

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector



1764141

<https://www.phoenixcontact.com/pc/products/1764141>

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PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: MSTB 2,5/...-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: 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	1764141
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Product key	AACAGC
GTIN	4017918225728
Weight per piece (including packing)	15.38 g
Weight per piece (excluding packing)	14.714 g
Customs tariff number	85366990
Country of origin	DE

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector



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## Technical data

### Product properties

Product type	PCB connector
Product family	MSTB 2,5/..-ST
Product line	COMBICON Connectors M
Type	Standard
Number of positions	9
Pitch	5.08 mm
Number of connections	9
Number of rows	1
Number of potentials	9
Mounting flange	no

### Electrical properties

Nominal current $I_N$	12 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	1.3 m $\Omega$
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)	630 V
Rated surge voltage (II/2)	4 kV

### Connection data

#### Connection technology

Type	Standard
Connector system	COMBICON MSTB 2,5
Nominal cross section	2.5 mm <sup>2</sup>
Contact connection type	Socket

#### Interlock

Locking type	without
Mounting flange	without

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

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sleeve	
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm
Tightening torque	0.5 Nm ... 0.6 Nm

## Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
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## Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
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## Material specifications

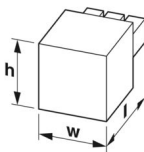
### Material data - contact

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 (5 - 7 µm Sn)
Metal surface contact area (top layer)	Tin (5 - 7 µm Sn)

### Material data - housing

Color (Housing)	black (9005)
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	5.08 mm

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Width [w]	45.72 mm
Height [h]	15 mm
Length [l]	18.3 mm

## Mounting

Drive form screw head	Slotted (L)
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## 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.
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## 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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

### 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

### Torque test

Specification	IEC 60999-1:1999-11
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### 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

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## 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

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	1.3 mΩ
Contact resistance R <sub>2</sub>	1.4 mΩ
Insertion/withdrawal cycles	25

### 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

## 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	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm

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minimum creepage distance (III/3)	3.2 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 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

## Packaging specifications

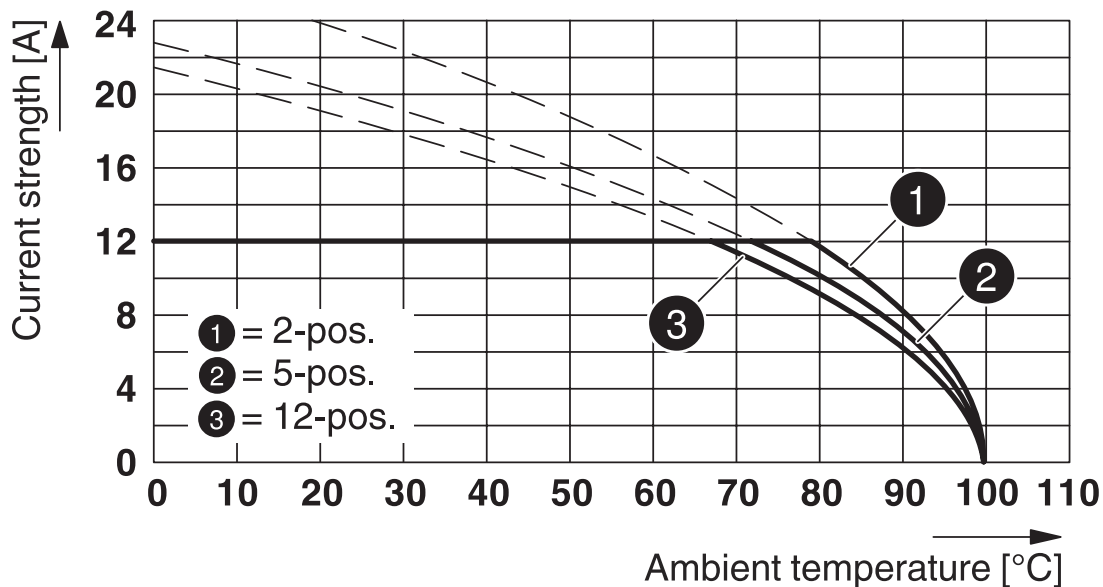
Type of packaging	packed in cardboard
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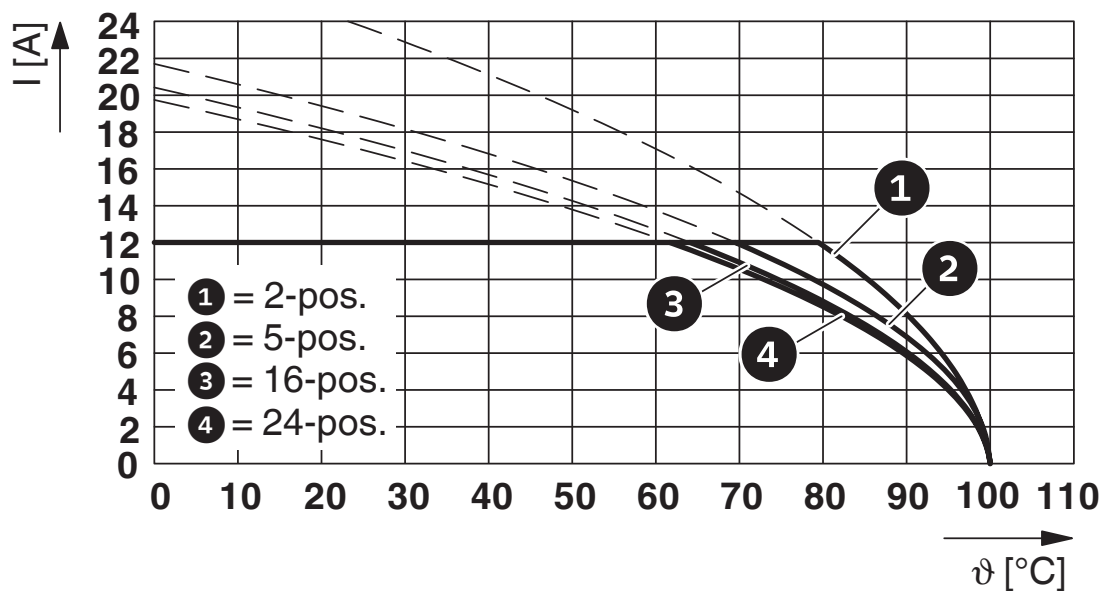
## Drawings

