

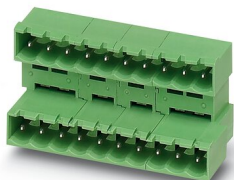
# MDSTBA 2,5/ 3-G-5,08 BK - PCB header



1800751

<https://www.phoenixcontact.com/us/products/1800751>

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of rows: 2, number of positions: 3, product range: MDSTBA 2,5/...-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

## 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

## Commercial data

Item number	1800751
Packing unit	1 pc
Minimum order quantity	1,000 pc
Sales key	AA03
Product key	AACSDC
GTIN	4055626333656
Weight per piece (including packing)	5.63 g
Weight per piece (excluding packing)	5.63 g
Customs tariff number	85366930
Country of origin	DE

# MDSTBA 2,5/ 3-G-5,08 BK - PCB header



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## Technical data

### Product properties

Product line	COMBICON Connectors M
Product type	PCB headers
Product family	MDSTBA 2,5/..-G
Number of positions	3
Pitch	5.08 mm
Number of rows	2
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	10 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	1.3 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

### 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 (3 - 5 μm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 - 3 μm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 μm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 μm Ni)

#### Material data - housing

Color (Housing)	black (9005)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225

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Flammability rating according to UL 94
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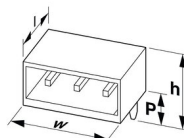
## Notes

Notes on operation
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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.
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## Dimensions

Dimensional drawing
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Pitch	5.08 mm
Width [w]	19.78 mm
Height [h]	26.9 mm
Length [l]	22.1 mm
Installed height	23.7 mm
Solder pin length [P]	3.2 mm
Pin dimensions	1 x 1 mm

## PCB design

Pin spacing	10.00 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

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## Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	12

### 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)	4 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

### 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	4.8 kV

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Contact resistance $R_1$	1.3 m $\Omega$
Contact resistance $R_2$	1.3 m $\Omega$
Contact resistance $R_2$ 2nd level	1.6 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	2.21 kV

## Ambient conditions

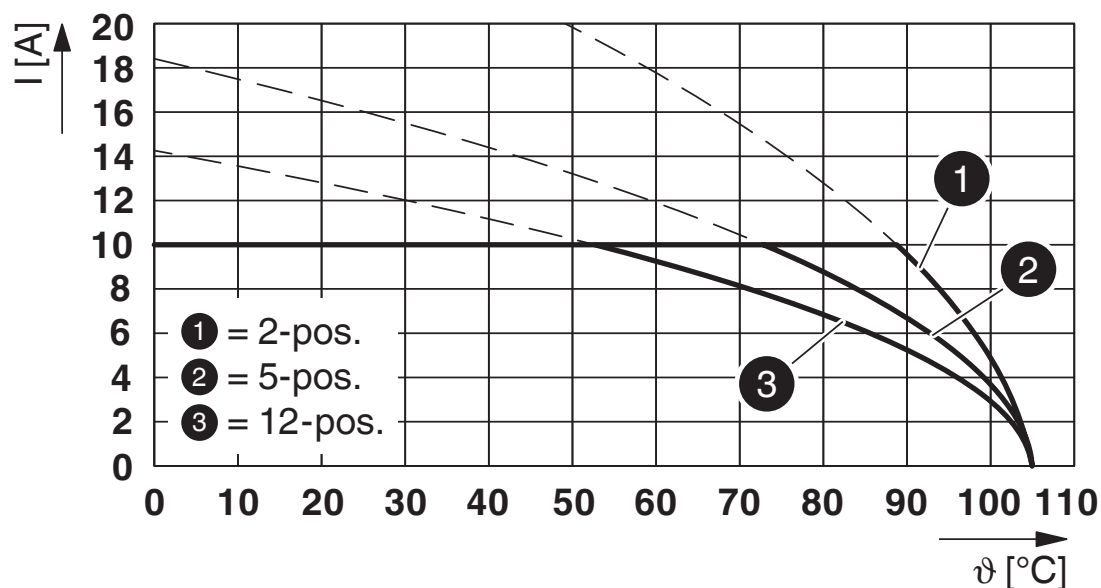
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Type of packaging	packed in cardboard
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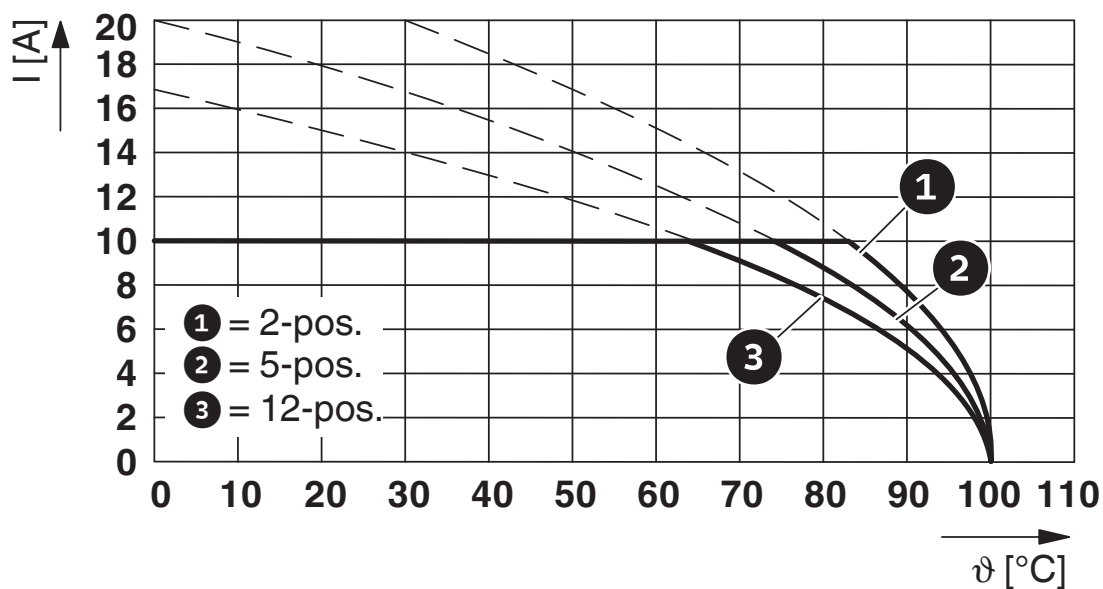
## Drawings

