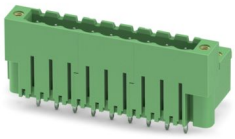
MDSTBV 2,5/ 9-GF-5,08 - PCB header

1845701

https://www.phoenixcontact.com/us/products/1845701

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PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 18, number of rows: 2, number of positions: 9, number of connections: 18, product range: MDSTBV 2,5/..-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting method: Threaded flange, type of packaging: packed in cardboard, When combined with MVSTB or FKCV connector components, one MVSTBW (or FKCVW) connector and one MVSTBR (or FKCVR) connector must be used. Combination with TMSTBP connector components is not possible!

Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Easy PCB replacement thanks to plug-in modules
- Well-known mounting principle allows worldwide use
- Conductor connection on several levels enables higher contact density
- Screwable flange for superior mechanical stability

Commercial data

Item number	1845701
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA03
Product key	AACSDE
GTIN	4017918184360
Weight per piece (including packing)	18.62 g
Weight per piece (excluding packing)	17.37 g
Customs tariff number	85366930
Country of origin	DE

Technical data

Product properties

Product type	PCB headers
Product family	MDSTBV 2,5/..-GF
Product line	COMBICON Connectors M
Type	Header can be aligned
Number of positions	9
Pitch	5.08 mm
Number of connections	18
Number of rows	2
Number of potentials	18
Mounting type	Threaded flange
Pin layout	Linear pinning
Solder pins per potential	1

Fitting of components

Partial assembly	No

Electrical properties

Properties

Nominal current I_N	10 A
Nominal voltage U_N	320 V
Contact resistance	2.1 mΩ
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Flange

Tightening torque	0.3 Nm

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	Tin-plated

Metal surface contact area (top layer)	Tin (5 µm - 7 µm Sn)
Metal surface contact area (middle layer)	Nickel (2 µm - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (5 µm - 7 µm Sn)
Metal surface soldering area (middle layer)	Nickel (2 µm - 3 µm Ni)

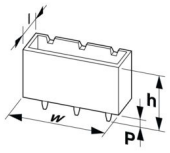
Material data - housing

Color (Housing)	green (6021)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

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.

Dimensions

Dimensional drawing	
Pitch	5.08 mm
Width [w]	58.42 mm
Height [h]	26 mm
Length [l]	23.7 mm
Installed height	22.1 mm
Solder pin length [P]	3.9 mm
Pin dimensions	1 x 1 mm

PCB design

Pin spacing	15.24 mm
Hole diameter	1.4 mm

Mechanical tests

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

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

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	12 N
Withdraw strength per pos. approx.	8 N

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	IIIa
Comparative tracking index (IEC 60112)	CTI 225
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3.2 mm
Rated insulation voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	4 mm

Environmental and real-life conditions

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R_1	2.1 mΩ
Contact resistance R_2	2 mΩ
Contact resistance R_2 2nd level	1.2 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	105 °C/168 h
Power-frequency withstand voltage	2.21 kV

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

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.)

