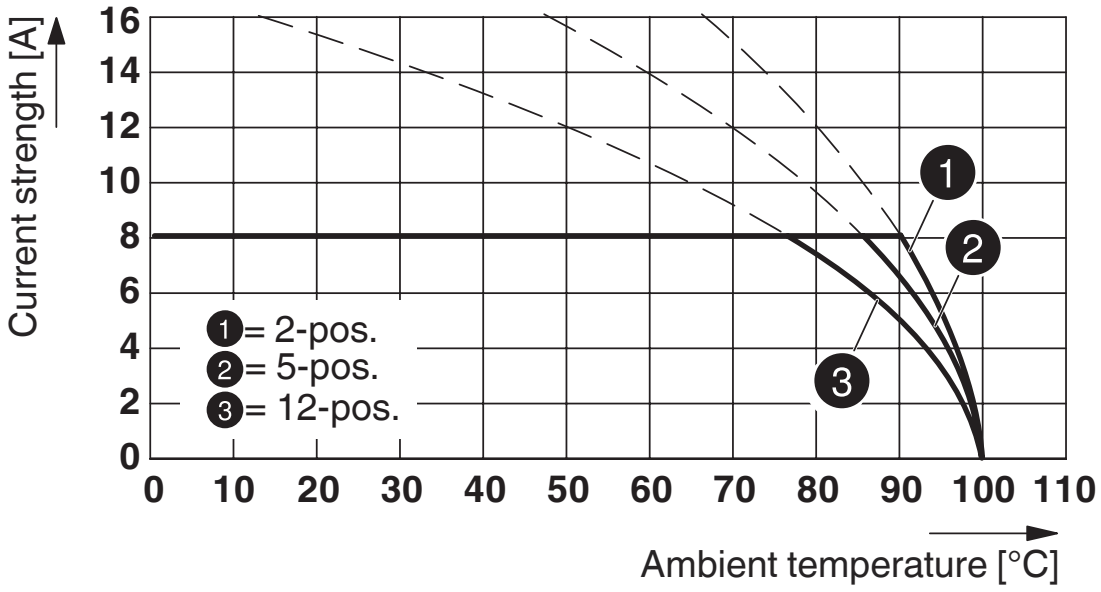
Type: MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81

Diagram



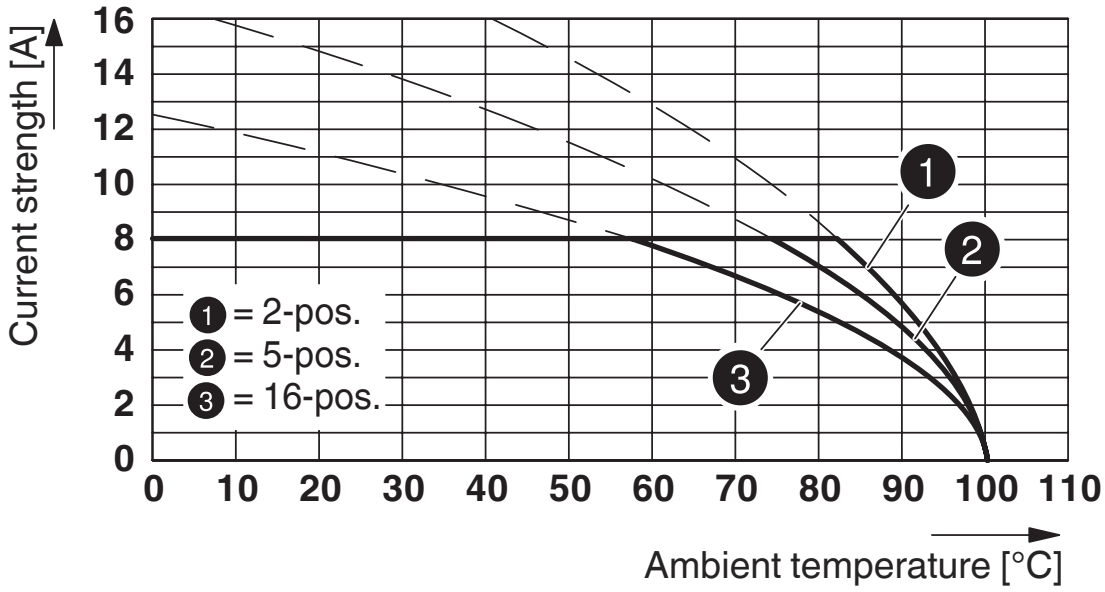
Type: MC 1,5/...-ST-3,81 with MCV 1,5/...-G-3,81