Diagram



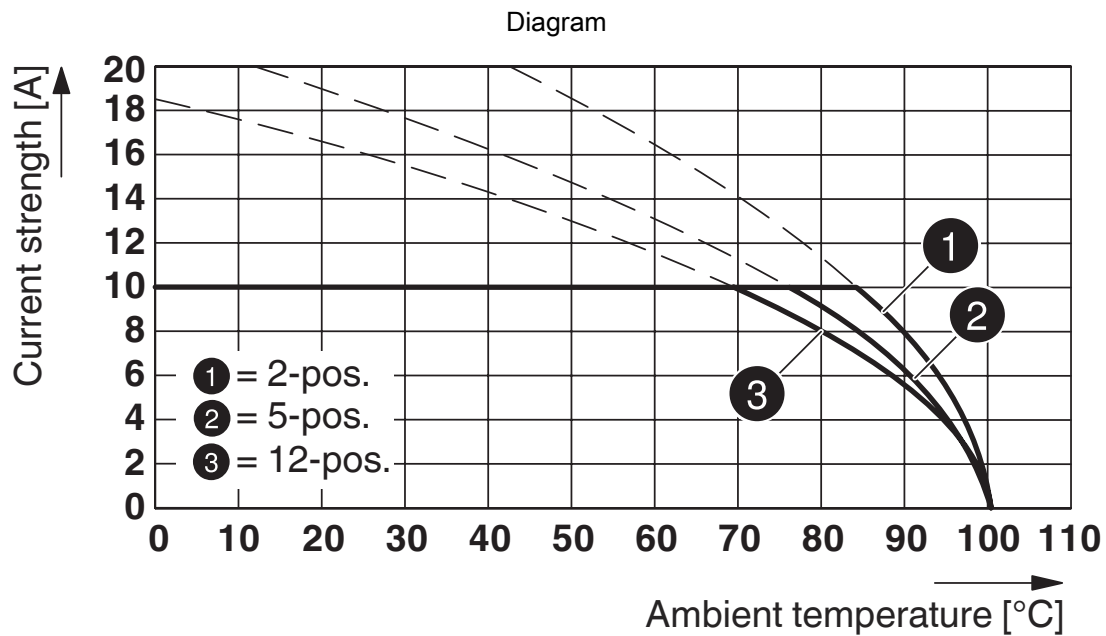
Type: IC 2,5/...-G-5,08 with MDSTBA 2,5/...-G-5,08