Diagram

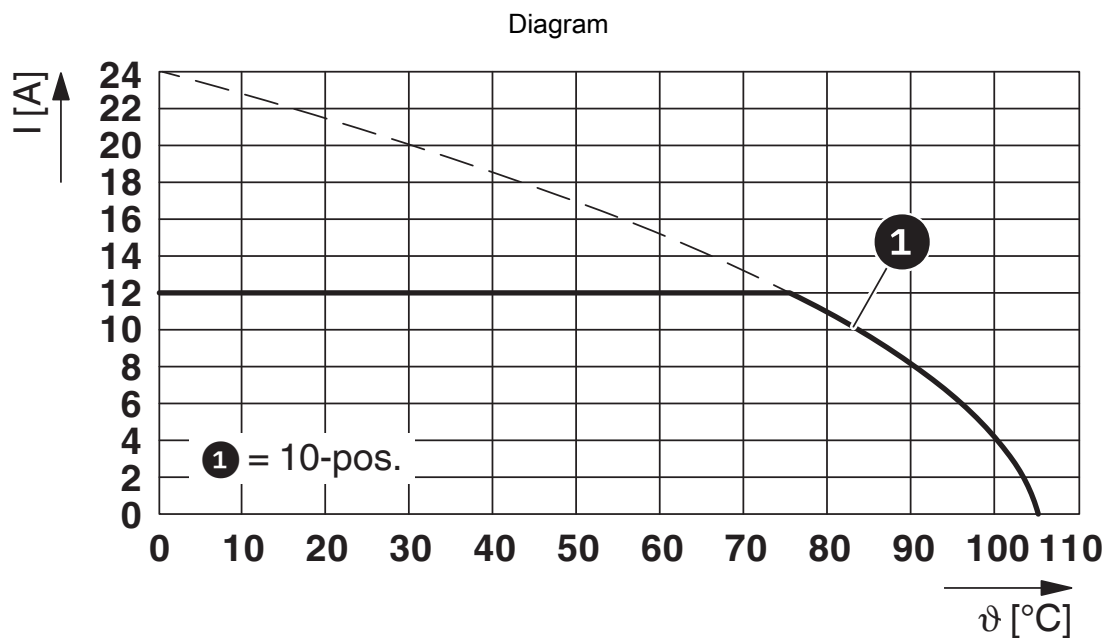


Type: MSTB 2,5/...-ST-5,08 with CCV 2,5/...-G-5,08 P26THR

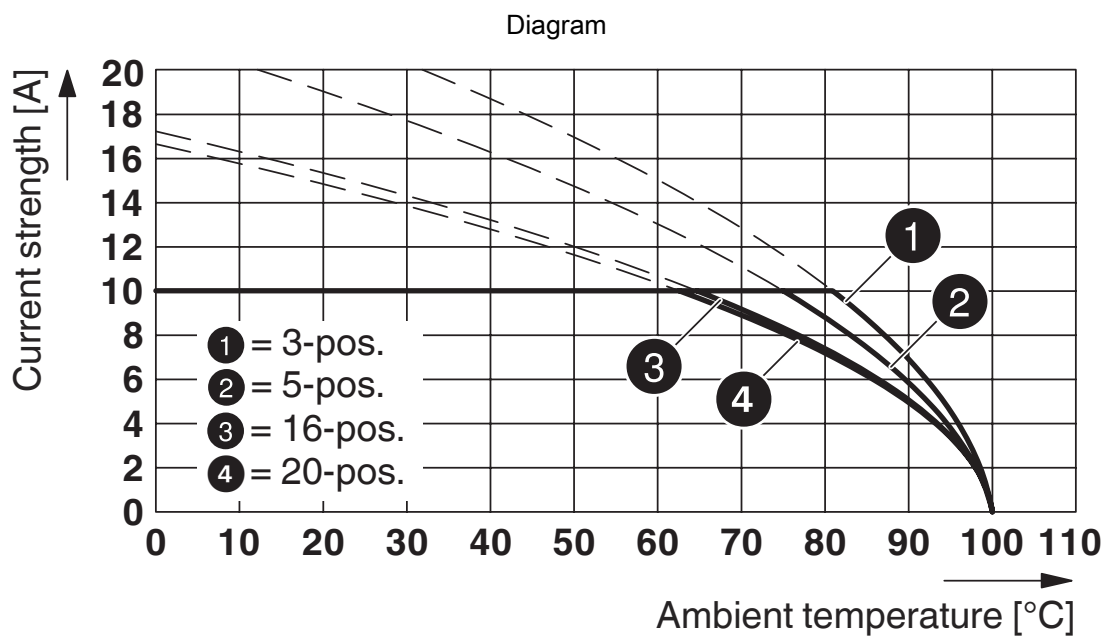
Diagram



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



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



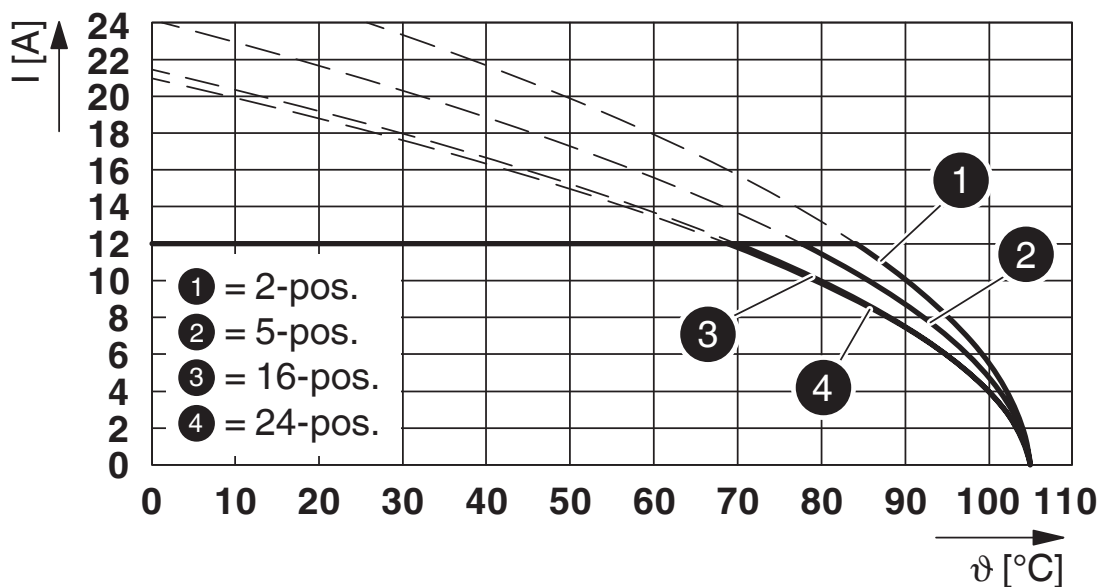
Type: MSTB 2,5/...-ST-5,08 with MDSTBV 2,5/...-G1-5,08