Diagram



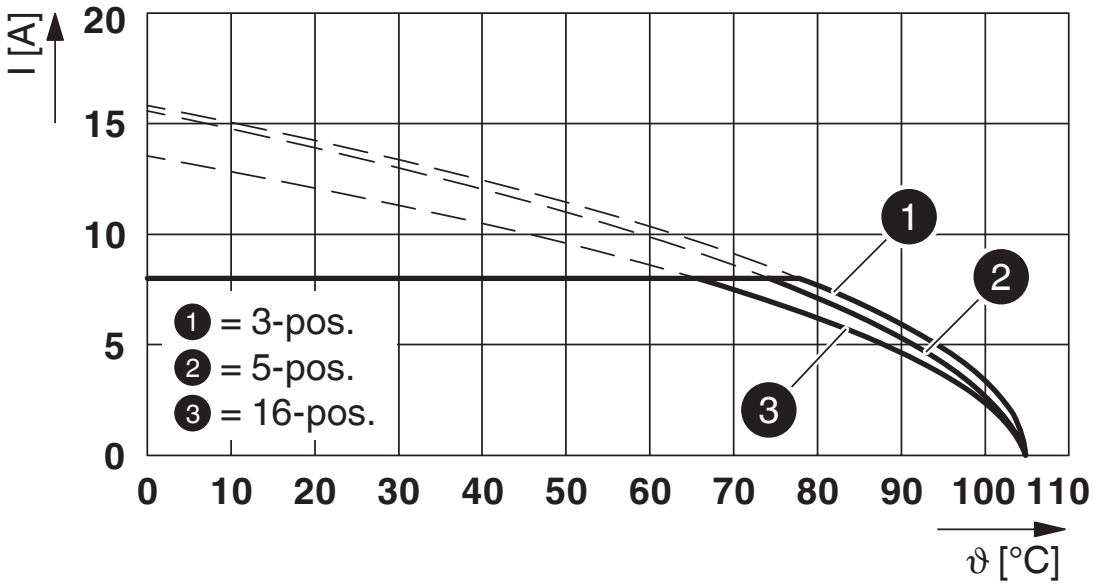
Type: MC 1,5/...-ST-3,81 with MCV 1,5/...-G-3,81 P26 THR

Diagram



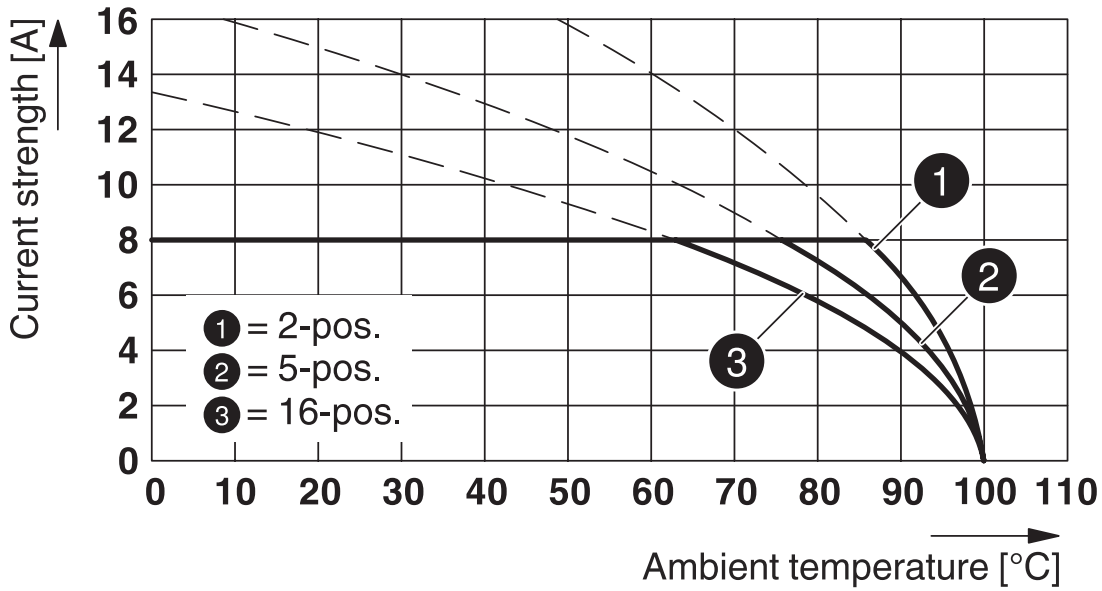
Type: MC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



