

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

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: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTB 2,5/...-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, 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	1715061
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to Order (non-returnable)
Product Key	AACAFC
GTIN	4055626400570
Weight per Piece (including packing)	6.84 g
Weight per Piece (excluding packing)	6.565 g
Country of origin	DE

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

## Technical Data

### Product properties

Product line	COMBICON Connectors M
Product type	PCB plug
Product family	MSTB 2,5/...-ST
Number of positions	4
Pitch	5 mm
Number of connections	4
Number of rows	1
Number of potentials	4

### Electrical properties

Nominal current $I_N$	12 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	1.4 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)	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>
Type of contact	Female connector

#### Interlock

Locking type	without
Mounting flange	without

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross section solid	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 sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

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

## 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)	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

### Material data – actuating element

Color ( )	( )
-----------	-----

## Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	20 mm
Height [h]	15 mm
Length [l]	18.2 mm

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

## 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.
--------------------	--

## 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
---------------	---------------------

### Contact holder in insert

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

### Visual inspection

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

### Dimension check

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

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

## 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
Contact resistance $R_1$	1.4 m $\Omega$
Contact resistance $R_2$	1.5 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

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	24

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 M $\Omega$

### 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

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

minimum clearance value - non-homogenous field (III/3)	3 mm
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

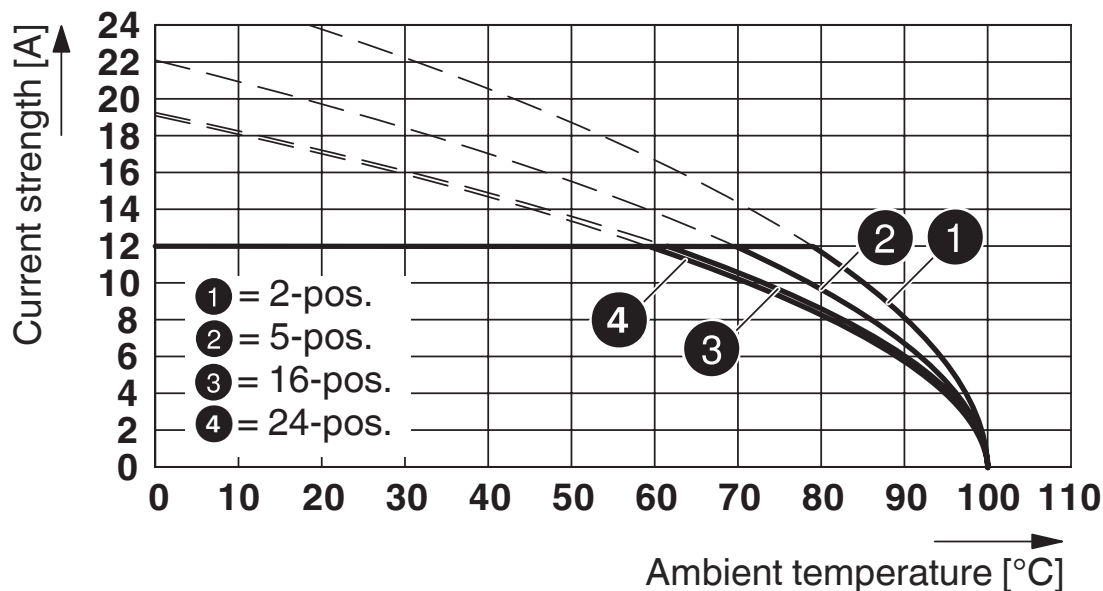
Type of packaging	packed in cardboard
-------------------	---------------------