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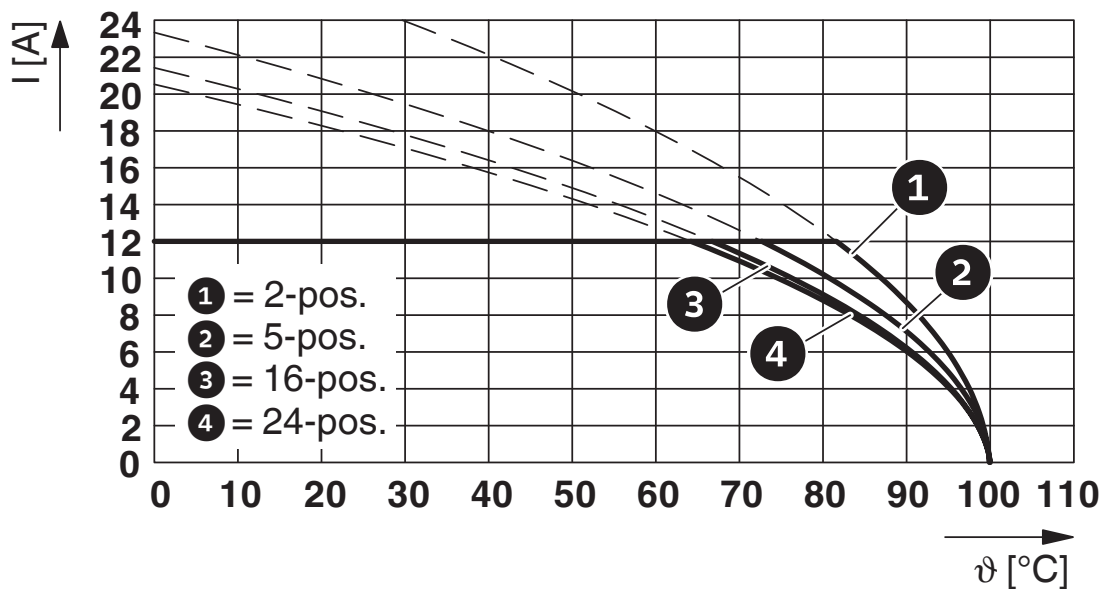
<https://www.phoenixcontact.com/pc/products/1764141>

Diagram



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

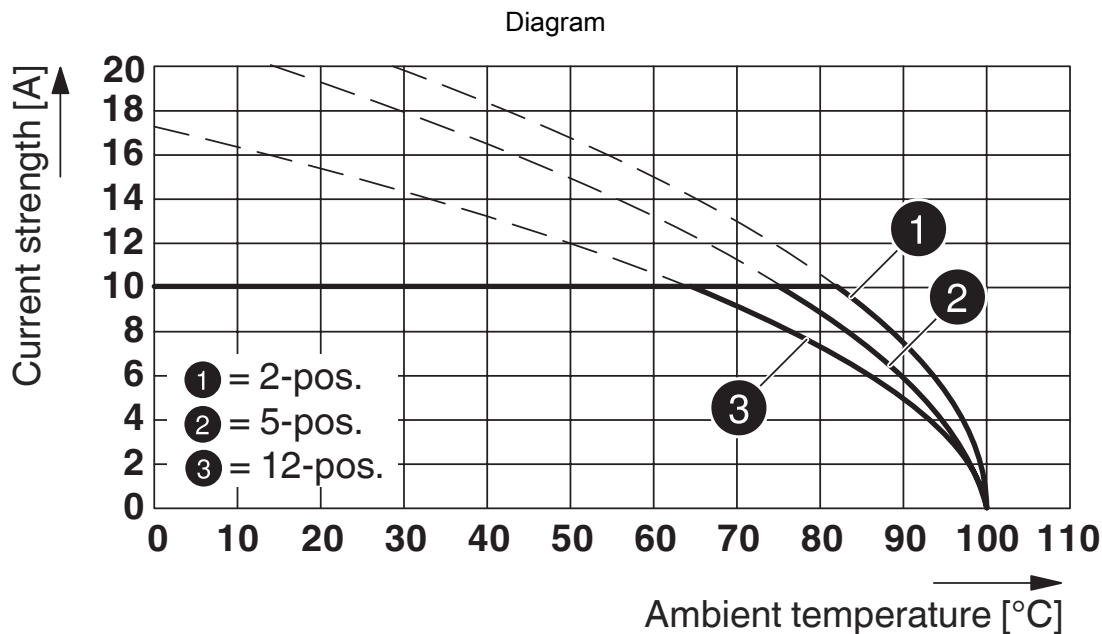
Diagram



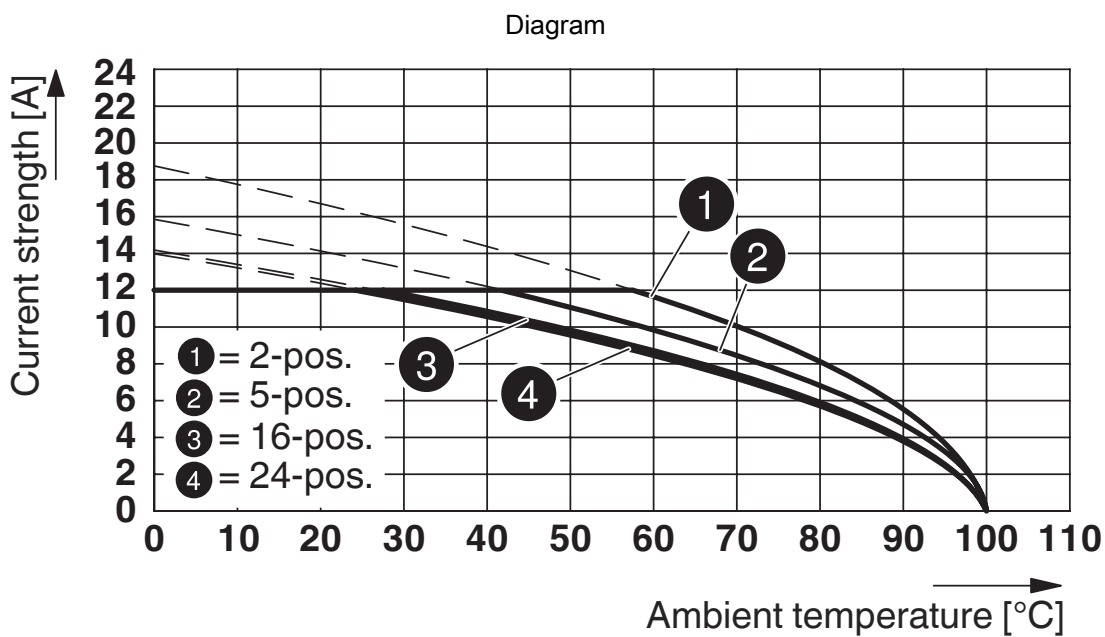
Type: MSTB 2,5/...-ST-5,08 with SMSTBA 2,5/...-G-5,08