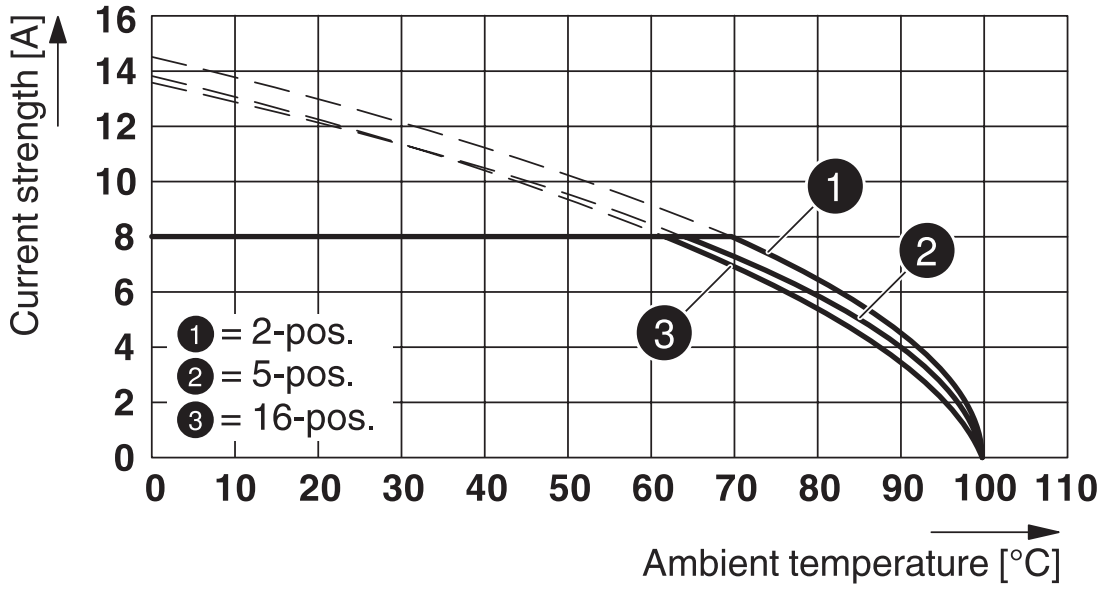
Type: MC 1,5/...-ST-3,81 with MCVK 1,5/...-G-3,81

Diagram



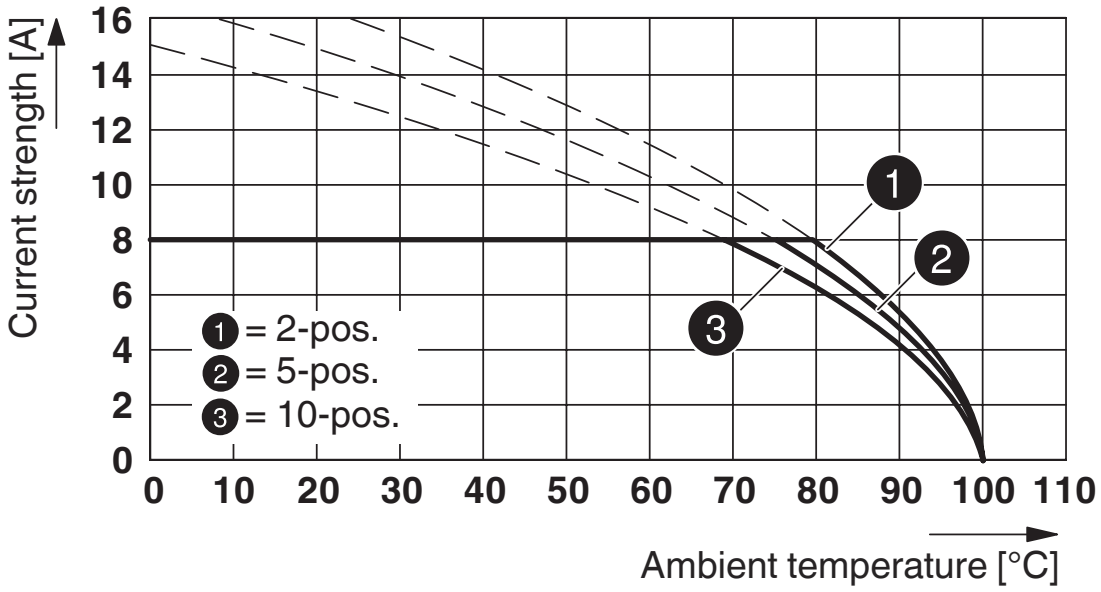
Type: MC 1,5/...-ST-3,81 with MCDV 1,5/...-G1-3,81