1715061

<https://www.phoenixcontact.com/us/products/1715061>

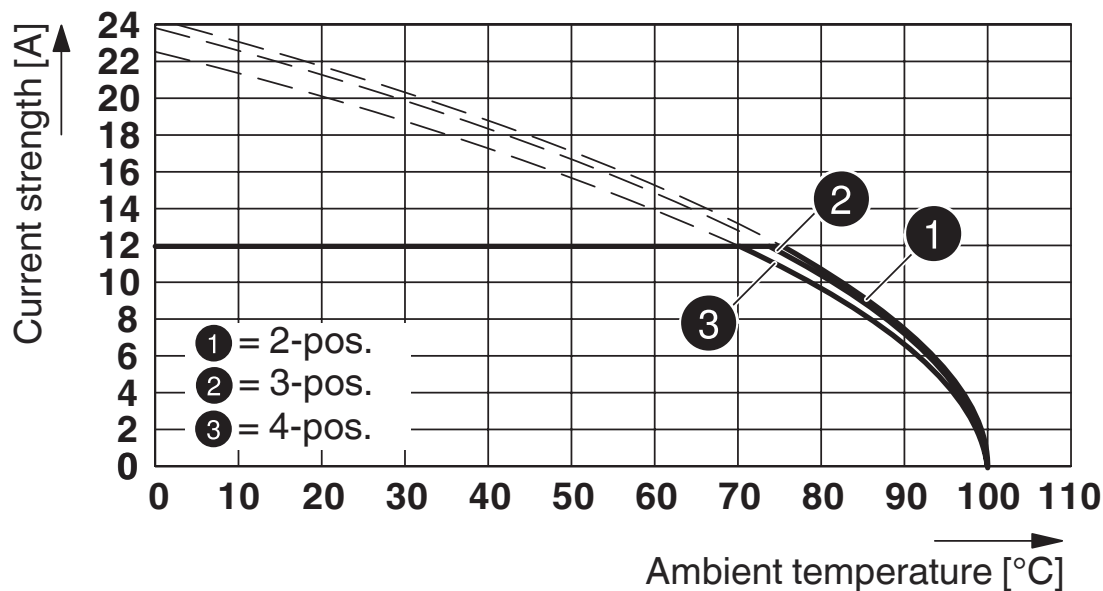
## Drawings

Diagram



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

Diagram



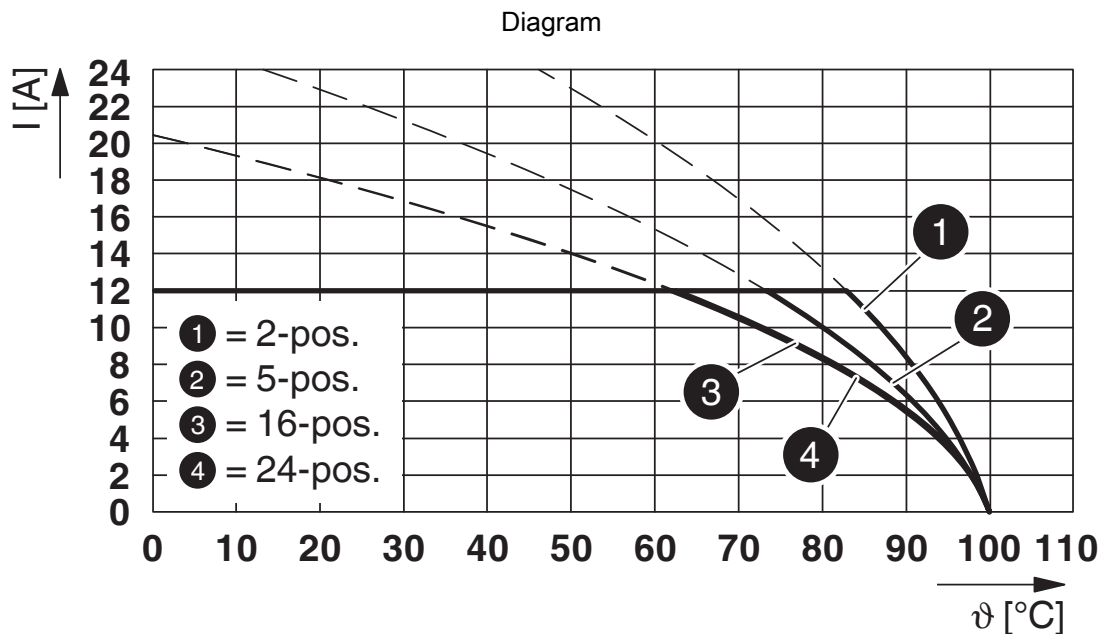
Type: MSTB 2,5/...-ST with MSTBO 2,5/...-G1R