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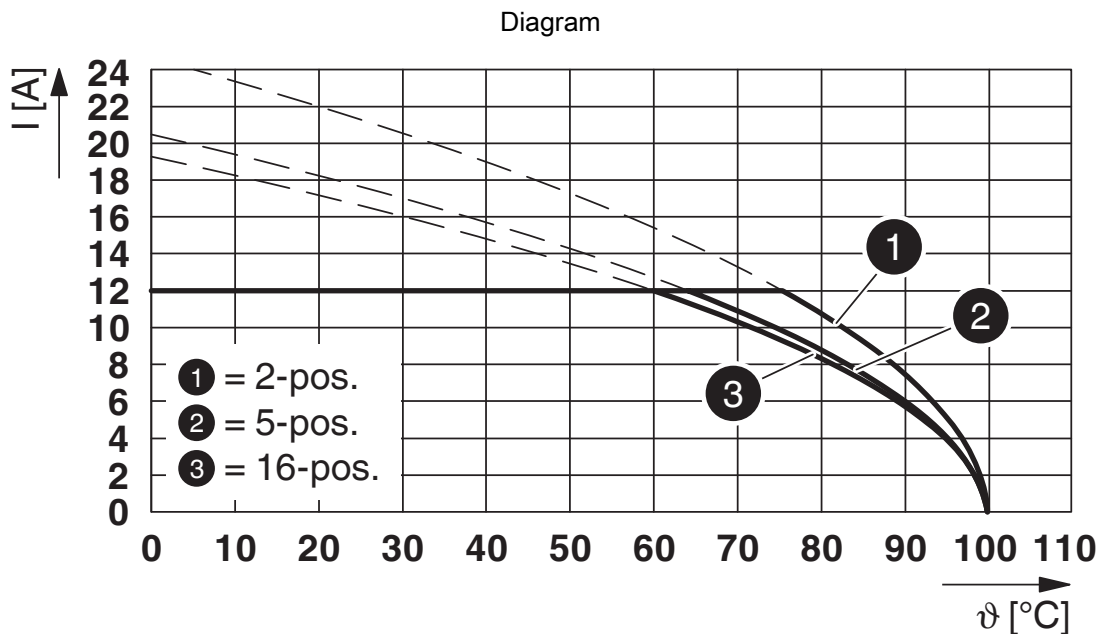
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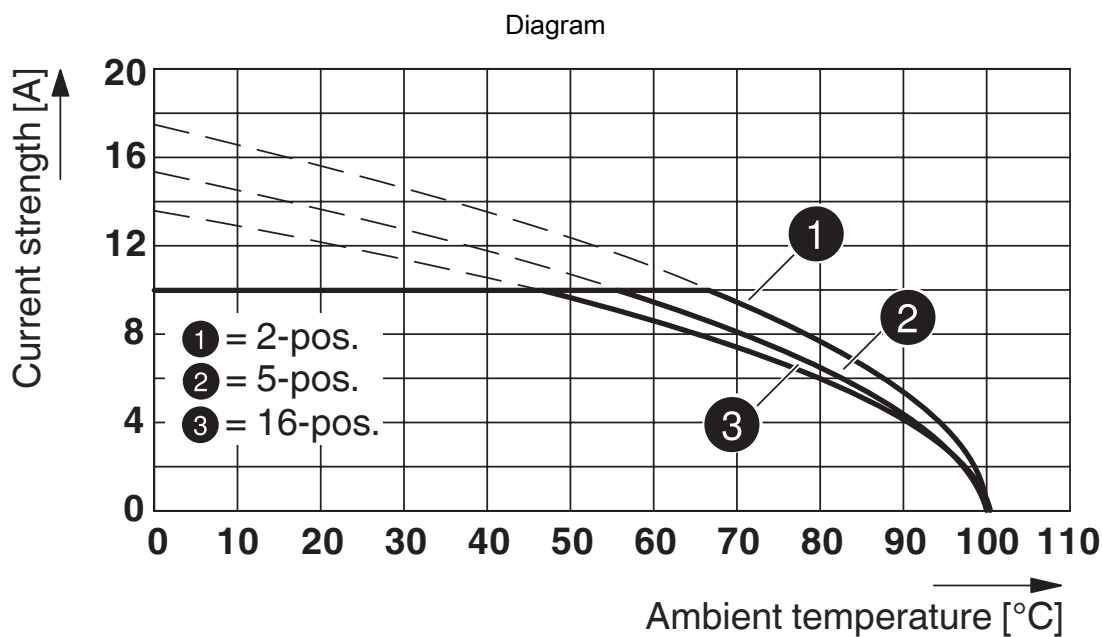
Type: MSTB 2,5/...-ST-5,08 with MDSTBW 2,5/...-G-5,08