Railway application: Shocks

Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

Ambient conditions

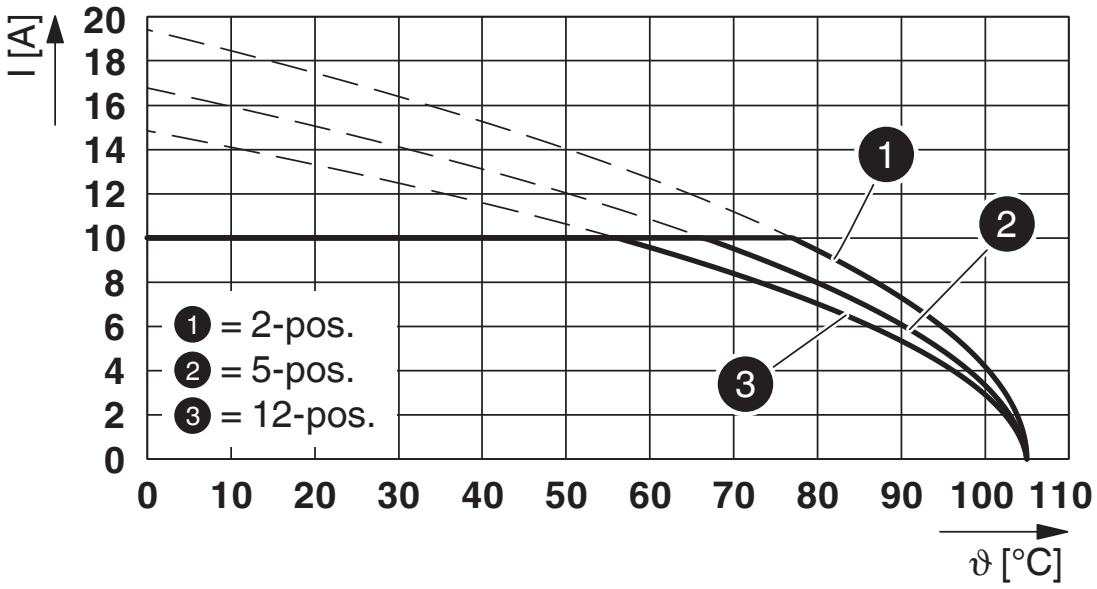
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)