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector

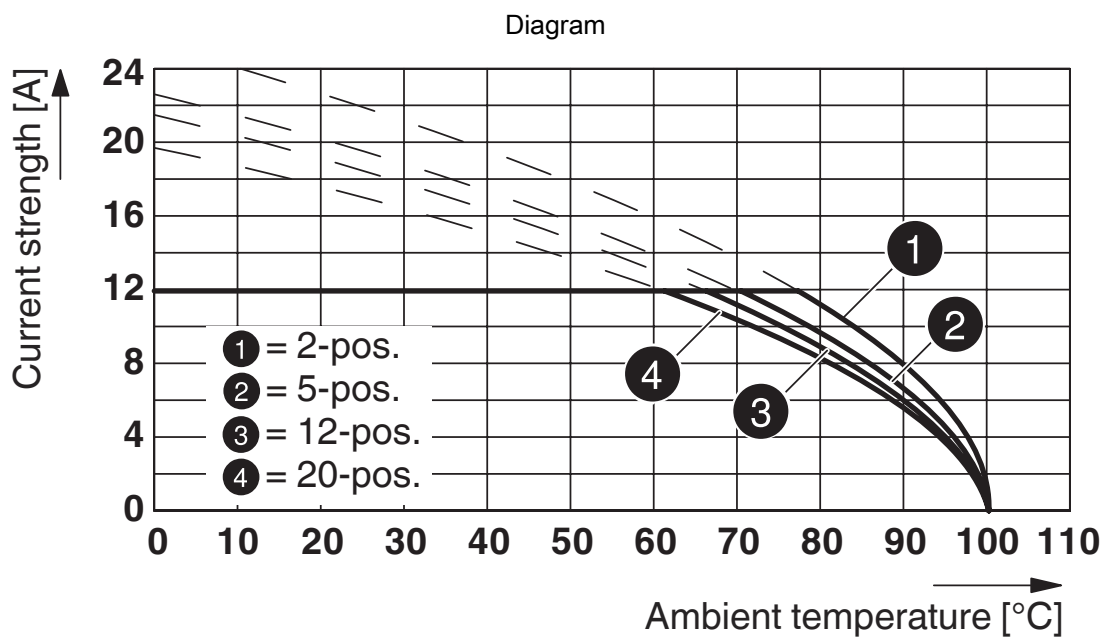


1715061

<https://www.phoenixcontact.com/us/products/1715061>



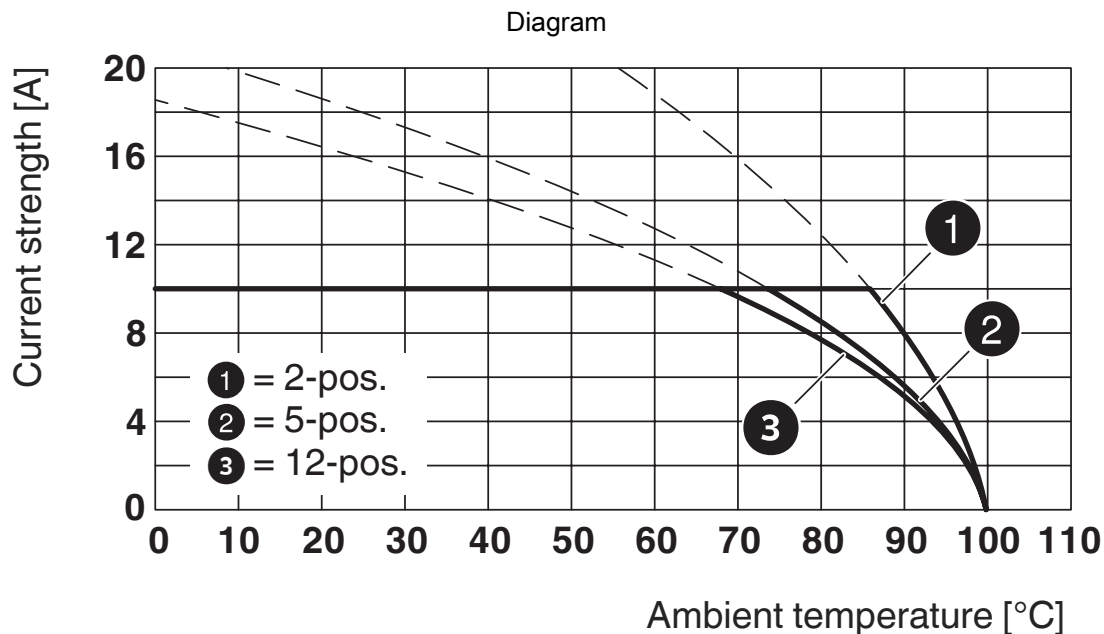
Type: MSTB 2,5/...-ST with MSTB 2,5/...-G



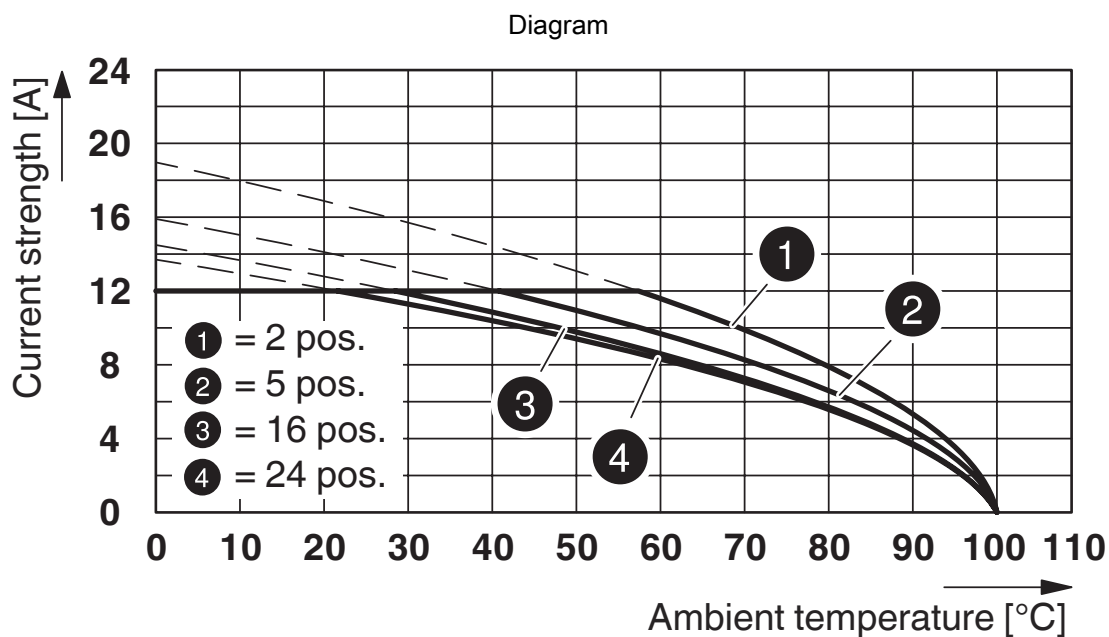
Type: MSTB 2,5/...-ST with MSTBW 2,5/...-G