Diagram

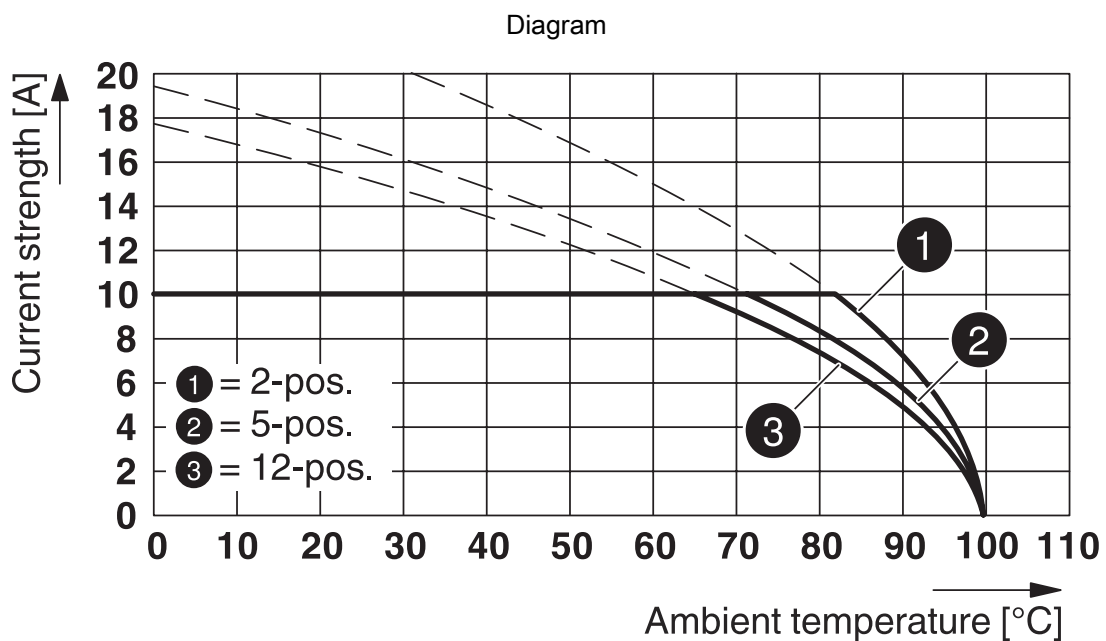


Type: FKCS 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

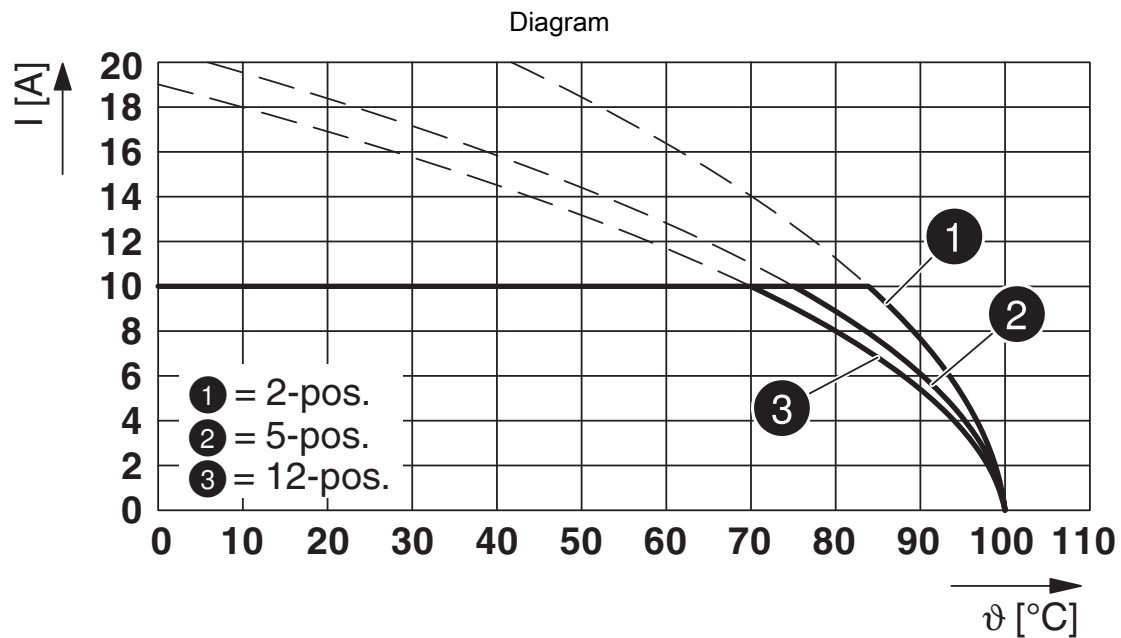