Packaging specifications

Type of packaging	packed in cardboard

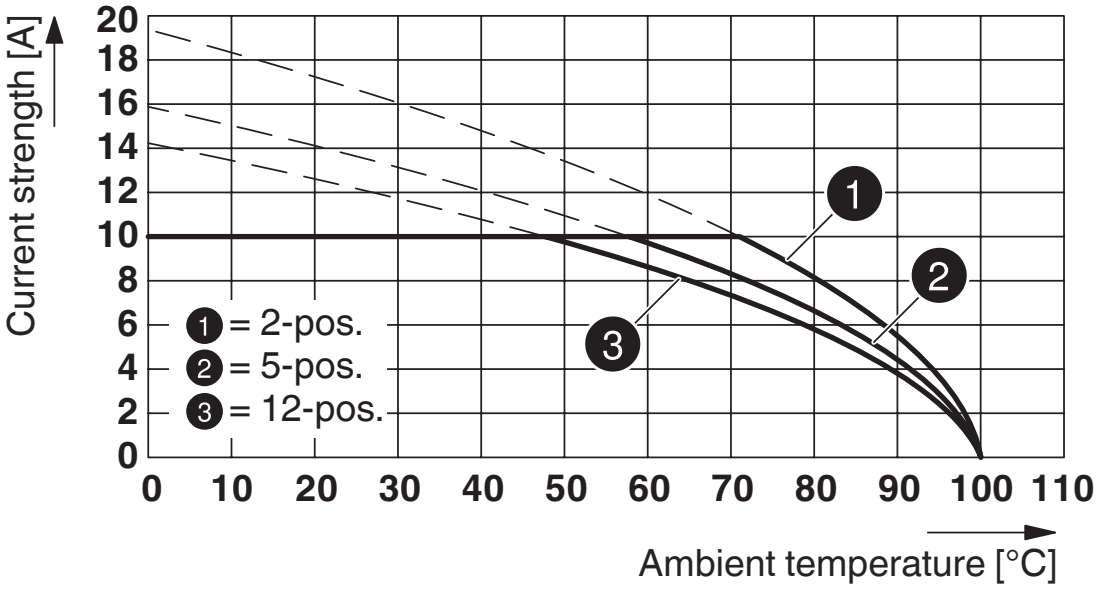
Drawings

Diagram



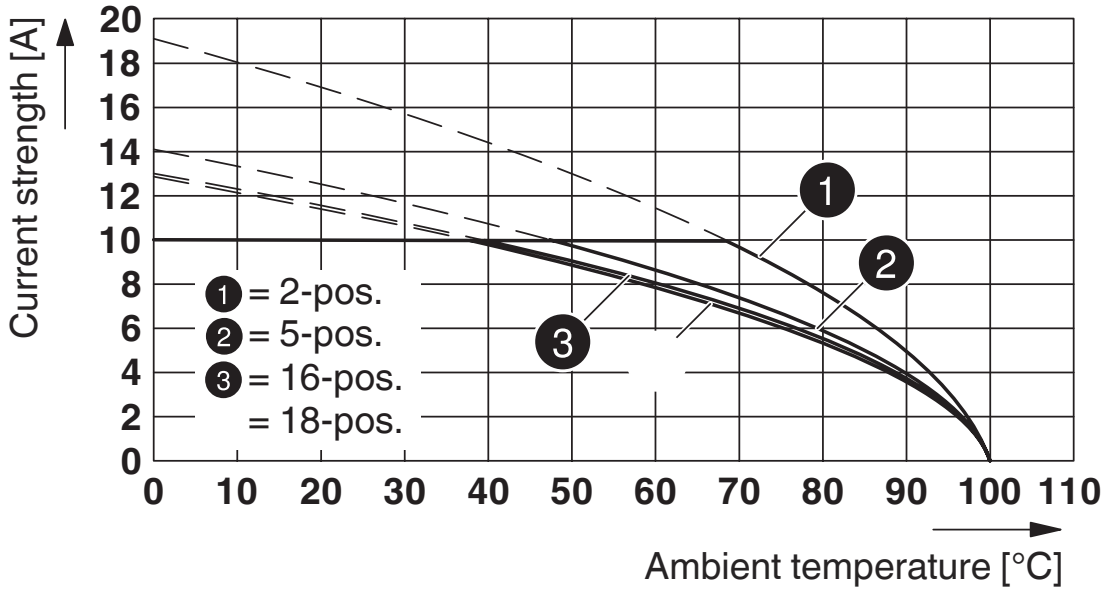
Type: FKCT 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



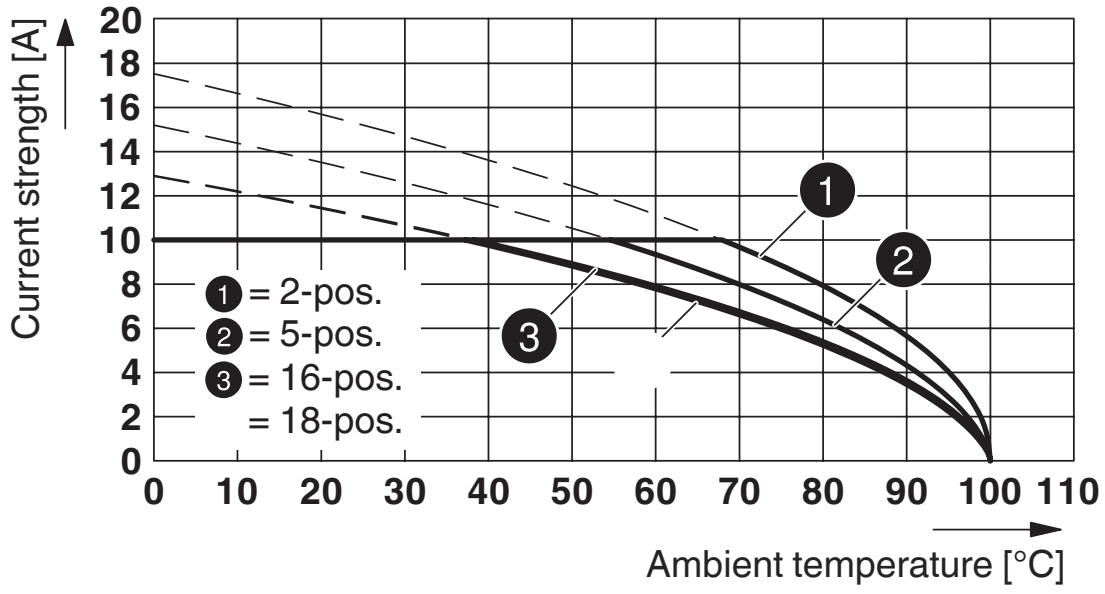
Type: MSTB 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