1715061

<https://www.phoenixcontact.com/us/products/1715061>



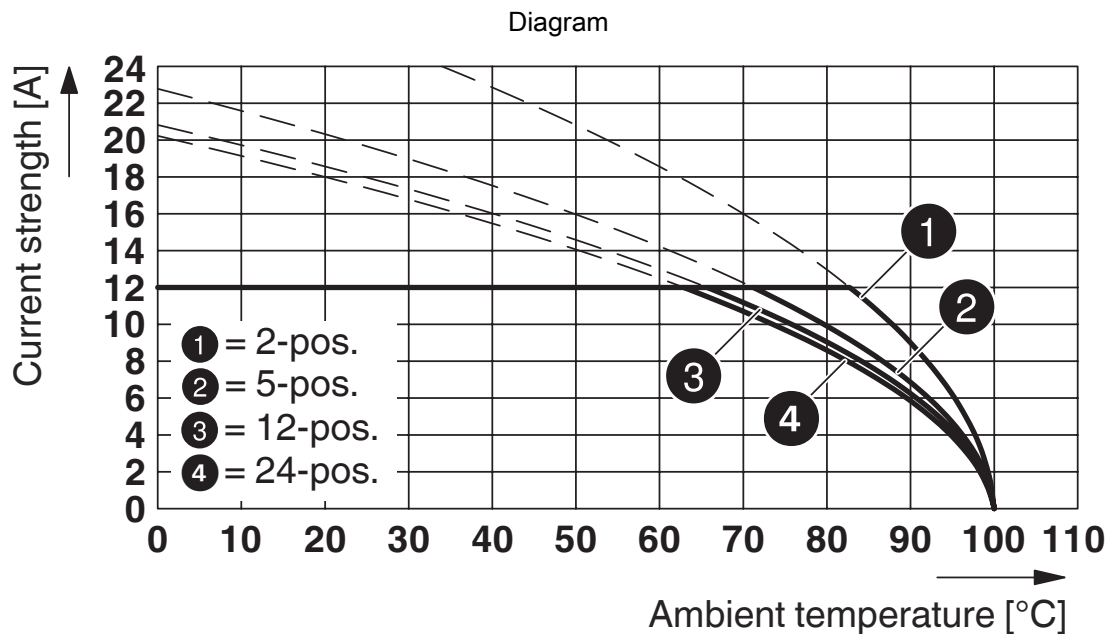
Type: MSTB 2,5/...-ST with MDSTBV 2,5/...-G



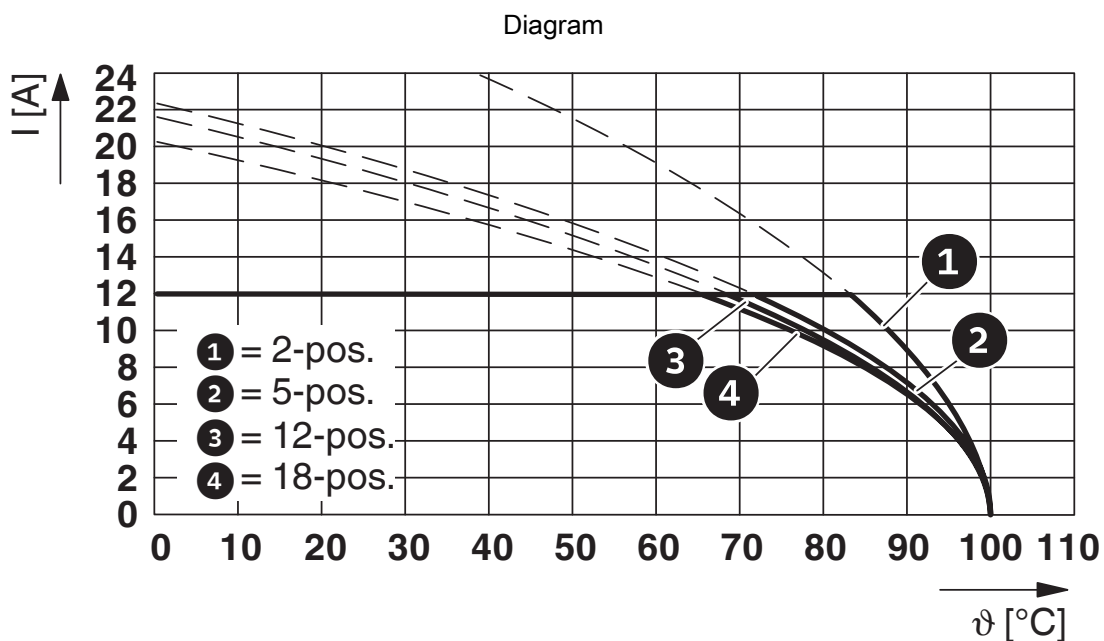
Type: MSTB 2,5/...-ST with MSTBV 2,5/...-G

