

# MCVR 1,5/ 3-STF-3,81 - PCB connector

1828359

<https://www.phoenixcontact.com/us/products/1828359>

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 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCVR 1,5/.-STF, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 90 °, plug-in system: COMBICON MC 1,5, locking: Screw locking mechanism, mounting method: 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	1828359
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABAEB
GTIN	4017918105259
Weight per piece (including packing)	3.491 g
Weight per piece (excluding packing)	3.051 g
Customs tariff number	85366990
Country of origin	DE

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

## Technical data

### Product properties

Product type	PCB connector
Product family	MCVR 1,5/..-STF
Product line	COMBICON Connectors S
Type	Standard
Number of positions	3
Pitch	3.81 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Mounting type	Screw flange

### Electrical properties

#### Properties

Nominal current $I_N$	8 A
Nominal voltage $U_N$	160 V
Contact resistance	3.4 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>
Contact connection type	Socket

#### Interlock

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

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	90 °
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

Conductor cross-section AWG	28 ... 16
Conductor cross-section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.08 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.08 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
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

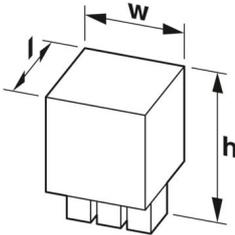
## Dimensions

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

Dimensional drawing		
Pitch		3.81 mm
Width [w]		21.82 mm
Height [h]		19.1 mm
Length [l]		10.4 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 mm <sup>2</sup> / solid / > 10 N
	0.14 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

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 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

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

## 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 $R_1$	3.4 m $\Omega$
Contact resistance $R_2$	3.6 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	16

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
---------------	-----------------------