Diagram



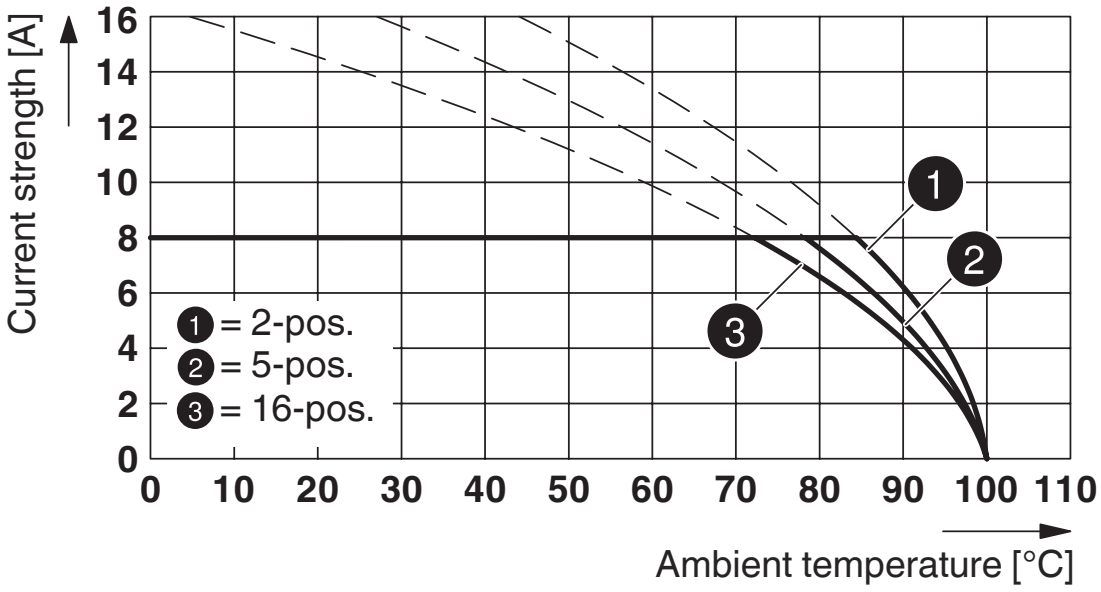
Type: MC 1,5/...-ST-3,81 with MCVU 1,5/...-GFD-3,81

Diagram



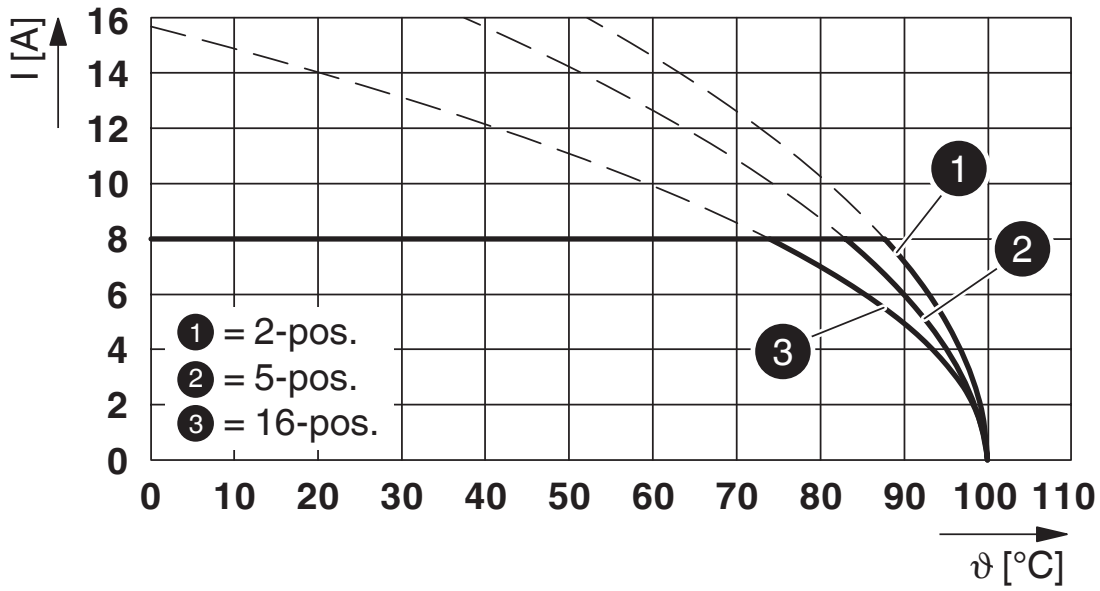
Type: MC 1,5/...-ST-3,81 with MCO 1,5/...-GR-3,81