1715061

<https://www.phoenixcontact.com/us/products/1715061>



Type: MSTB 2,5/...-ST with CCVA 2,5/...-G P20 THR



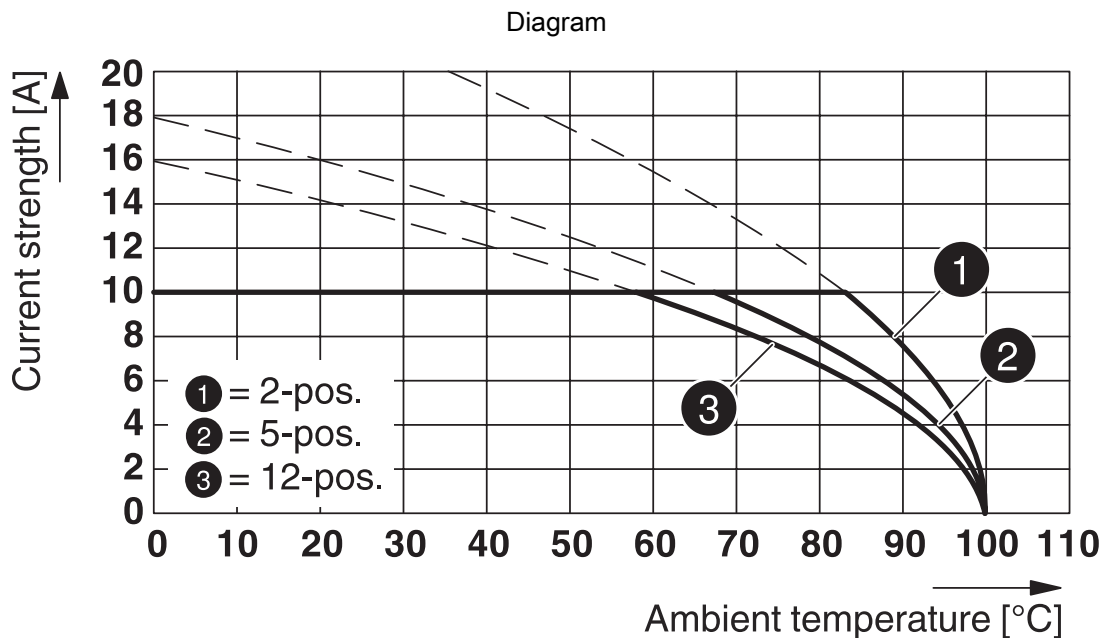
Type: MSTB 2,5/...-ST with FKIC 2,5/...-ST

