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PCB connector - MSTB 2,5/10-ST

1754601

https://www.phoenixcontact.com/us/products/1754601

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PCB connector, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MSTB 2,5/..-ST, pitch: 5 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	1754601
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	A01
Product Key	AACAFC
Catalog Page	Page 262 (C-1-2013)
GTIN	4017918028770
Weight per Piece (including packing)	16.733 g
Weight per Piece (excluding packing)	16.067 g
Customs tariff number	85366990
Country of origin	DE

Technical Data

Product properties

Type	Standard
Product line	COMBICON Connectors M
Product type	PCB plug
Number of positions	10
Pitch	5 mm
Number of connections	10
Number of rows	1
Mounting flange	without
Number of potentials	10

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

Connection data

Connection technology

Type	Standard
Connector system	COMBICON MSTB 2,5
Nominal cross section	2.5 mm²
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 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 2.5 mm²
2 conductors with same cross section, solid	0.2 mm² ... 1 mm²

2 conductors with same cross section, flexible	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 1 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 1.5 mm²
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

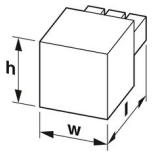
Material data - contact

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

Housing color	green (RAL 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

Dimensional drawing	
Pitch	5 mm
Width [w]	50 mm
Height [h]	15 mm
Length [l]	18.2 mm

Mounting

Drive form screw head	Slotted (L)
Drive form screw head	Slotted (L)

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 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	2.5 mm² / solid / > 50 N
	2.5 mm² / 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

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 - 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 mΩ
Contact resistance R_2	1.5 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	100 °C/16 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 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

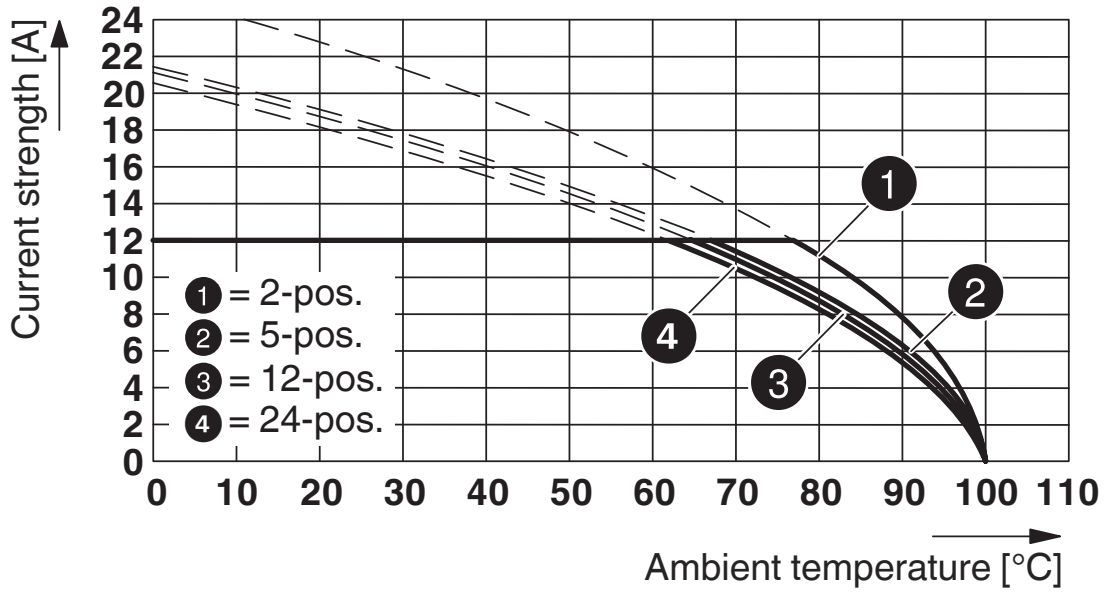
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	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