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

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

# MCVR 1,5/ 3-STF-3,81 - PCB connector

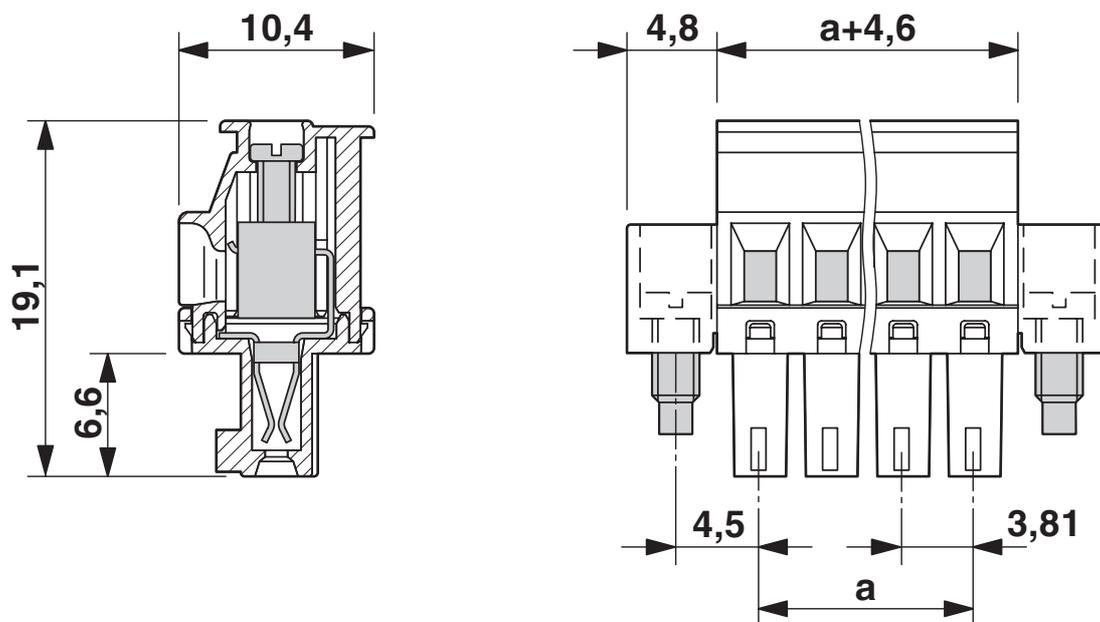


1828359

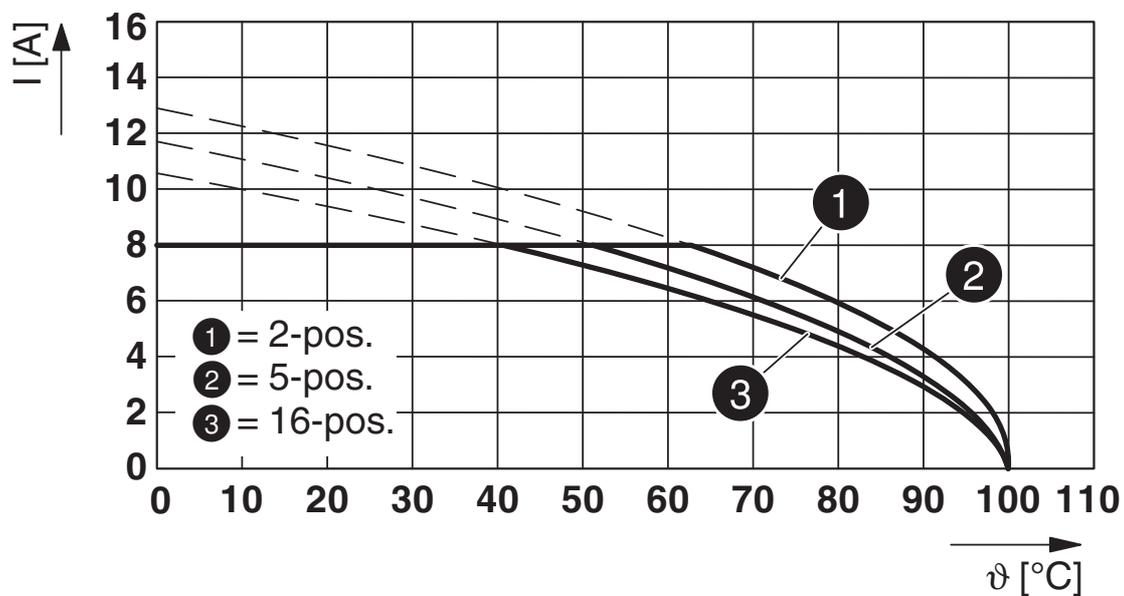
<https://www.phoenixcontact.com/us/products/1828359>

## Drawings

Dimensional drawing



Diagram



Type: MCV(W/R) 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81

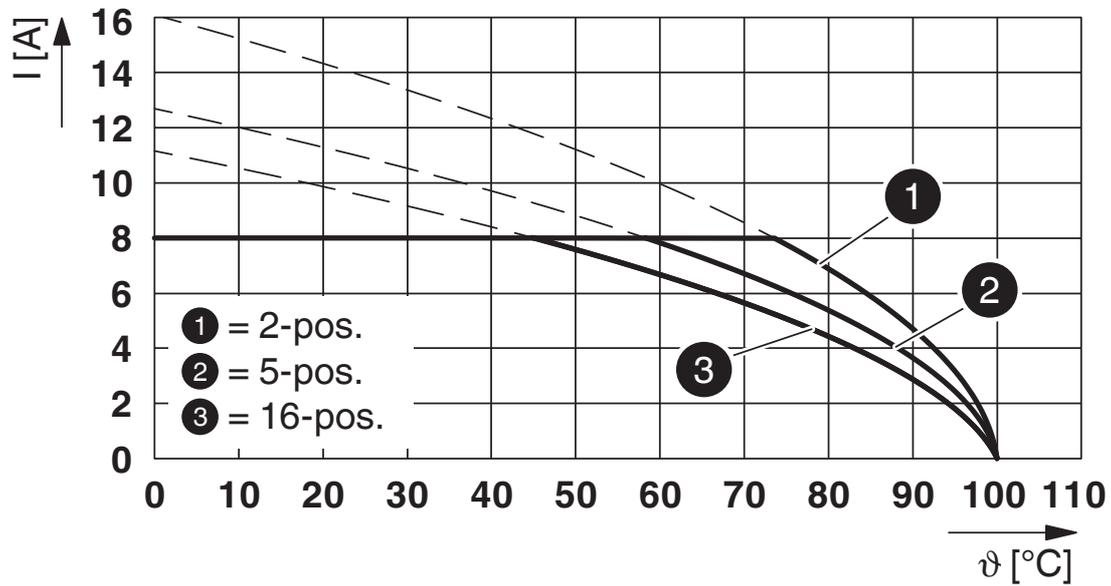
# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