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector

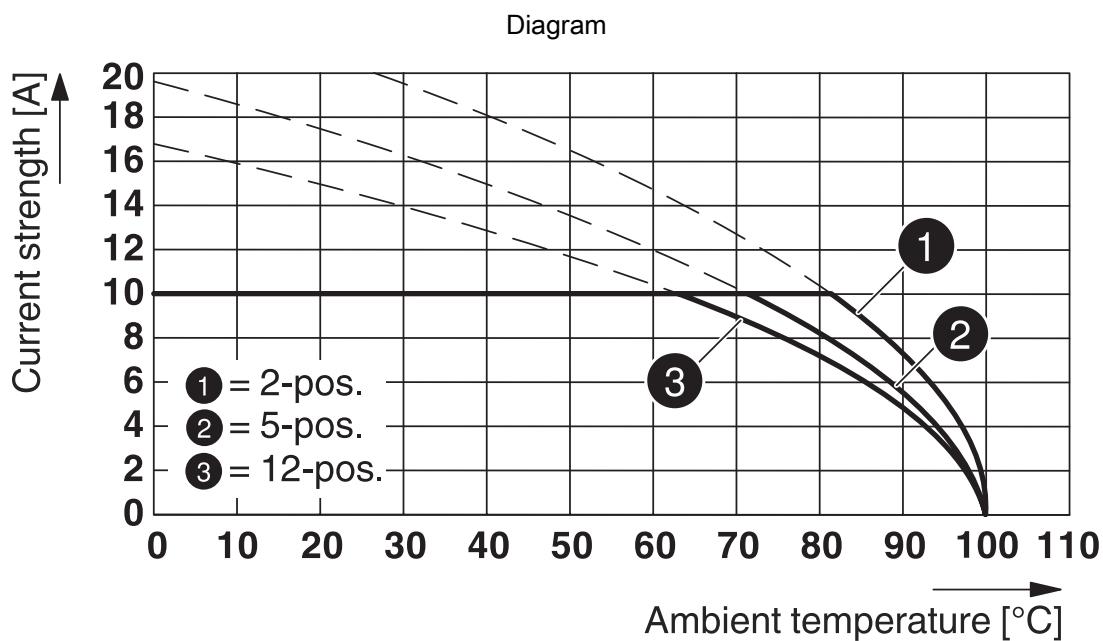


1715061

<https://www.phoenixcontact.com/us/products/1715061>



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



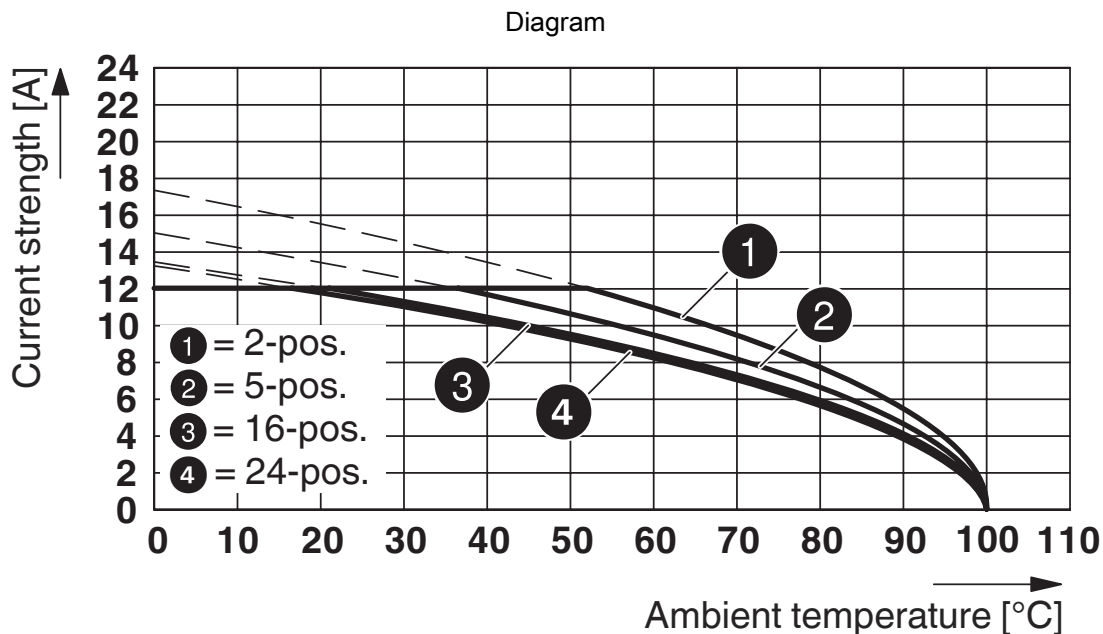
Type: MSTB 2,5/...-ST with MDSTBW 2,5/...-G