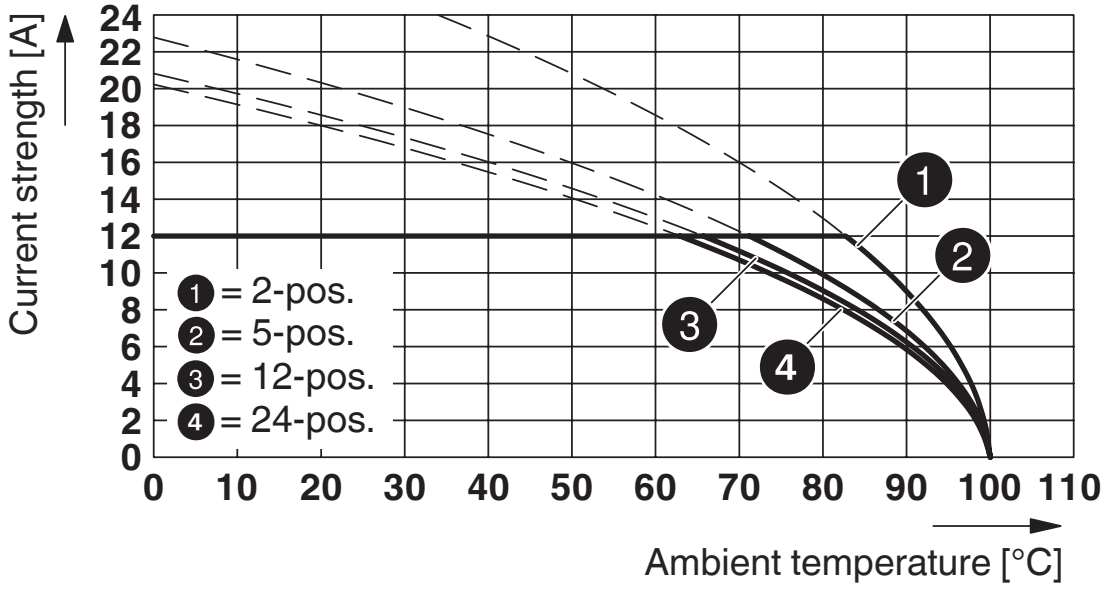
Drawings

Diagram



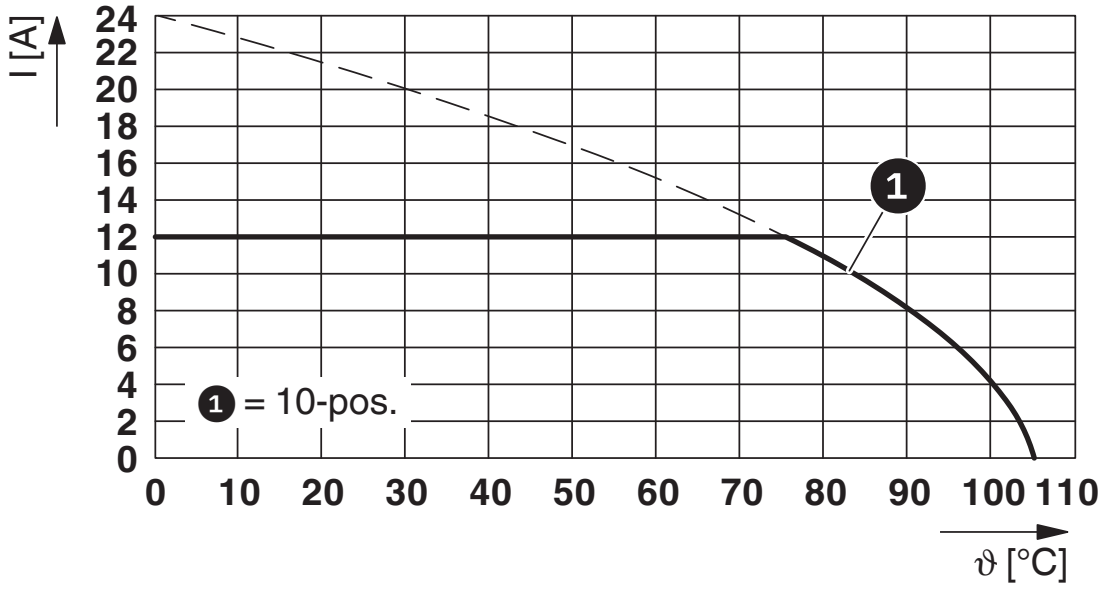
Type: MSTB 2,5/...-ST with MSTBA 2,5/...-G

Diagram



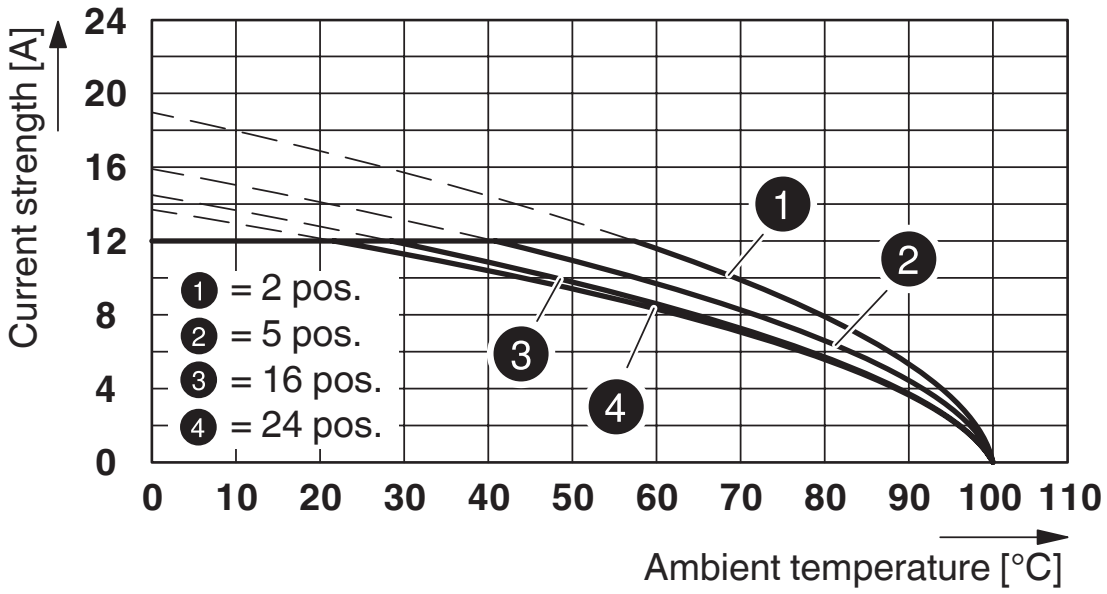
Type: MSTB 2,5/...-ST with CCVA 2,5/...-G P20 THR