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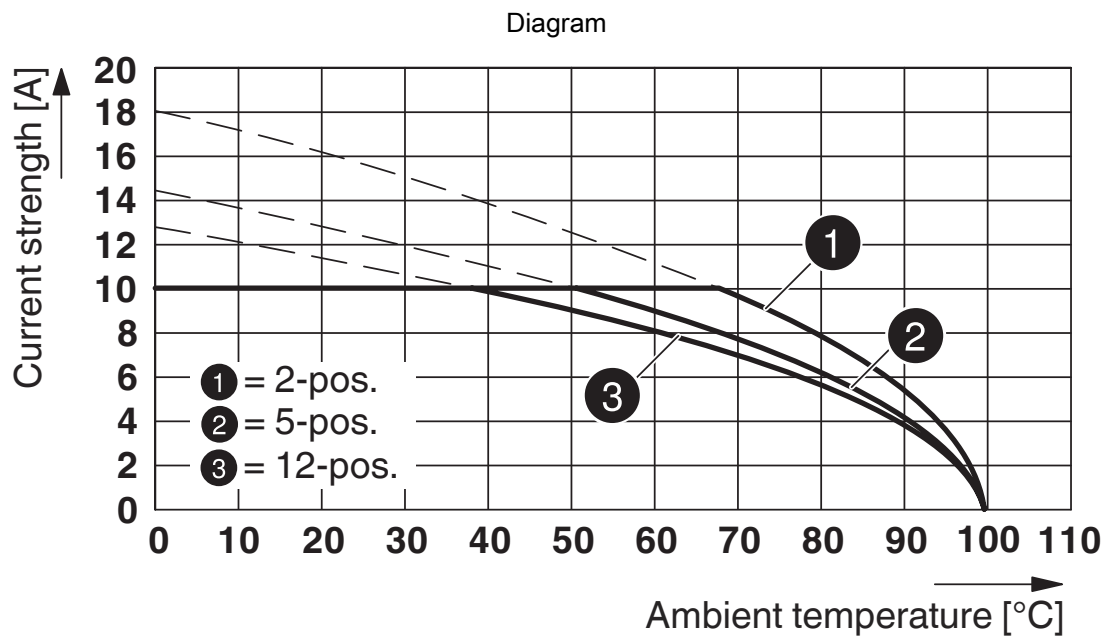
Type: FKCN 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08