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector

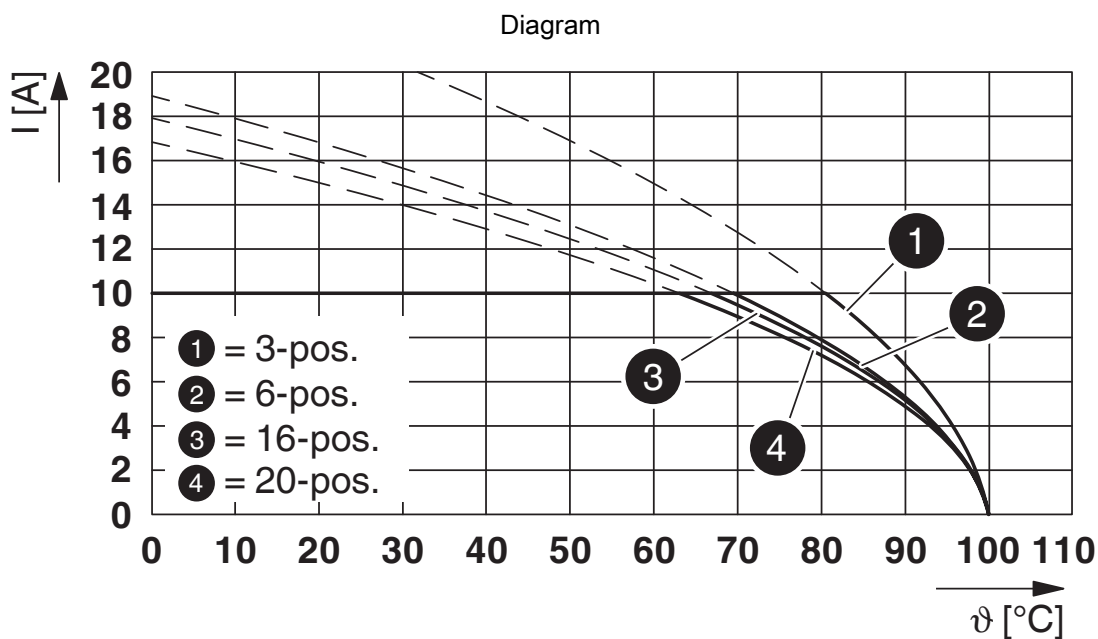


1715061

<https://www.phoenixcontact.com/us/products/1715061>



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



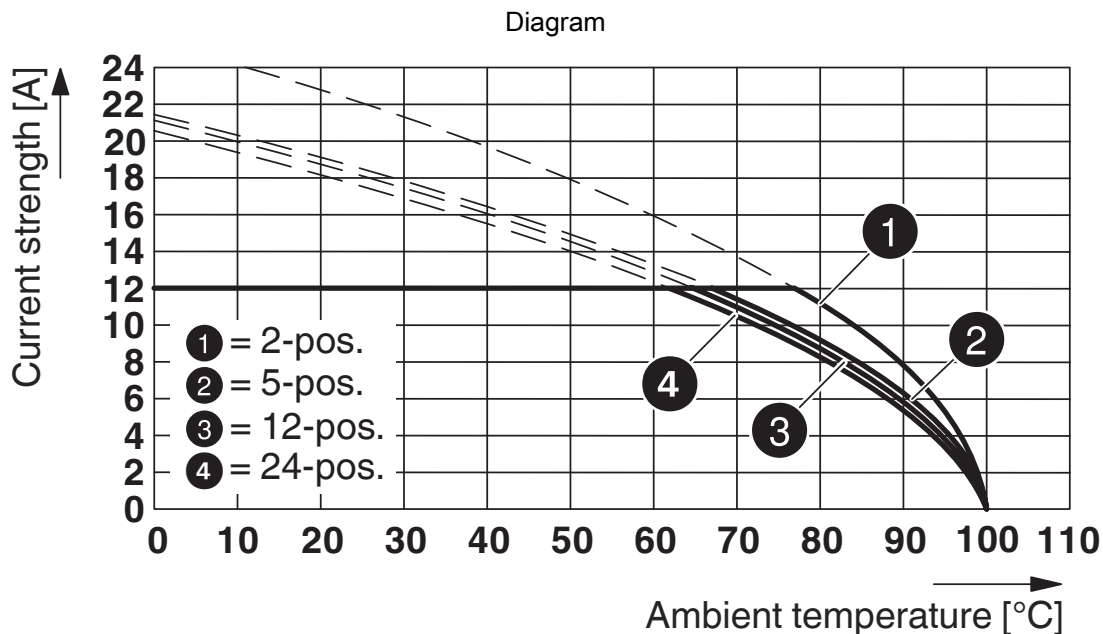
Type: MSTB 2,5/...-ST with MDSTB 2,5/...-G1