Diagram



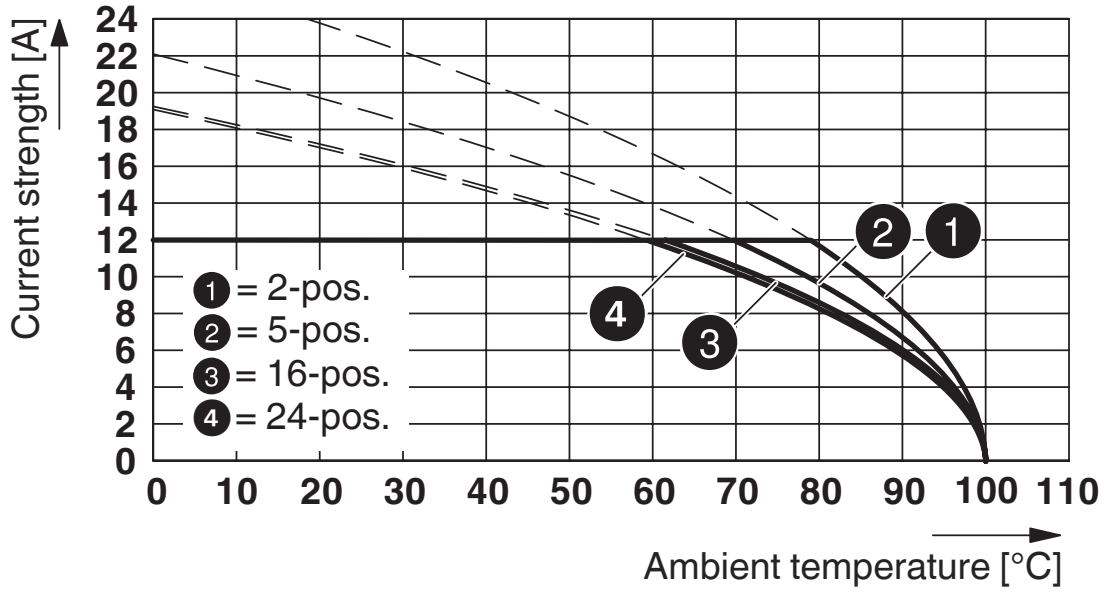
Type: MSTB 2,5/...-ST with UMSTBHK 2,5/...-G

Diagram



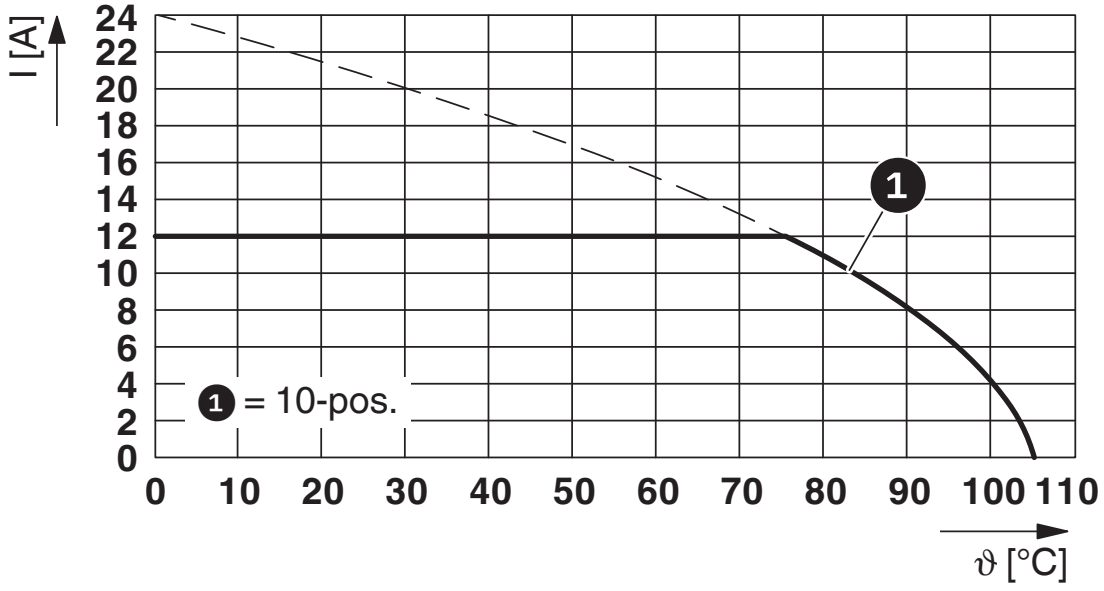
Type: MSTB 2,5/...-ST with MSTBV 2,5/...-G