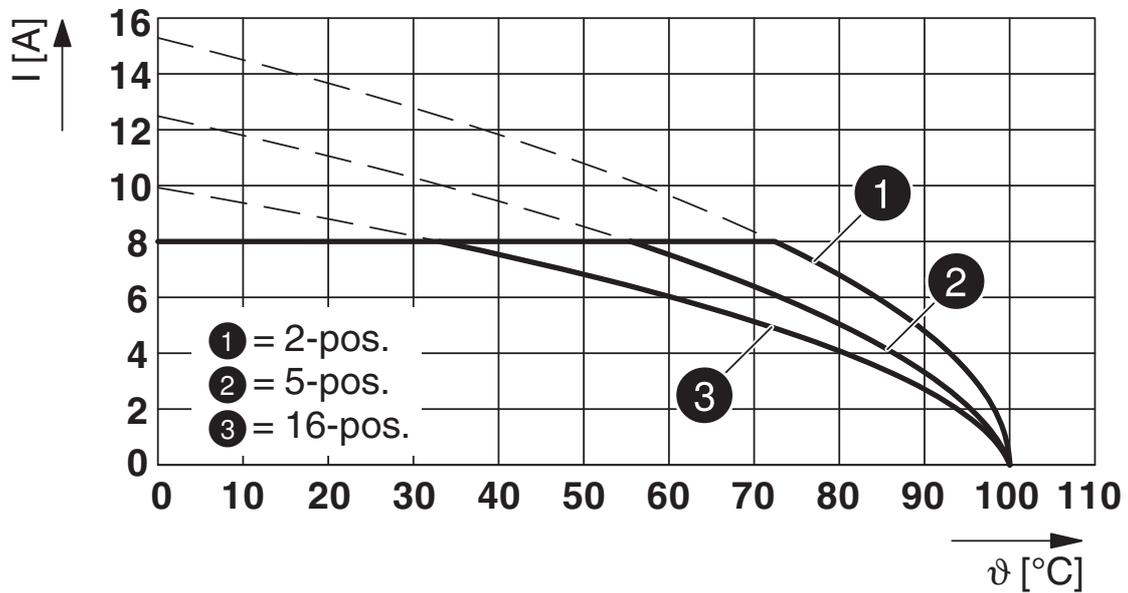
<https://www.phoenixcontact.com/us/products/1828359>

Diagram



Type: MCV(W/R) 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81

Diagram



Type: MCV(W/R) 1,5/...-STF-3,81 with MCD 1,5/...-G1F-3,81

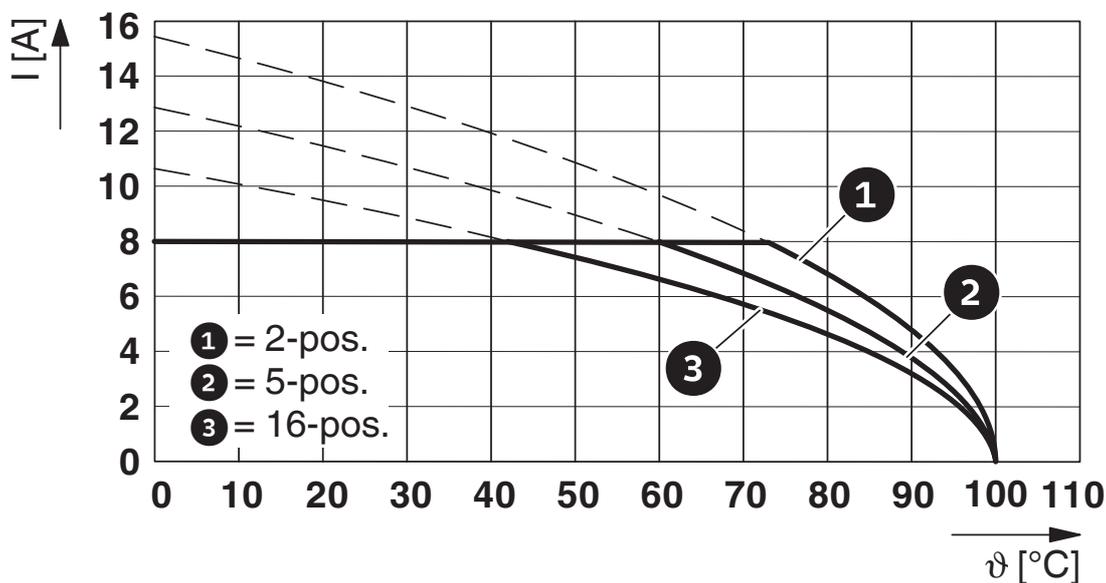
# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