Diagram



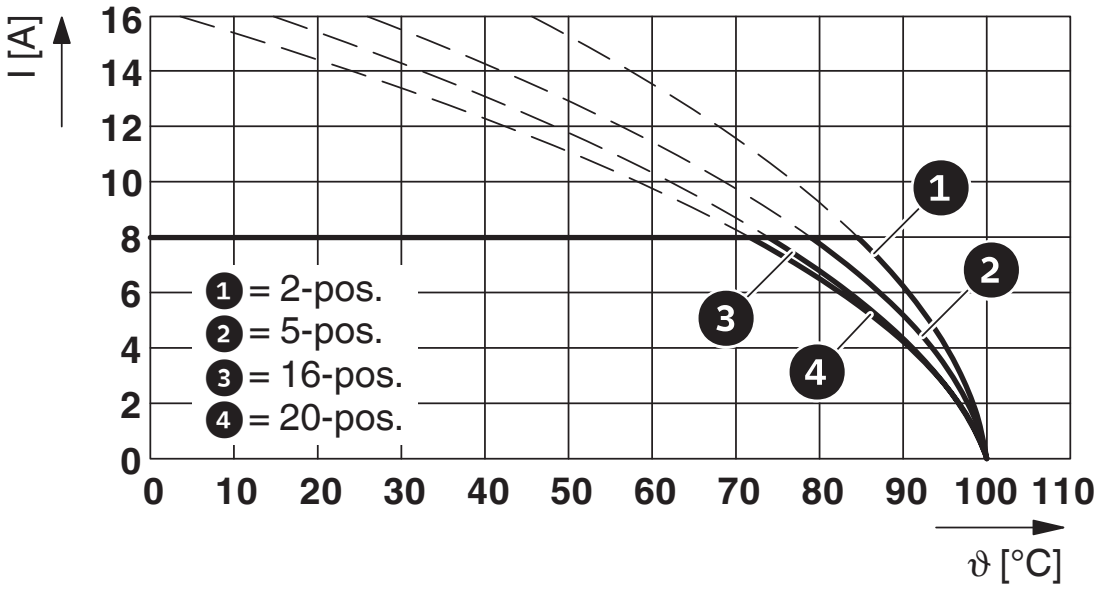
Type: MC 1,5/...-ST-3,81 with IMC 1,5/...-ST-3,81