Diagram



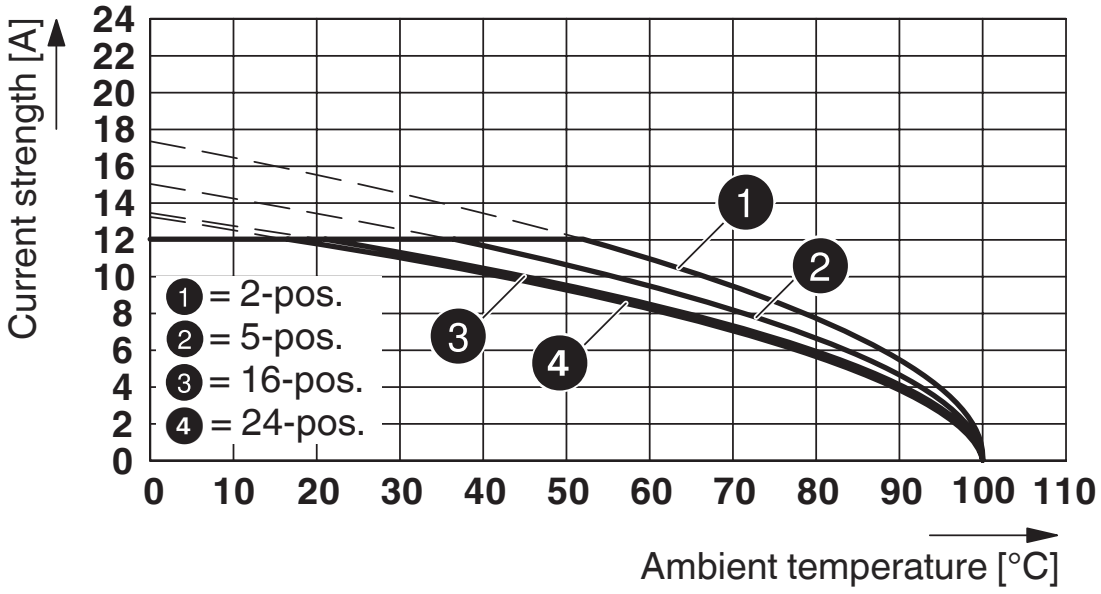
Type: MSTB 2,5/...-ST with SMSTBA 2,5/...-G

Diagram



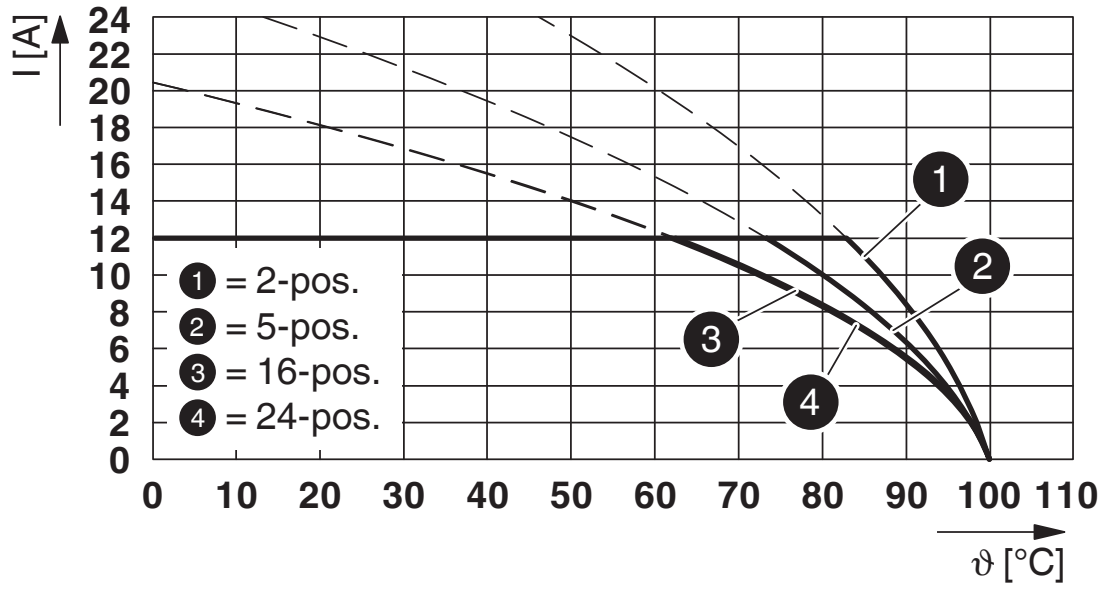
Type: MSTB 2,5/...-ST with MSTBHK 2,5/...-G