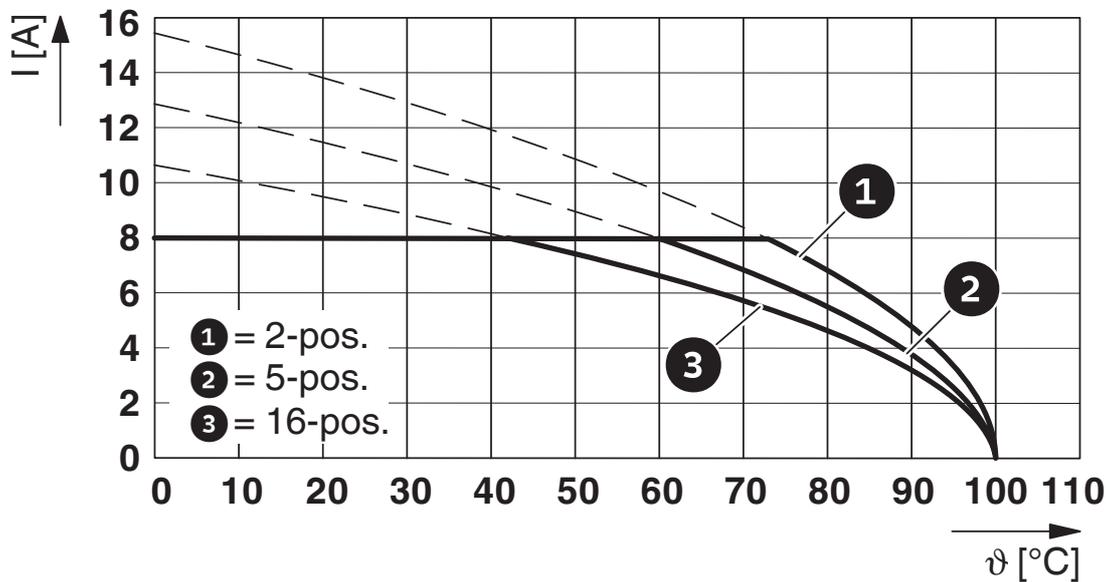
<https://www.phoenixcontact.com/us/products/1828359>

Diagram



Type: MCV(W/R) 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81 P...THR

Diagram



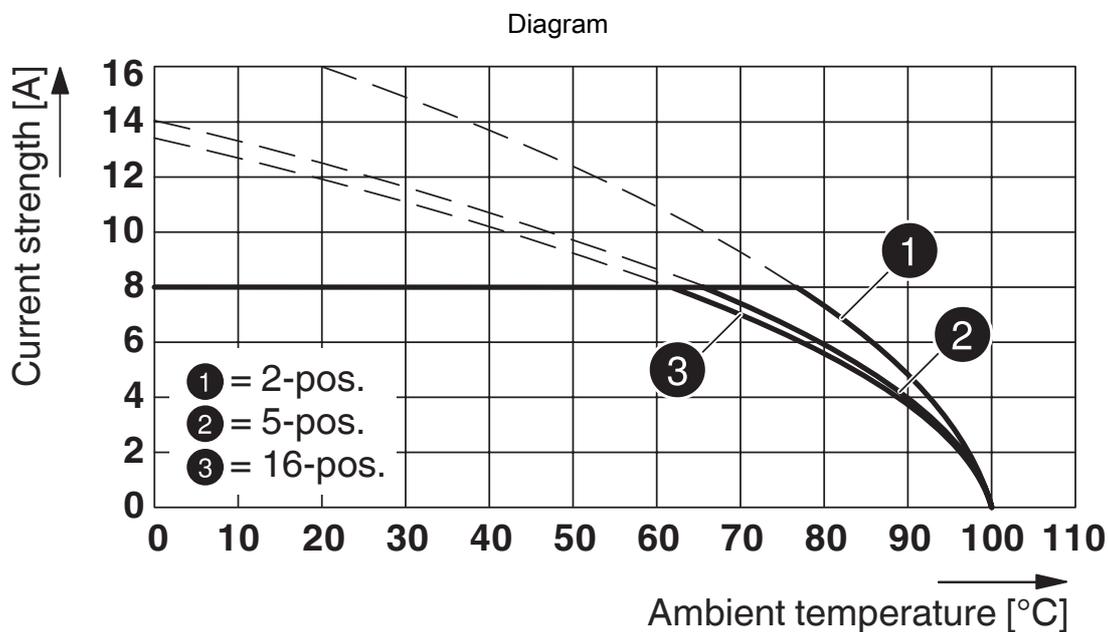
Type: MCV(W/R) 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81 P...THR