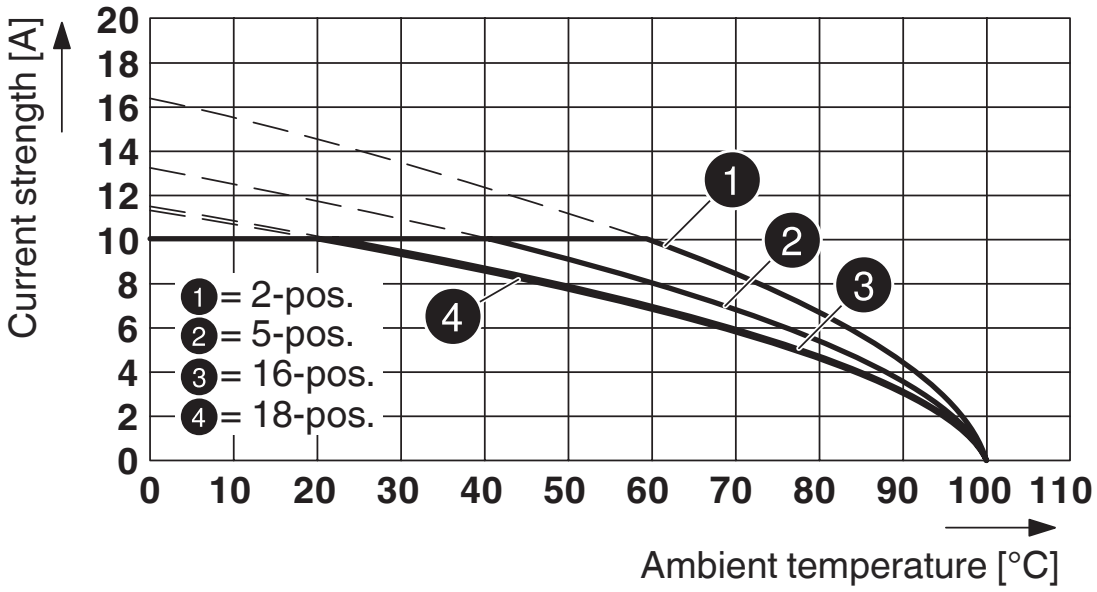
Type: MSTBT 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



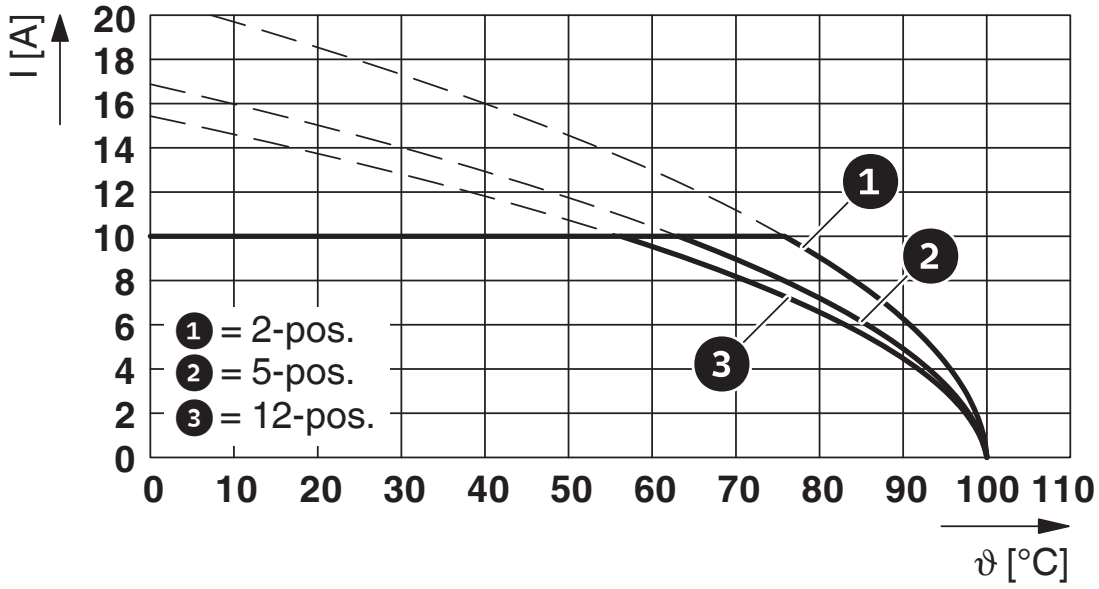
Type: FRONT-MSTB 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