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



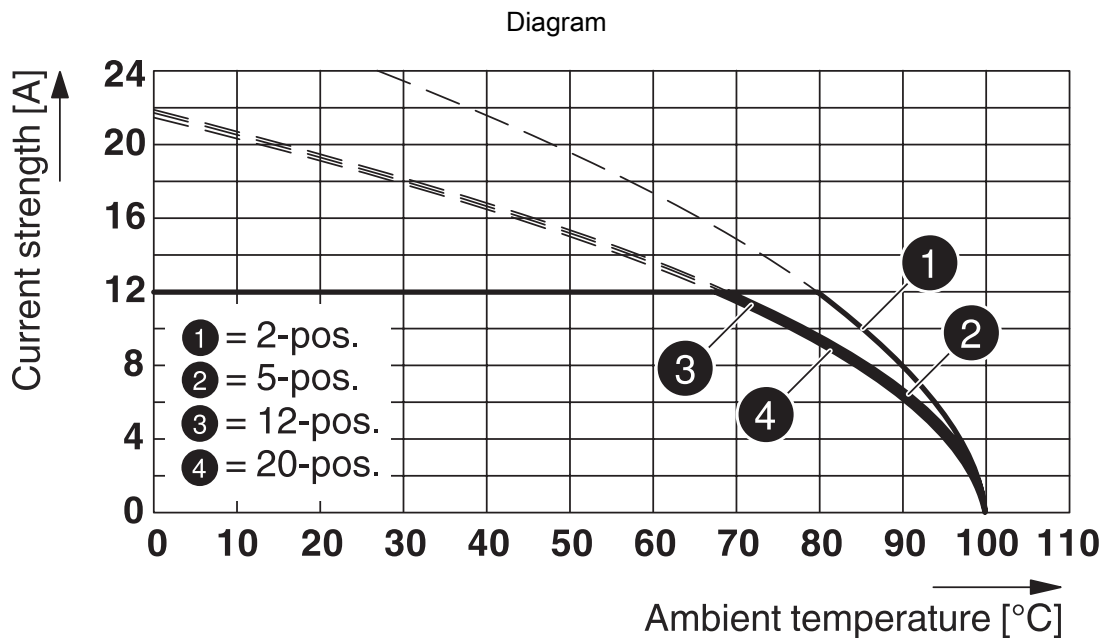
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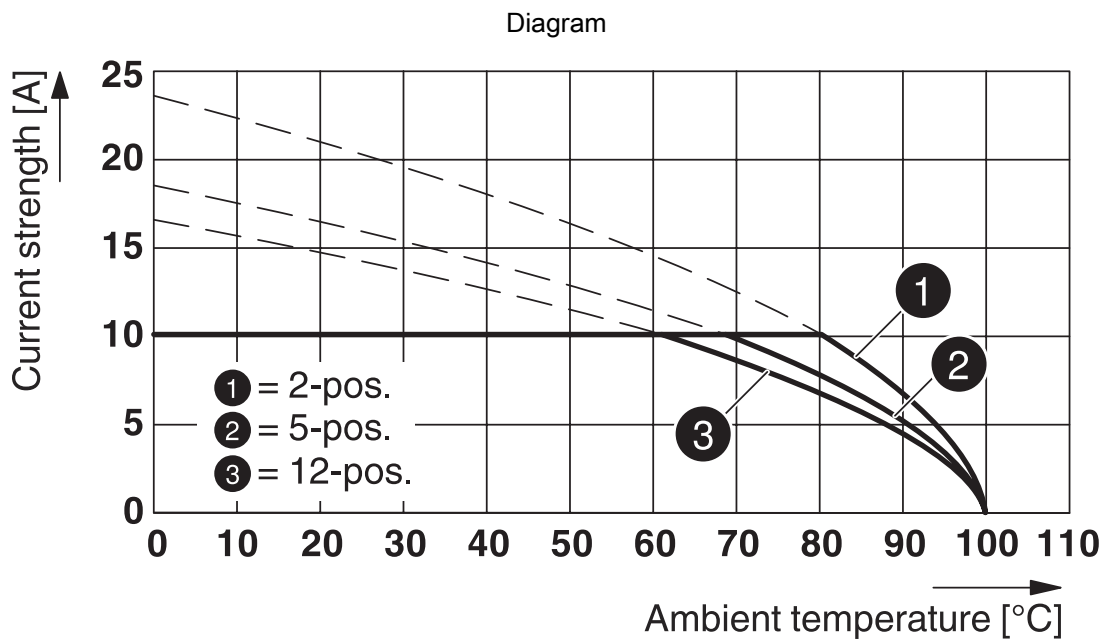
Type: MSTB 2,5/...-ST-5,08 with MDSTBV 2,5/...-G-5,08

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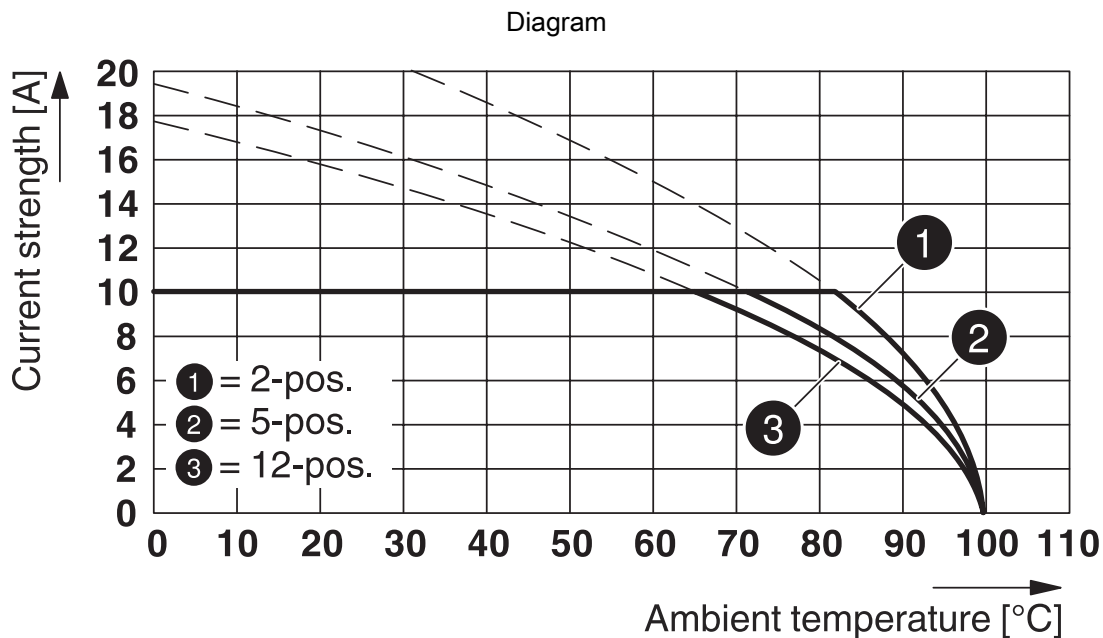
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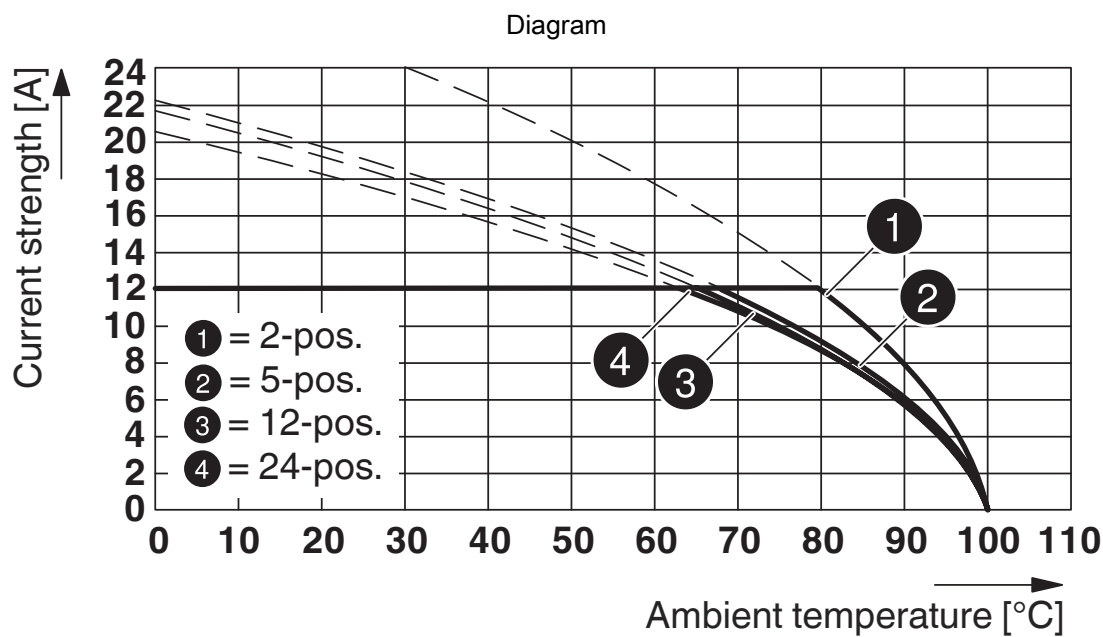
Type: MSTB 2,5/...-ST-5,08 with MVSTBU 2,5/...-GB-5,08