Diagram



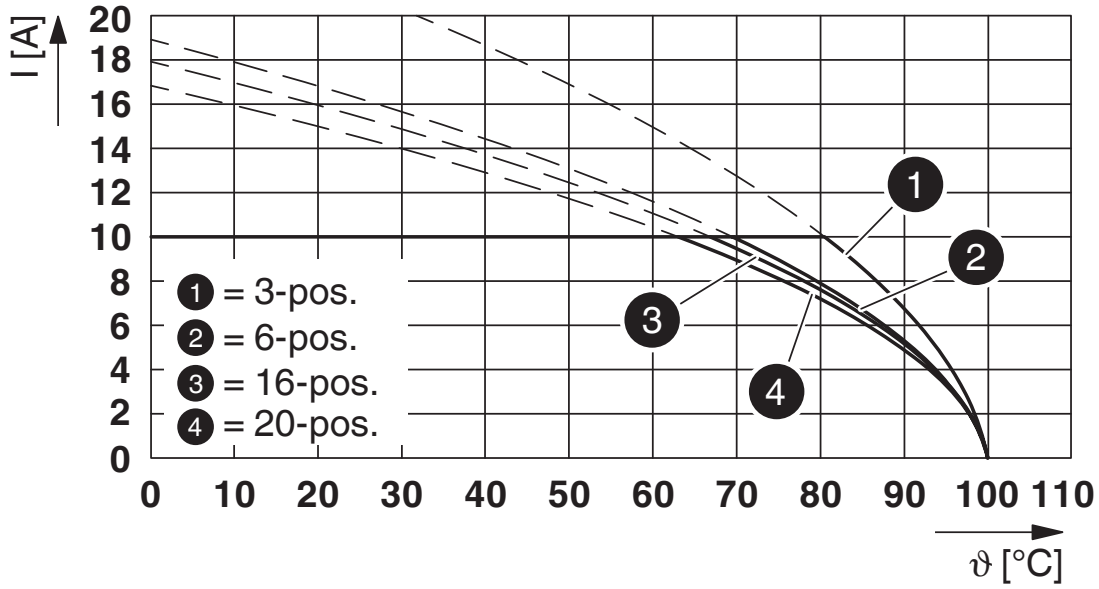
Type: MSTB 2,5/...-ST with MSTBVA 2,5/...-G

Diagram



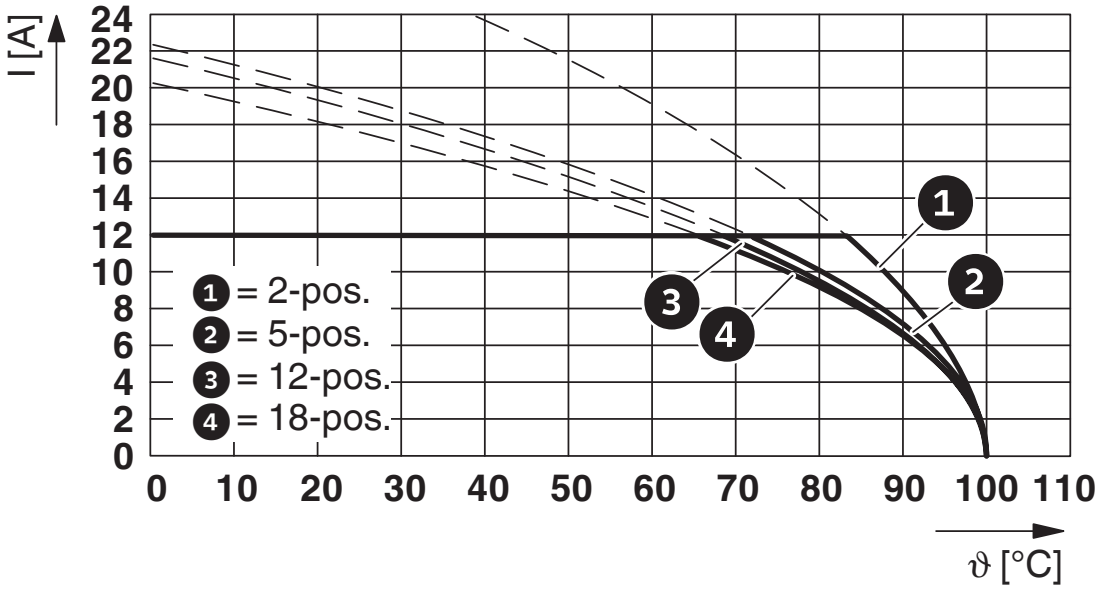
Type: MSTB 2,5/...-ST with MSTB 2,5/...-G

Diagram



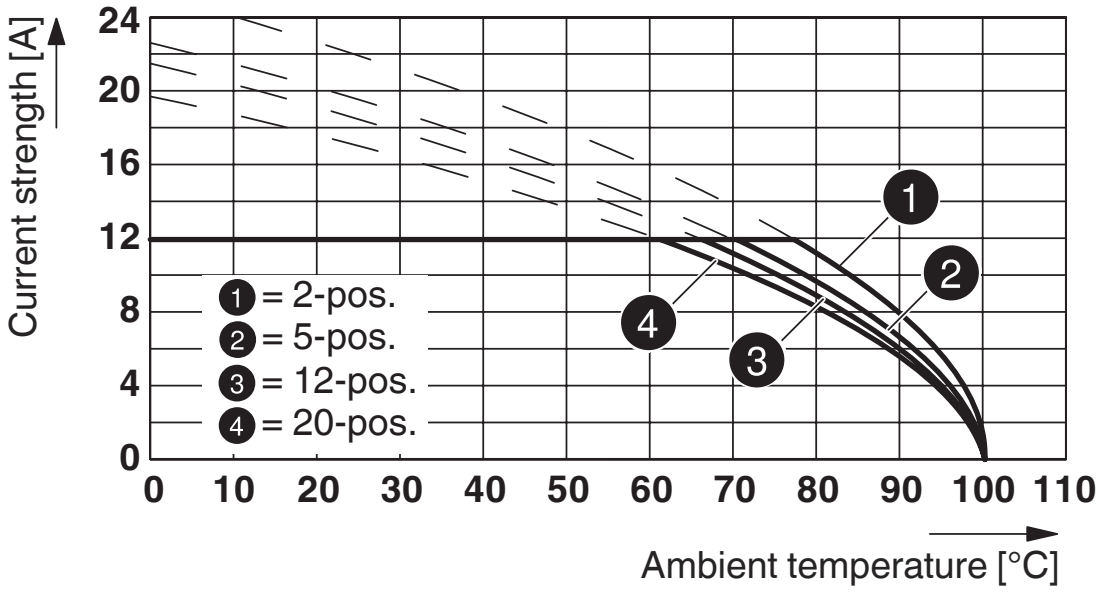
Type: MSTB 2,5/..-ST with MDSTB 2,5/...-G1