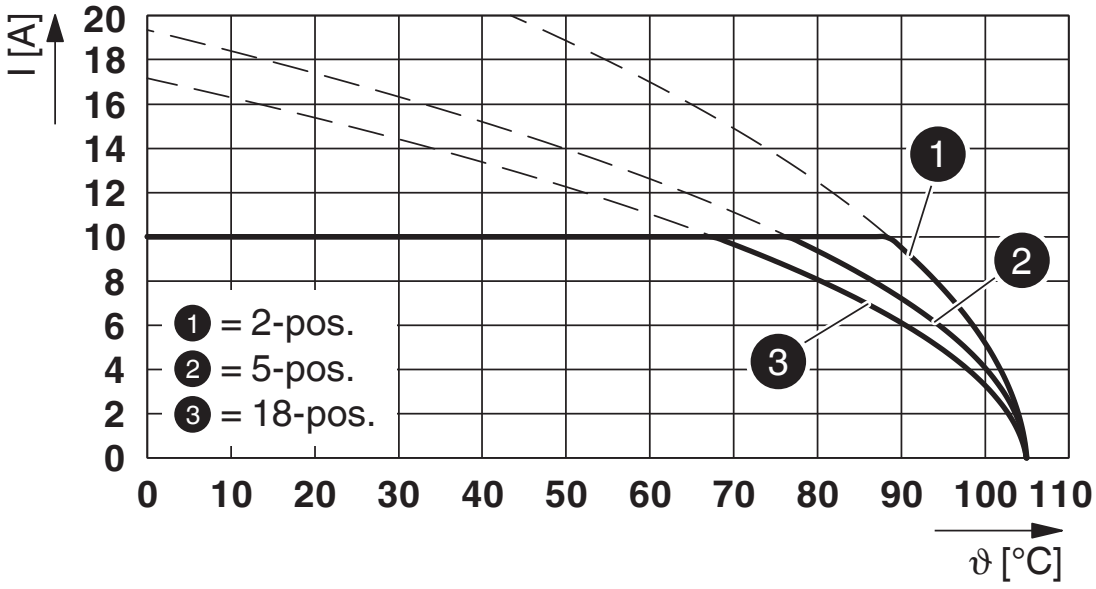
Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