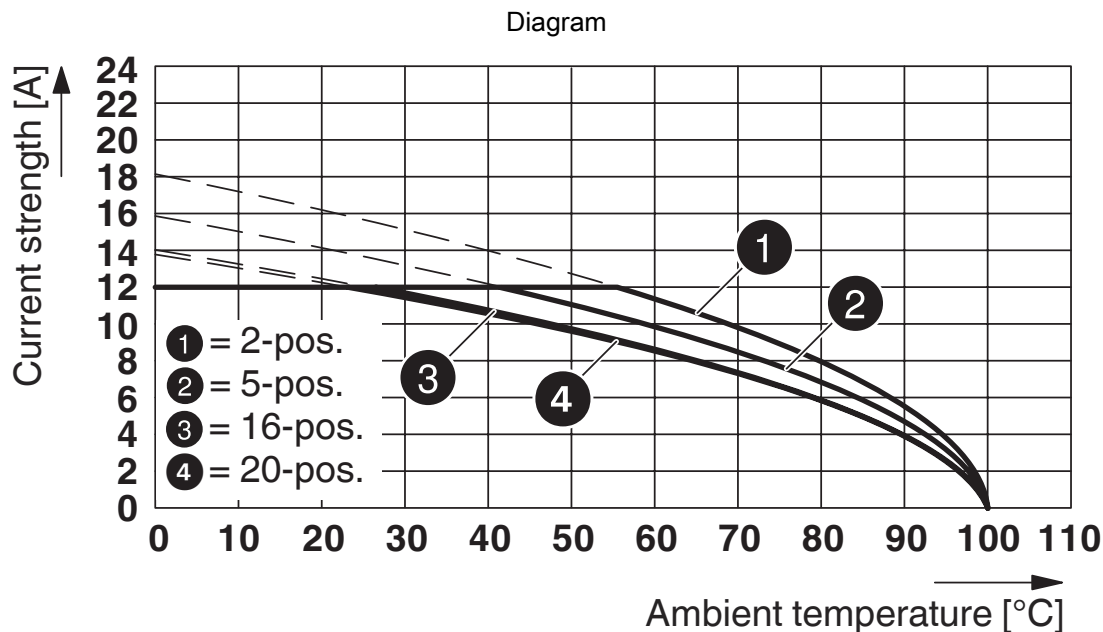
Type: MSTB 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



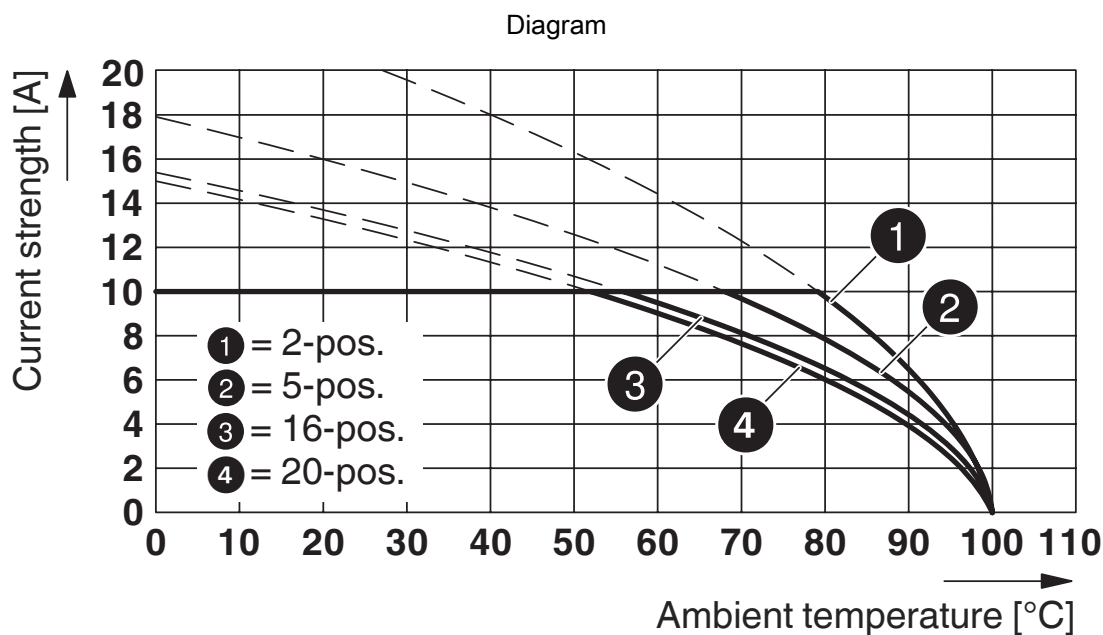
Type: MSTB 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08



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



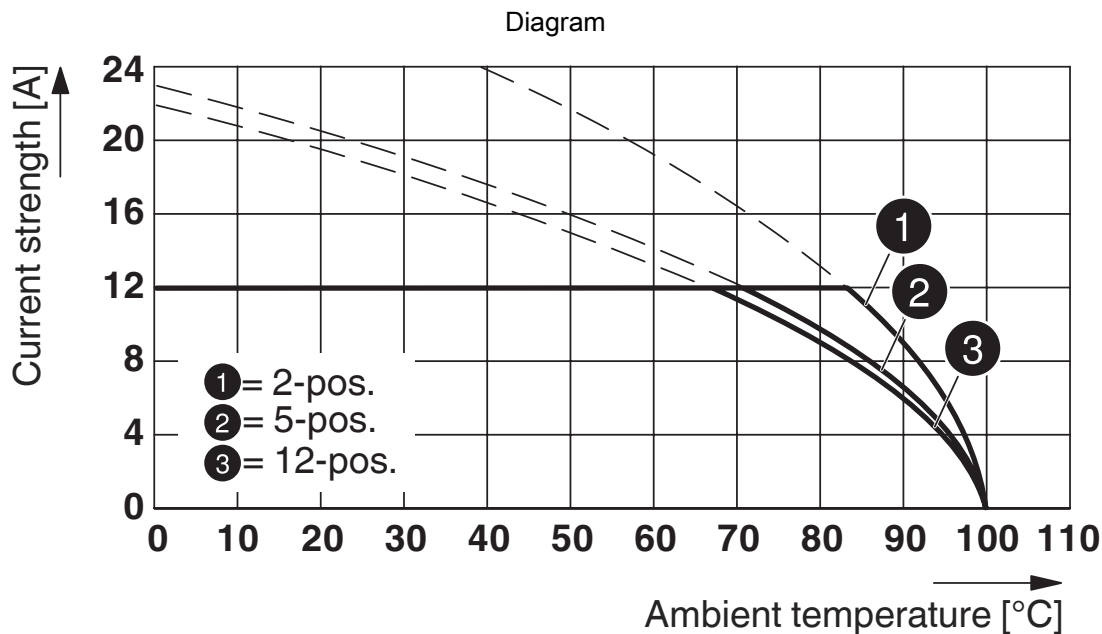
Type: MSTB 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08