Diagram



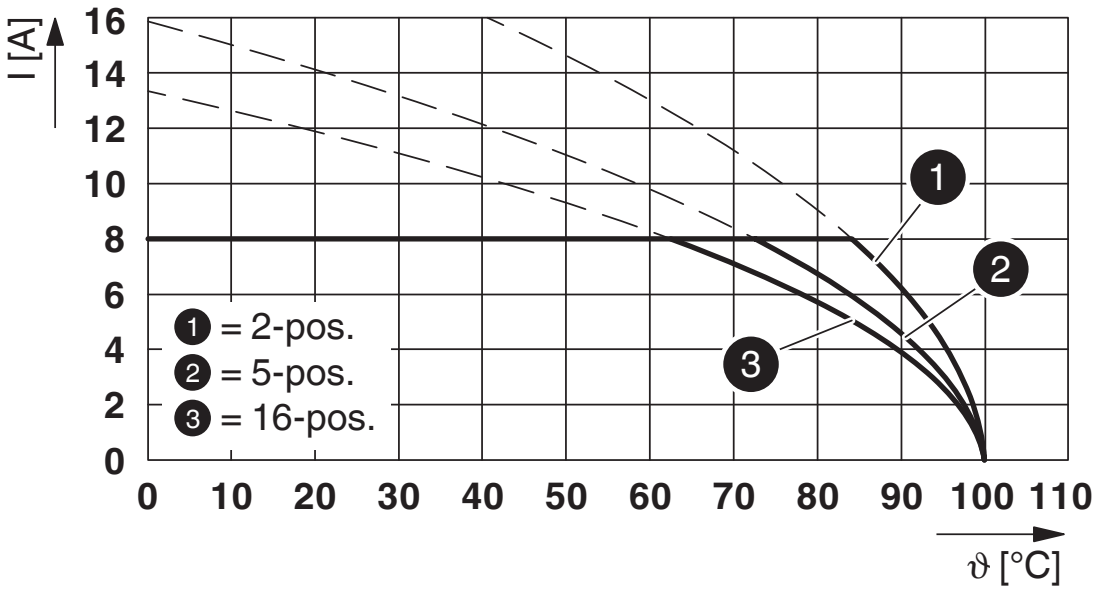
Type: MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

Diagram



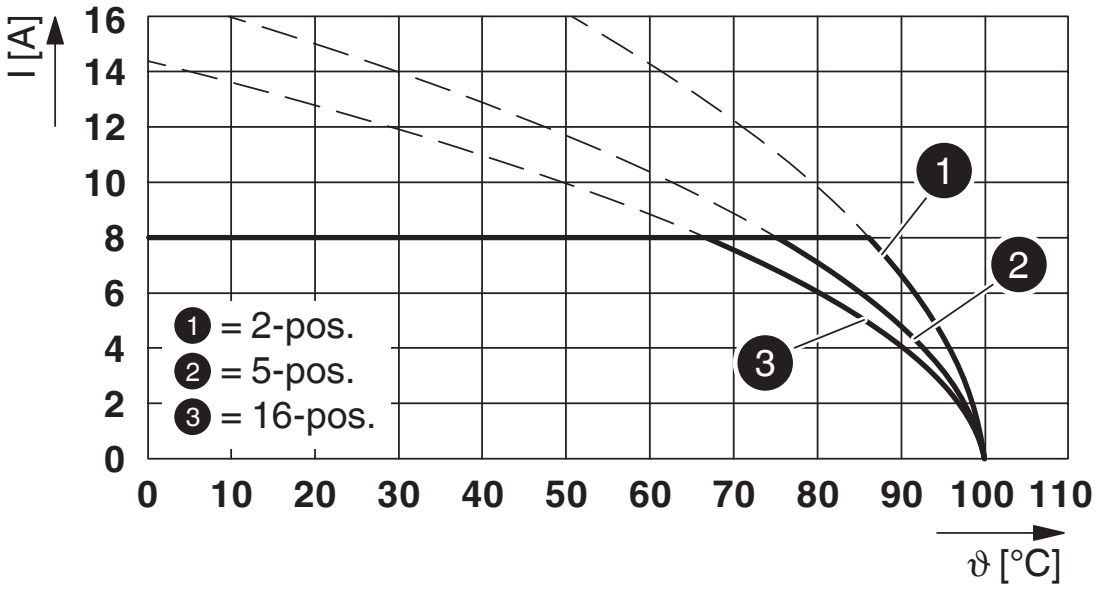
Type: MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81 P...THR