Diagram



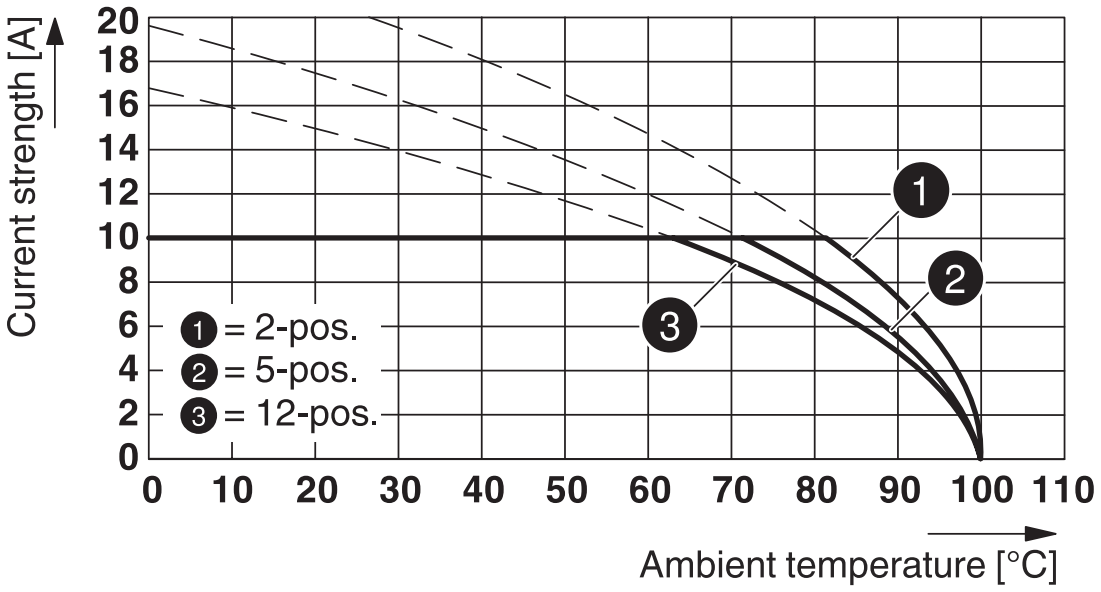
Type: MSTB 2,5/...-ST with FKIC 2,5/...-ST

Diagram



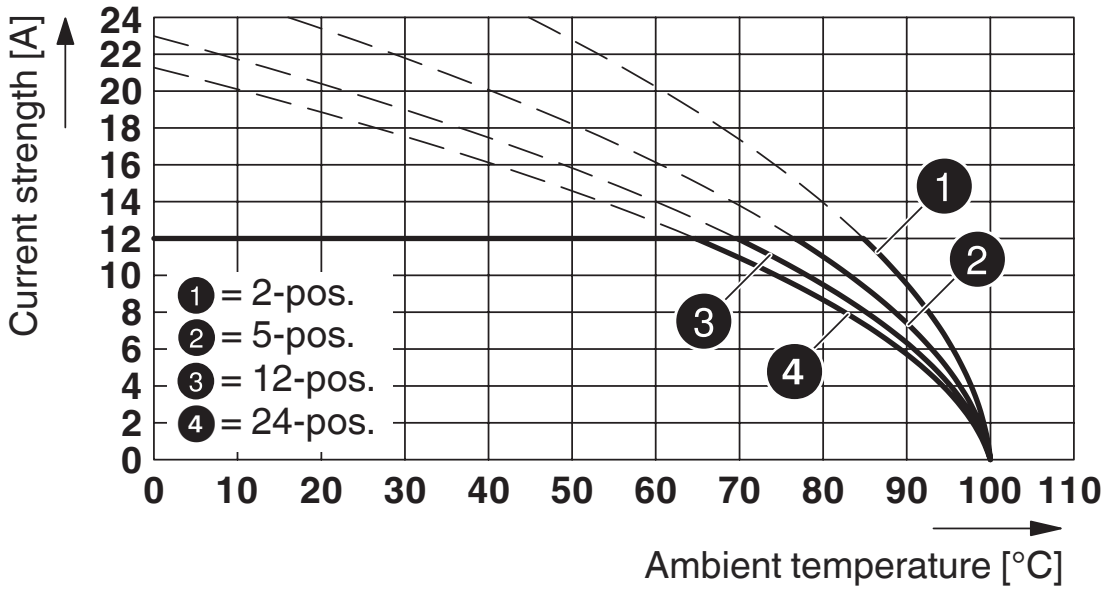
Type: MSTB 2,5/...-ST with MSTBW 2,5/...-G