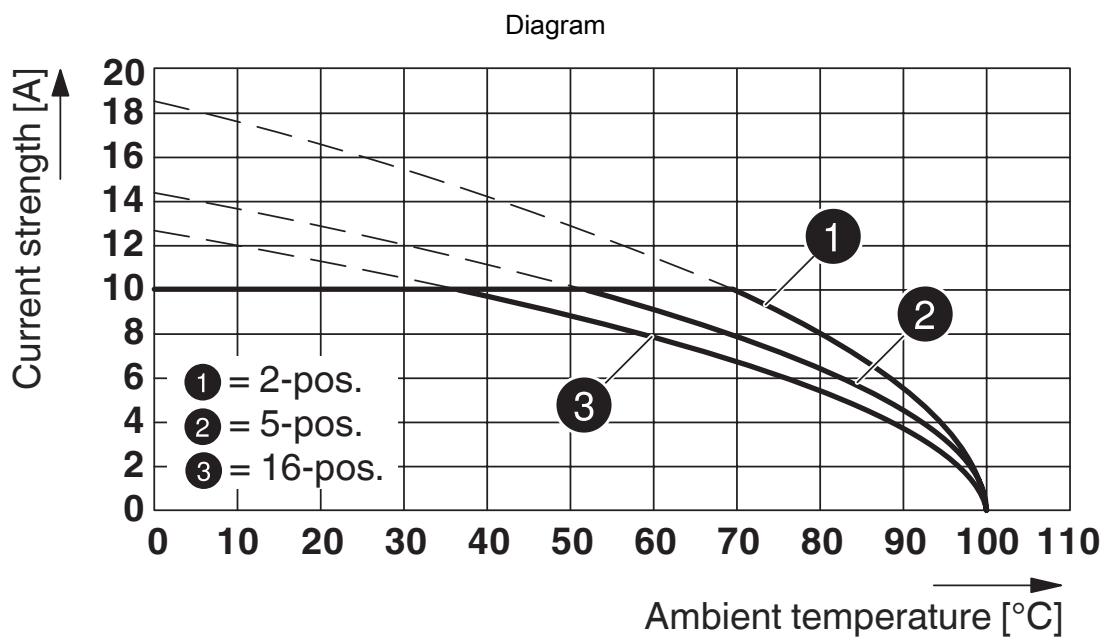
Type: MSTB 2,5/...-ST-5,08 with MDSTB 2,5/...-G1-5,08

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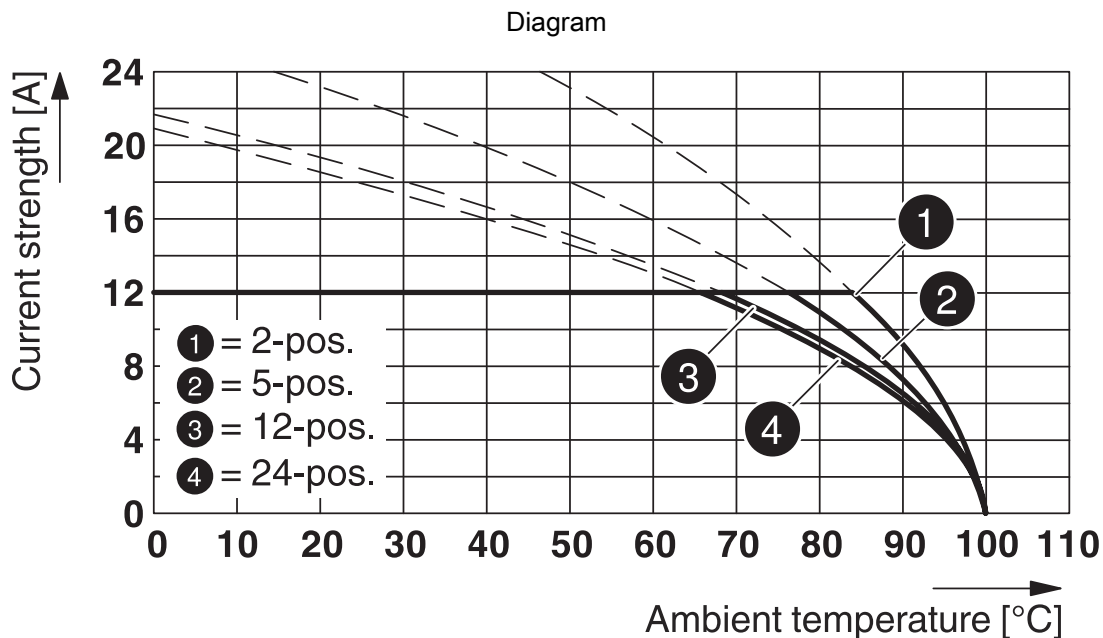
Type: MSTB 2,5/...-ST-5,08 with CC 2,5/...-G-5,08 P26THR



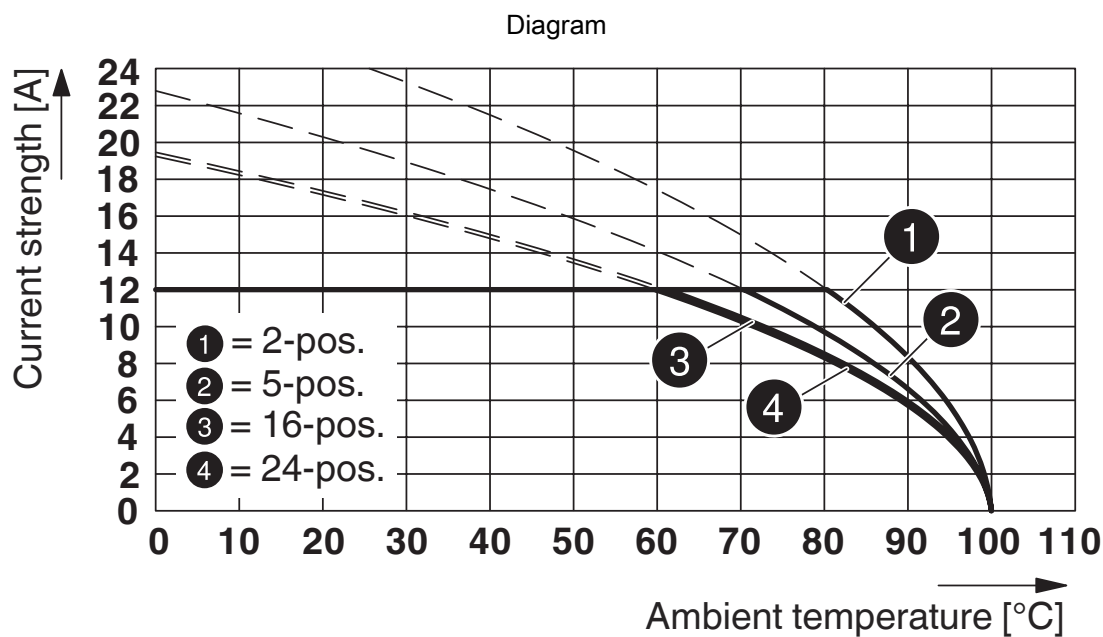
Type: MSTB 2,5/...-ST-5,08 with MDSTBVA 2,5/...-G-5,08