# MCVR 1,5/ 3-STF-3,81 - PCB connector

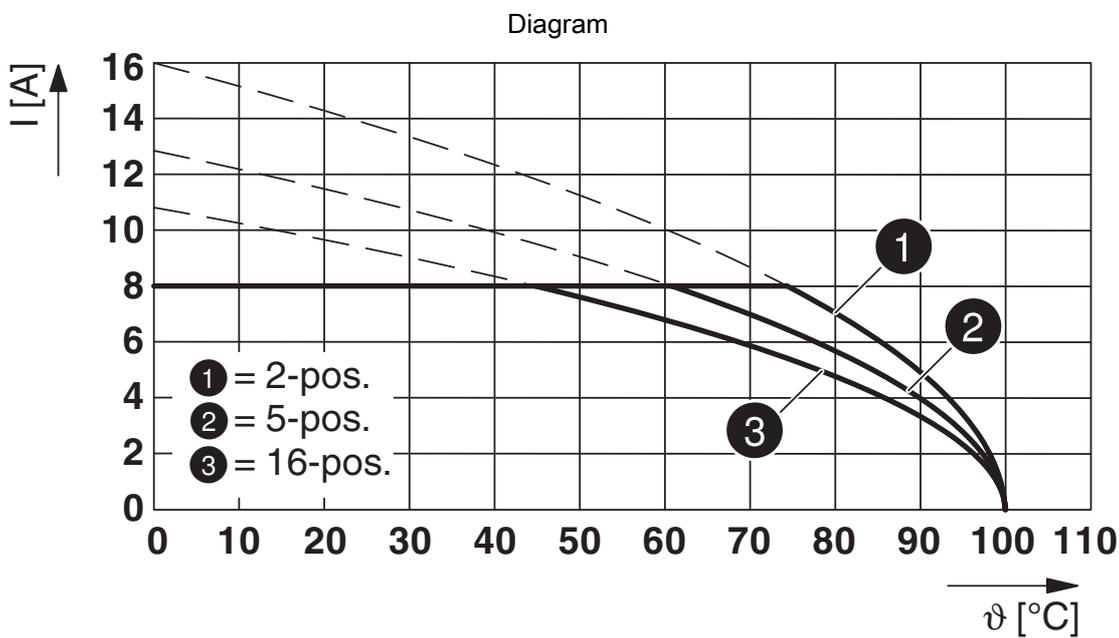


1828359

<https://www.phoenixcontact.com/us/products/1828359>



Type: MCV(W/R) 1,5/...-STF-3,81 with IMC 1,5/...-STGF-3,81



Type: MCV(W/R) 1,5/...-STF-3,81 with SMC 1,5/...-GF-3,81

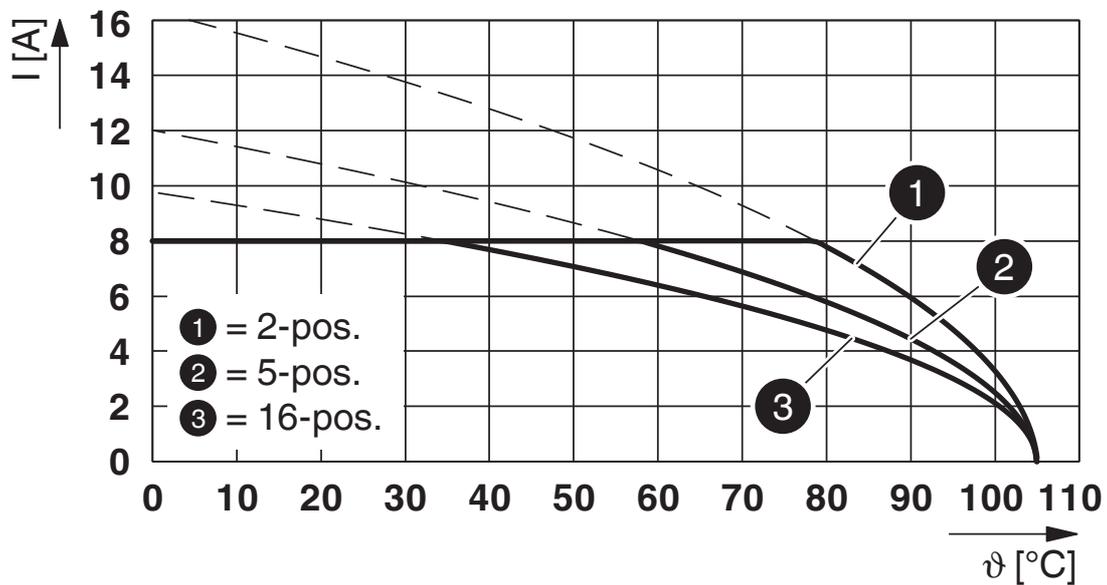
# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