Diagram



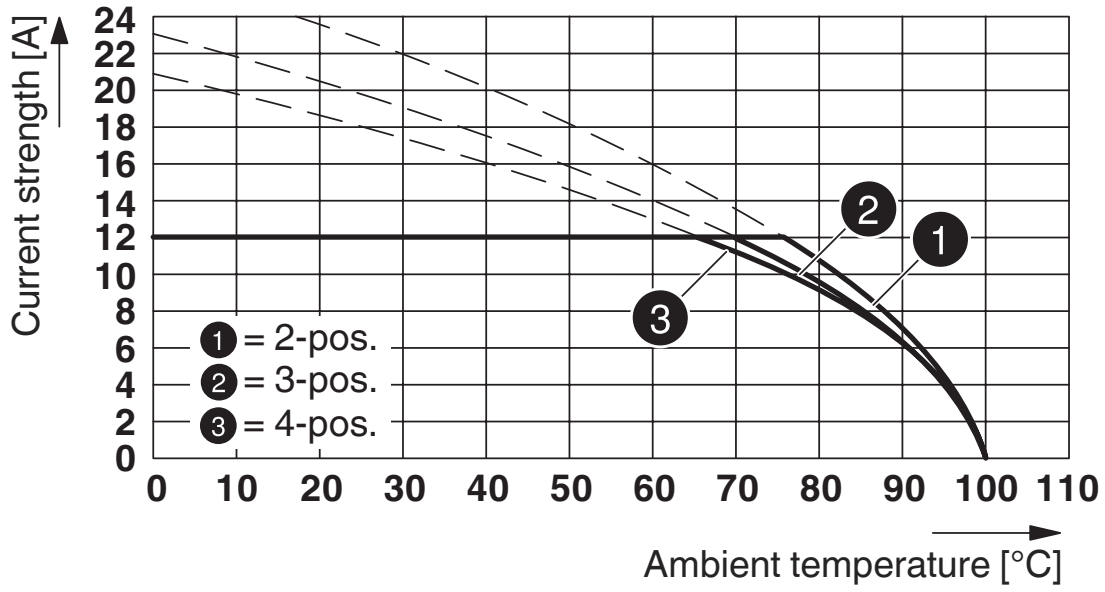
Type: MSTB 2,5/..-ST with MDSTBW 2,5/...-G

Diagram



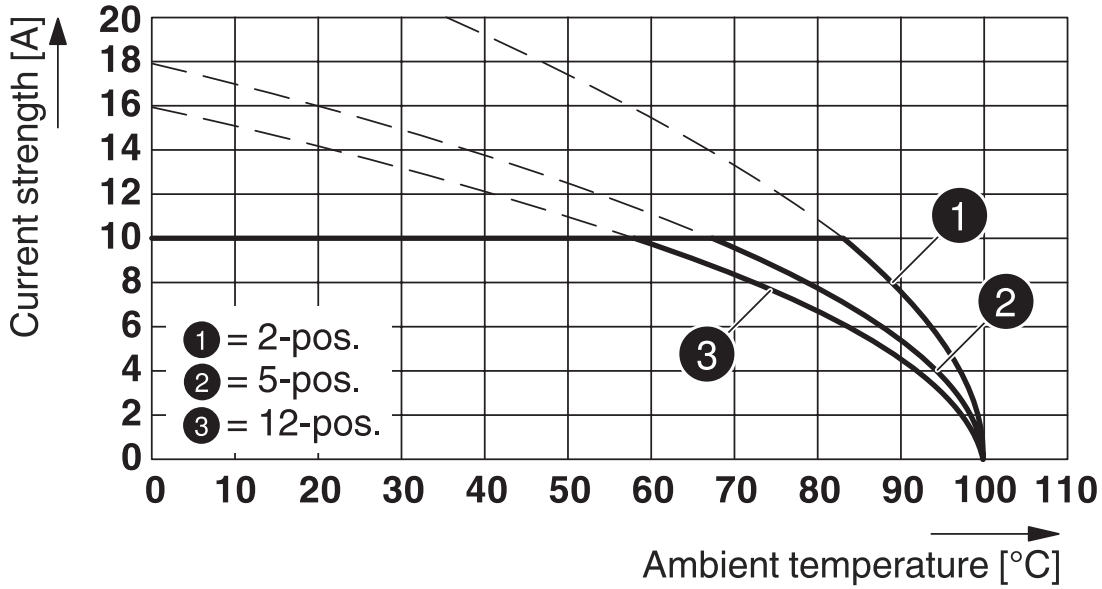
Type: MSTB 2,5/...-ST with CCA 2,5/...-G P20 THR