Type: MSTB 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

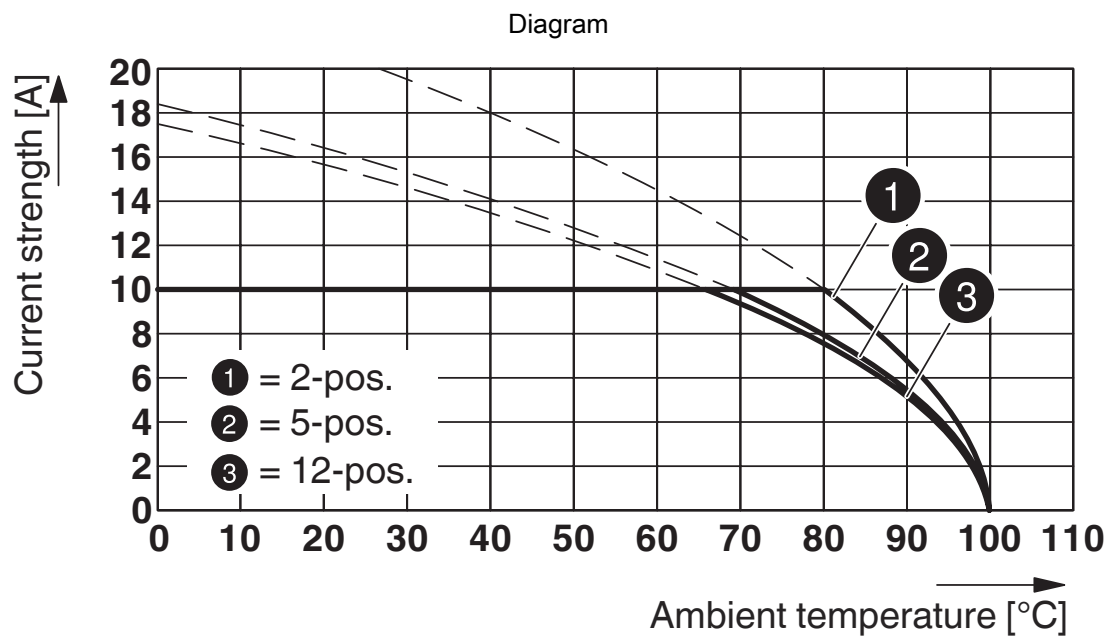


Type: FKCV(W/R) 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

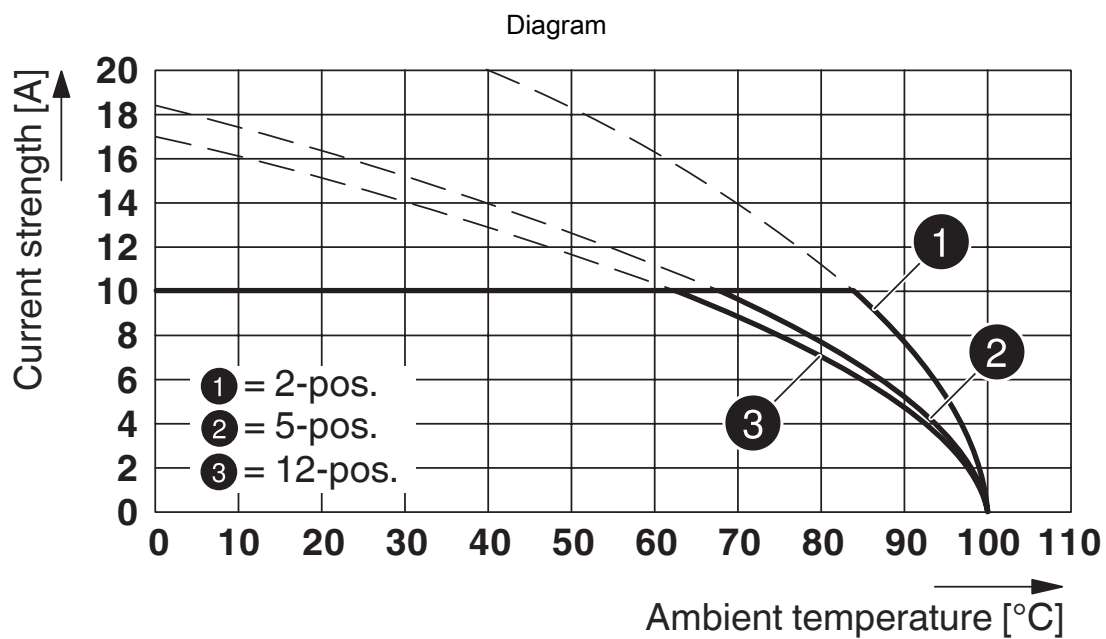


Type: MVSTB(R/W) 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

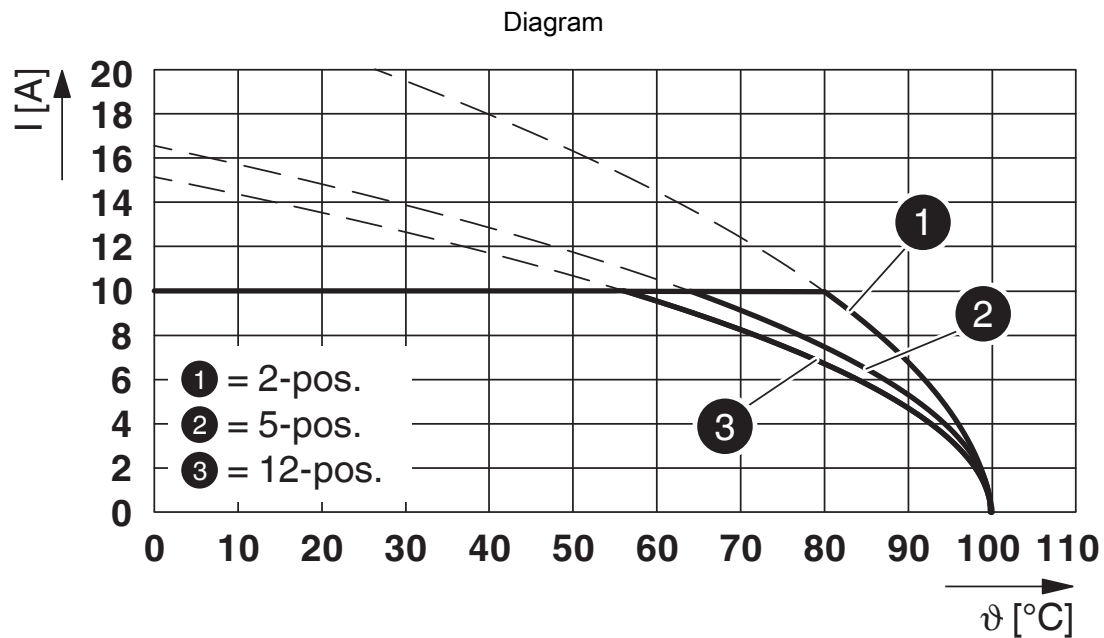




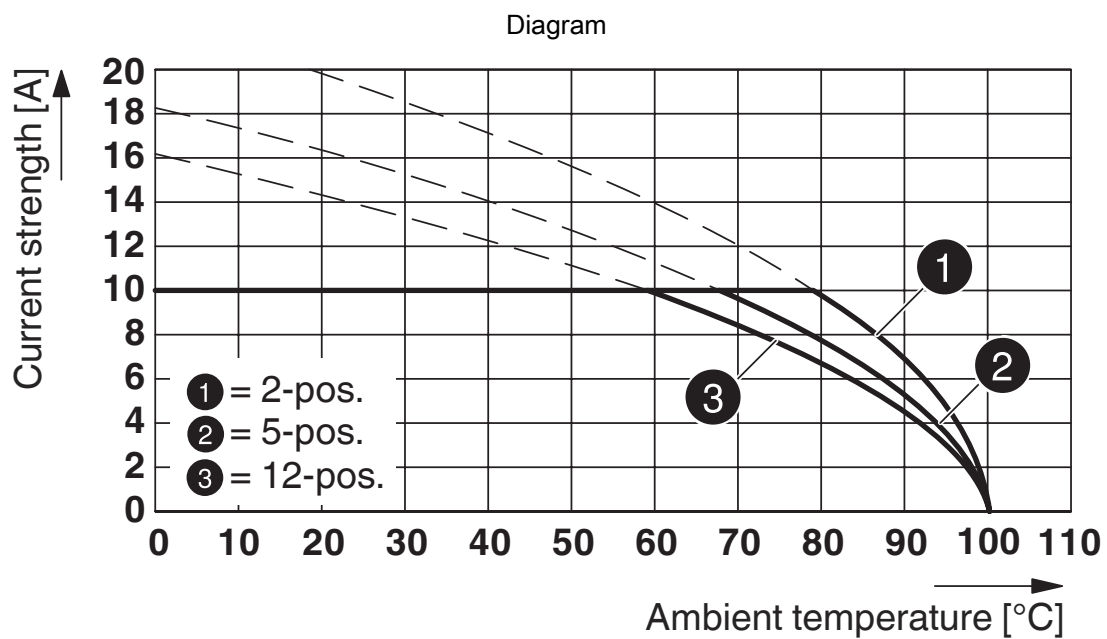
Type: MSTBP 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08



Type: MSTBT 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08



Type: FKCT 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08



Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1800751>



**EAC**

Approval ID: B.01687



**cULus Recognized**

Approval ID: E60425-19931011

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	300 V	15 A	-	-
Use group D				
	300 V	10 A	-	-



**VDE Zeichengenehmigung**

Approval ID: 40050648

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	250 V	10 A	-	-

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## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 8.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

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

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