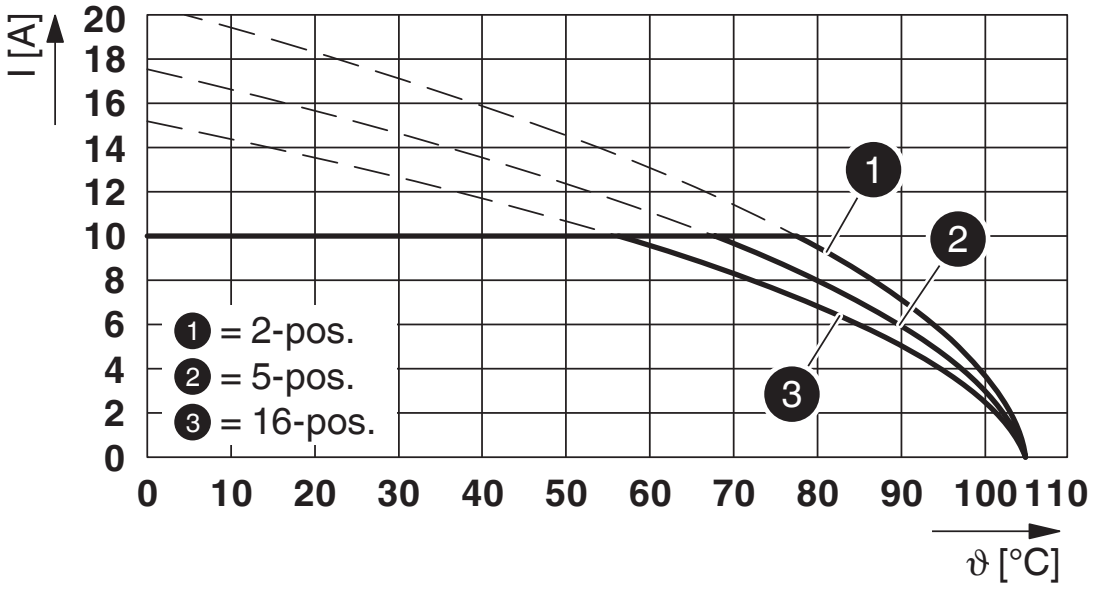
Type: FKCS 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



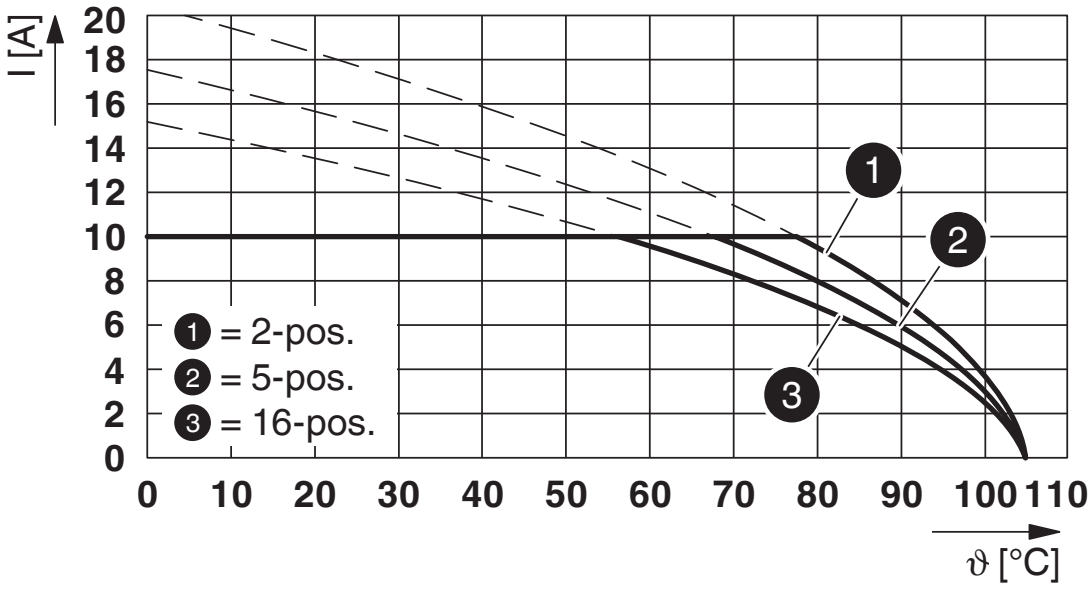
Type: FKCN 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



Type: FKCVR 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Diagram



Type: FKCVW 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1845701

cULus Recognized
Approval ID: E60425-19931011

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	12 A	-	-
D				
	150 V	12 A	-	-

VDE approval of drawings
Approval ID: 40050648

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	250 V	10 A	-	-

CSA
Approval ID: 2585950

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	12 A	-	-
D				
	300 V	12 A	-	-

DNV GL
Approval ID: TAE00001EY

Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 10.0	EC002637

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%

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