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Type: MSTB 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



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



# MSTB 2,5/ 9-ST-5,08 BK - PCB connector





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<https://www.phoenixcontact.com/pc/products/1764141>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1764141>

 <b>CSA</b> Approval ID: 13631-2585951				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	300 V	15 A	28 - 12	-
Use group D				
	300 V	10 A	28 - 12	-

 <b>cULus Recognized</b> 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	30 - 12	-
Use group D				
	300 V	10 A	30 - 12	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40050694				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	250 V	12 A	-	0.2 - 2.5

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector



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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC002638
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### UNSPSC

UNSPSC 21.0	39121400
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# MSTB 2,5/ 9-ST-5,08 BK - PCB connector



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<https://www.phoenixcontact.com/pc/products/1764141>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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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# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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## Accessories

 Note: Applying some accessories below might limit this product.


### EBP 2- 5 - Insertion bridge

1733169

<https://www.phoenixcontact.com/pc/products/1733169>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A


### EBP 3- 5 - Insertion bridge

1733172

<https://www.phoenixcontact.com/pc/products/1733172>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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<https://www.phoenixcontact.com/pc/products/1764141>

## EBP 4- 5 - Insertion bridge

1733185

<https://www.phoenixcontact.com/pc/products/1733185>



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

 Max. current carrying capacity: 12 A

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## EBP 5- 5 - Insertion bridge

1733198

<https://www.phoenixcontact.com/pc/products/1733198>



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

 Max. current carrying capacity: 12 A

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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<https://www.phoenixcontact.com/pc/products/1764141>


## EBP 6- 5 - Insertion bridge

1733208

<https://www.phoenixcontact.com/pc/products/1733208>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A

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## SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/pc/products/1205053>

Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip



# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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## SK 5,08/3,8:FORTL.ZAHLEN - Marker card

0804293

<https://www.phoenixcontact.com/pc/products/0804293>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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## KGS-MSTB 2,5/ 9 - Cable housing

1783782

<https://www.phoenixcontact.com/pc/products/1783782>



Cable housing, color: green, product range: KGS-MSTB 2,5

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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## KGS-MSTB 2,5/ 9 BK - Cable housing

1805123

<https://www.phoenixcontact.com/pc/products/1805123>



Cable housing, for cable diameters of 6 ... 13.5 mm, marker strips and transparent label carrier are included, color: Black, no. of positions: 9

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## CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/pc/products/1734634>



Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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## UKK 3-MSTBVH-5,08 - Double-level terminal block

2770846

<https://www.phoenixcontact.com/pc/products/2770846>



Double-level terminal block, nom. voltage: 250 V, nominal current: 12 A, number of connections: 4, number of positions: 1, connection method: Screw/plug-in connection, 1st and 2nd level connection left, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, NS 32, color: gray

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## UK 3-MVSTB-5,08 - Feed-through terminal block

3002076

<https://www.phoenixcontact.com/pc/products/3002076>



Feed-through terminal block, nom. voltage: 250 V, nominal current: 12 A, number of connections: 2, number of positions: 1, connection method: Screw/plug-in connection, 1st level connection left, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 32, NS 35/15, NS 35/7,5, color: gray

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

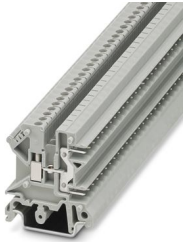
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## UK 3-MSTB-5,08 - Feed-through terminal block

3002034

<https://www.phoenixcontact.com/pc/products/3002034>



Feed-through terminal block, nom. voltage: 250 V, nominal current: 12 A, number of connections: 3, number of positions: 1, connection method: Screw/plug-in connection, 2nd level connection left, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 32, NS 35/15, NS 35/7,5, color: gray

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## MSTBVK 2,5/ 9-G-5,08 - DIN rail connector

1788790

<https://www.phoenixcontact.com/pc/products/1788790>



DIN rail connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: MSTBVK 2,5/..-G, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: DIN rail, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

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<https://www.phoenixcontact.com/pc/products/1764141>

## UKK 3-MSTB-5,08-PE - Double-level terminal block

1876615

<https://www.phoenixcontact.com/pc/products/1876615>



Double-level terminal block, number of connections: 4, number of positions: 1, connection method: Screw/plug-in connection, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, NS 32, color: green-yellow

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## UMSTBVK 2,5/ 9-G-5,08 - DIN rail connector

1788185

<https://www.phoenixcontact.com/pc/products/1788185>



DIN rail connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: UMSTBVK 2,5/..-G, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: DIN rail, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector

1764141

<https://www.phoenixcontact.com/pc/products/1764141>

## SMSTBA 2,5/ 9-G-5,08 - PCB header

1767449

<https://www.phoenixcontact.com/pc/products/1767449>



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: SMSTBA 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 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

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## SMSTB 2,5/ 9-G-5,08 - PCB header

1769531

<https://www.phoenixcontact.com/pc/products/1769531>



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: SMSTB 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 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

# MSTB 2,5/ 9-ST-5,08 BK - PCB connector



1764141

<https://www.phoenixcontact.com/pc/products/1764141>

## ICC 2,5/ 9-STZ-5,08 - PCB connector

1823914

<https://www.phoenixcontact.com/pc/products/1823914>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Pin, number of potentials: 9, number of rows: 1, number of positions: 9, number of connections: 9, product range: ICC 2,5/...-STZ, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Snap-in locking, mounting: Engagement nose, type of packaging: packed in cardboard, Corresponding male crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 10A/ICC-MT 0,5-1,0 (3190577); 10A/ICC-MT 0,5-1,0 BA (3190603); 12A/ICC-MT 1,5-2,5 (3190580); 12A/ICC-MT 1,5-2,5 BA (3190593). BA = Bandkontakte

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