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector

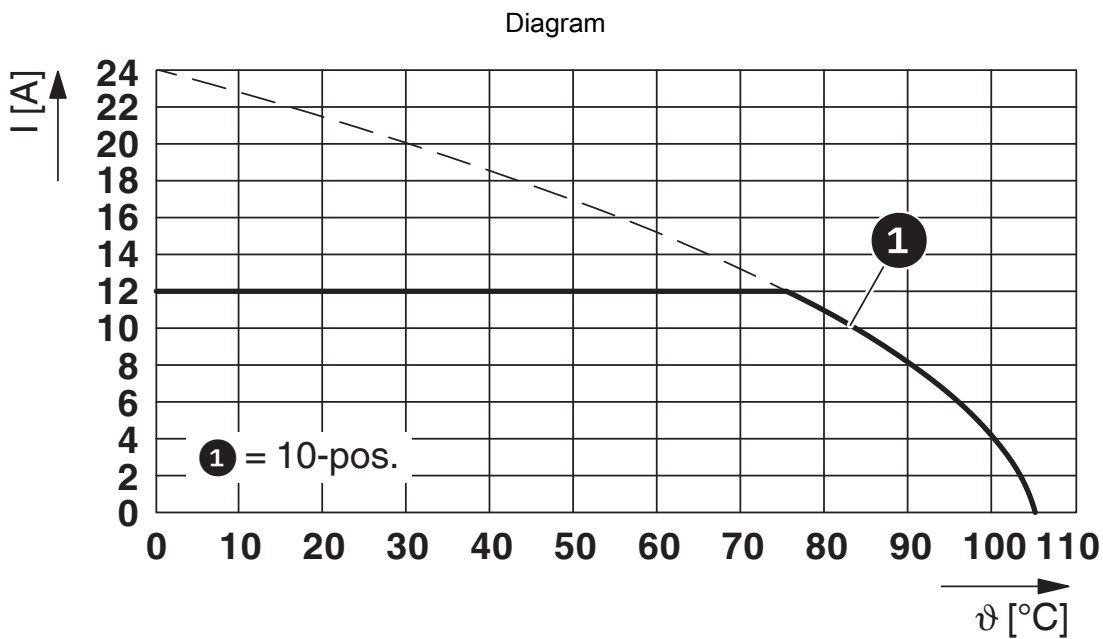


1715061

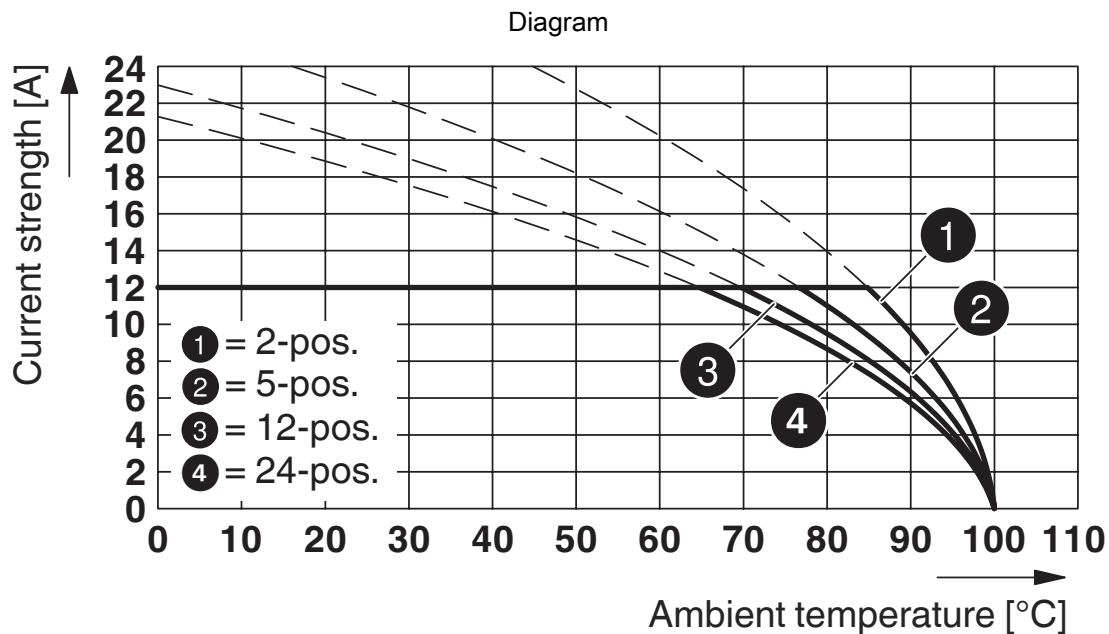
<https://www.phoenixcontact.com/us/products/1715061>



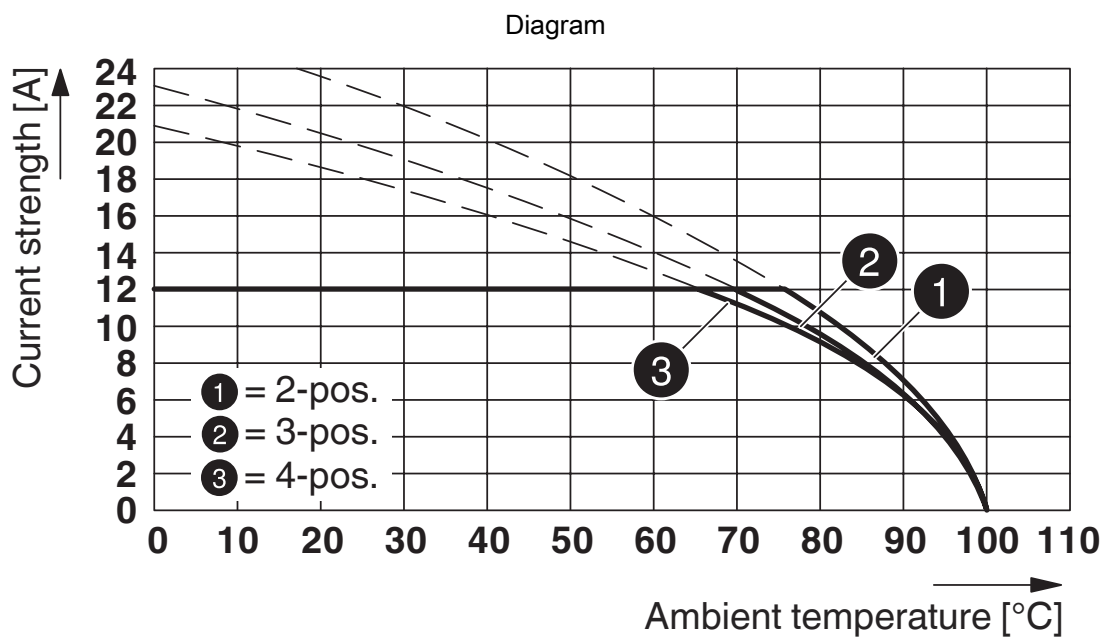
Type: MSTB 2,5/...-ST with MSTBA 2,5/...-G



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



Type: MSTB 2,5/...-ST with CCA 2,5/...-G P20 THR



Type: MSTB 2,5/...-ST with MSTBO 2,5/...-G1L

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

Diagram



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

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector





1715061

<https://www.phoenixcontact.com/us/products/1715061>

## Approvals

 <b>IECEE CB Scheme</b> Approval ID: DE1-60988-B1B2				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	12 A	-	0.2 - 2.5

 <b>EAC</b> Approval ID: B.01687				
--	--	--	--	--

 <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: 40004701				
	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/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

## Classifications

### ECLASS

ECLASS-10.0.1	27440309
ECLASS-11.0	27460202

### ETIM

ETIM 8.0	EC002638
----------	----------

### UNSPSC

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

# MSTB 2,5/ 4-ST BD:4-1SO - PCB connector



1715061

<https://www.phoenixcontact.com/us/products/1715061>

## Environmental Product Compliance

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

Phoenix Contact 2023 © - 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)