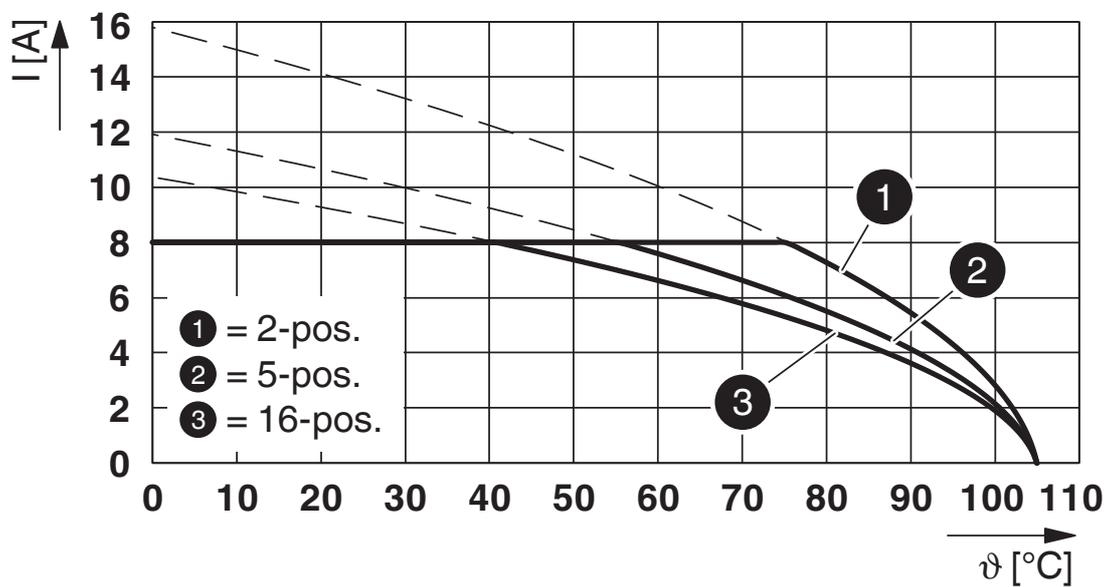
<https://www.phoenixcontact.com/us/products/1828359>

Diagram



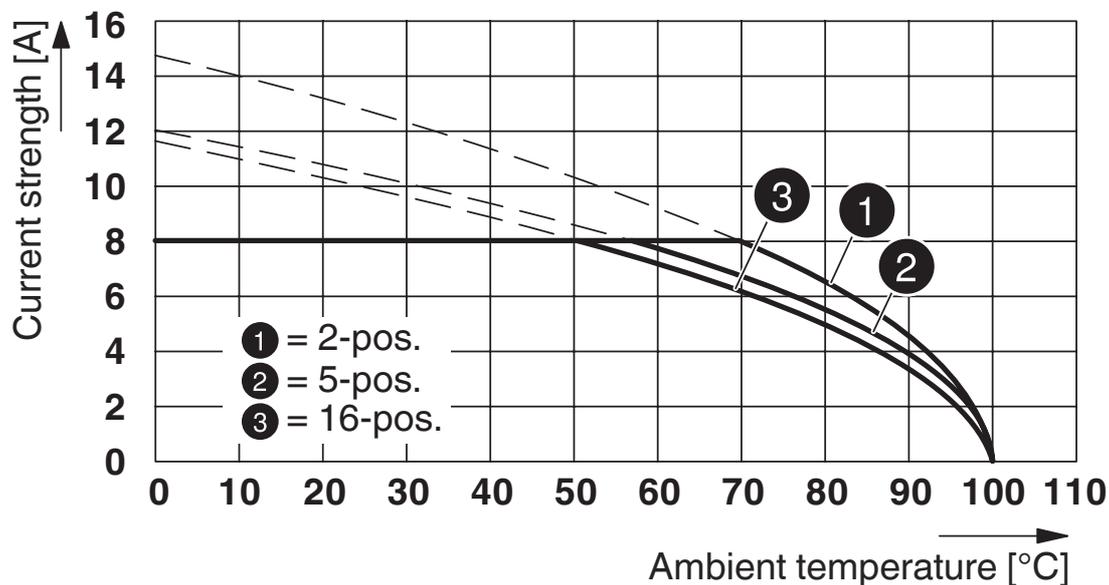
Type: MCVR 1,5/...-STF-3,81 with MCDV 1,5/...-G1F-3,81