Diagram



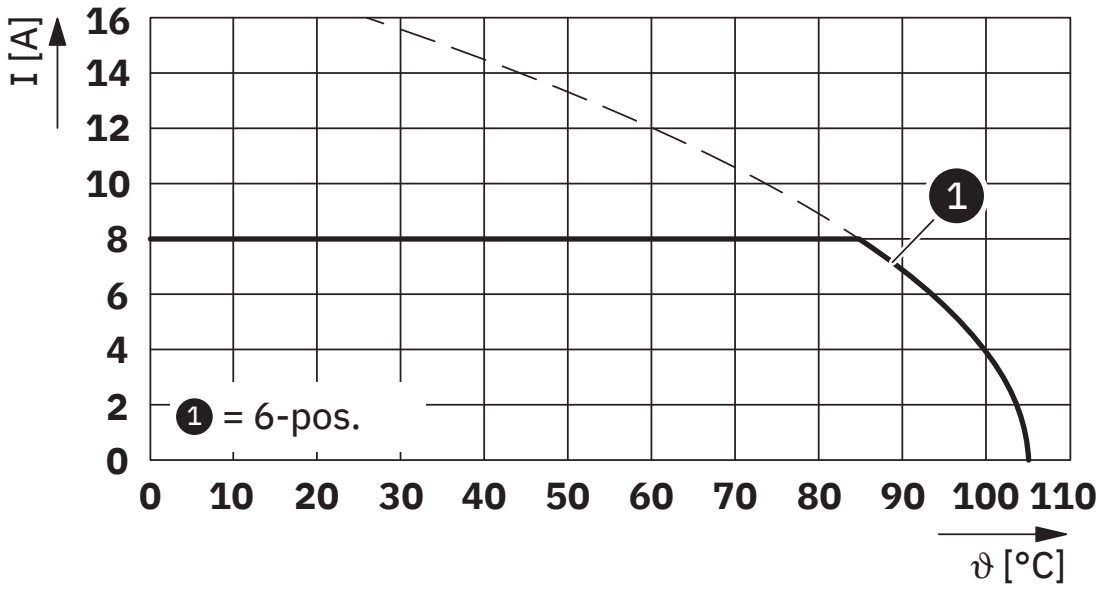
Type: MC 1,5/...-ST-3,81 with MCD 1,5/...-G-3,81

Diagram



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

Diagram



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

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/1803659

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	8 A	28 - 16	-
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
B				
	300 V	8 A	30 - 14	-
D				
	300 V	8 A	30 - 14	-

VDE approval of drawings
Approval ID: 40011723

VDE approval of drawings
Approval ID: 40011723

Classifications

ECLASS

ECLASS-13.0	27460202
ECLASS-15.0	27460202

ETIM

ETIM 9.0	EC002638

UNSPSC

UNSPSC 21.0	39121400

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%

EF3.0 Climate Change

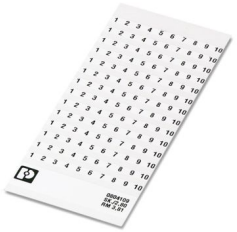
CO2e kg	0.068 kg CO2e

Accessories

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

0804109

https://www.phoenixcontact.com/pc/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, Number of individual labels: 14, text field height: 2.8 mm, text field width: 3.81 mm

SZS 0,4X2,5 VDE - Screwdriver

1205037

https://www.phoenixcontact.com/pc/products/1205037



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

KGG-MC 1,5/10 - Cable housing

1834424

https://www.phoenixcontact.com/pc/products/1834424



Cable housing, product range: KGG-MC 1,5, width: 14.5 mm

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

0803883

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



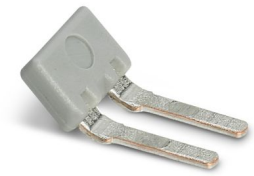
Marker card, Din A4, white, unmarked, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, Number of individual labels: 3600, text field height: 2.8 mm, text field width: 186 mm

EBPL 2-3,81 - Insertion bridge

1733495

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

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

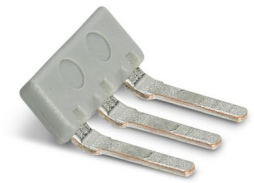


EBPL 3-3,81 - Insertion bridge

1733505

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

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



EBPL 4-3,81 - Insertion bridge

1733518

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



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

MCV 1,5/10-G-3,81 P14 THR - PCB header

1707081

https://www.phoenixcontact.com/pc/products/1707081



PCB headers, nominal cross section: 1.5 mm^2, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MCV 1,5/..-G-THR, pitch: 3.81 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

MC 1,5/10-ST-3,81 - PCB connector

1803659

https://www.phoenixcontact.com/pc/products/1803659

MCV 1,5/10-G-3,81 P26 THR - PCB header

1707502

https://www.phoenixcontact.com/pc/products/1707502



PCB headers, nominal cross section: 1.5 mm^2, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MCV 1,5/..-G-THR, pitch: 3.81 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

MCO 1,5/10-GL-3,81 - PCB header

1861808

https://www.phoenixcontact.com/pc/products/1861808



PCB headers, nominal cross section: 1.5 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MCO 1,5/..-GL, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Orthogonal, locking: without, mounting method: without, type of packaging: packed in cardboard

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