Diagram



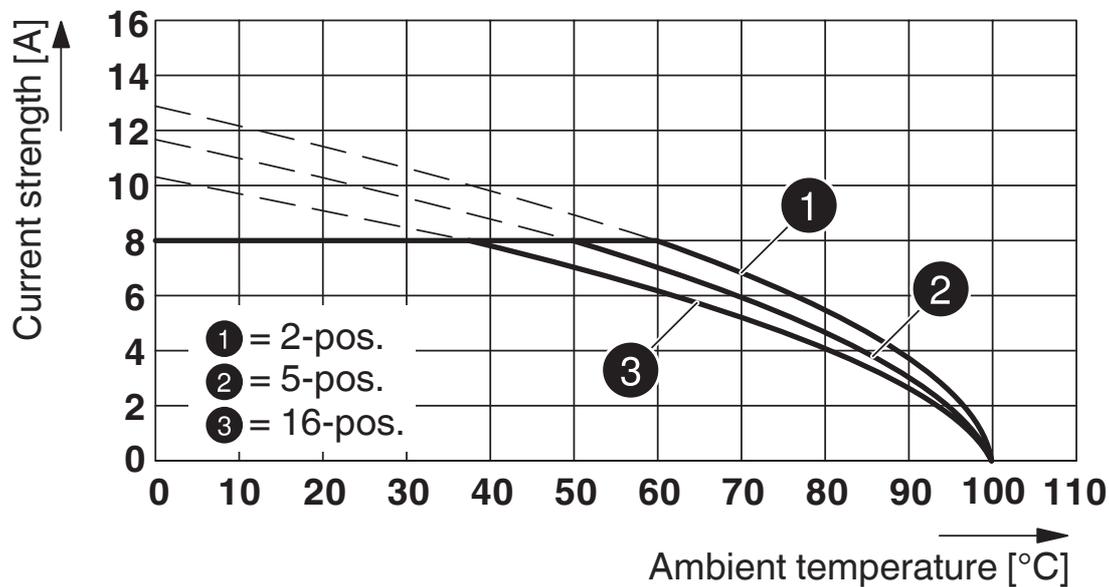
Type: MCVR 1,5/...-STF-3,81 with MCDV 1,5/...-GF-3,81

Diagram



Type: MCVR 1,5/...-STF-3,81 with MCVU 1,5/...-GFD-3,81

Diagram



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

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1828359>

 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	8 A	28 - 16	-
D	300 V	8 A	28 - 16	-

 <b>cULus Recognized</b> Approval ID: E60425-20110128				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	8 A	30 - 14	-
D	300 V	8 A	30 - 14	-

 <b>VDE approval of drawings</b> Approval ID: 40011723				
--	--	--	--	--

 <b>VDE approval of drawings</b> Approval ID: 40011723				
--	--	--	--	--

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

## Classifications

### ECLASS

ECLASS-13.0	27460202
ECLASS-15.0	27460202

### ETIM

ETIM 9.0	EC002638
----------	----------

### UNSPSC

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

# MCVR 1,5/ 3-STF-3,81 - PCB connector



1828359

<https://www.phoenixcontact.com/us/products/1828359>

## 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	0.051 kg CO2e
---------	---------------

Phoenix Contact 2025 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)