Diagram



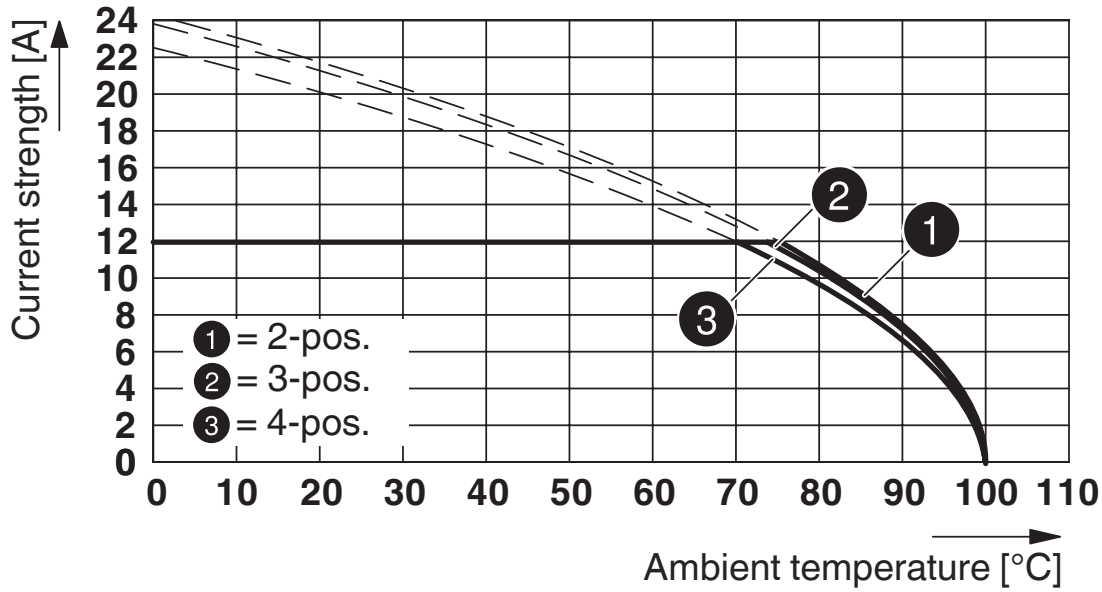
Type: MSTB 2,5/..-ST with MSTBO 2,5/...-G1L

Diagram



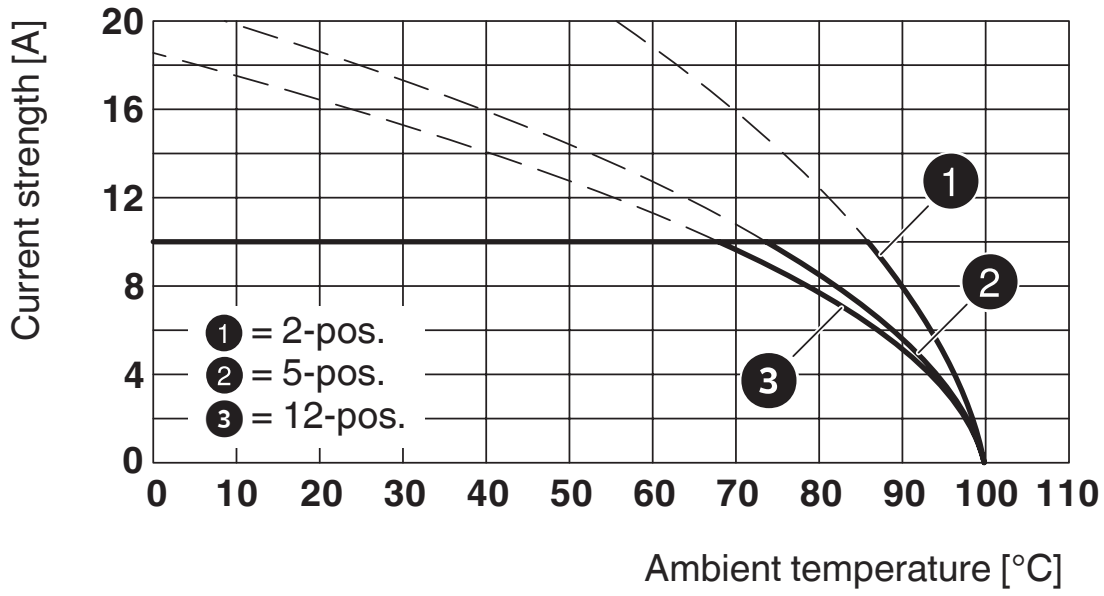
Type: MSTB 2,5/..-ST with MDSTB 2,5/...-G

Diagram



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

Diagram



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

Approvals

CSA
Approval ID: LR13631-2585950

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	300 V	15 A	28 - 12	-
Use group D				
	300 V	10 A	28 - 12	-

IECEE CB Scheme
Approval ID: DE1-60988-B1B2

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	250 V	12 A	-	0.2 - 2.5

EAC
Approval ID: B.01687

cULus Recognized
Approval ID: E60425-19931011

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	300 V	15 A	30 - 12	-
Use group D				
	300 V	10 A	30 - 12	-

VDE Zeichengenehmigung
Approval ID: 40004701

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	250 V	12 A	-	0.2 - 2.5

Classifications

ECLASS

ECLASS-9.0	27440309
ECLASS-10.0.1	27440309
ECLASS-11.0	27460202

ETIM

ETIM 8.0	EC002638

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

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

Accessories

Coding profile

Coding profile - CP-MSTB - 1734634

https://www.phoenixcontact.com/us/products/1734634

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



Insertion bridge

Insertion bridge - EBP 2- 5 - 1733169

https://www.phoenixcontact.com/us/products/1733169

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



Cable housing

Cable housing - KGS-MSTB 2,5/10 - 1783740

https://www.phoenixcontact.com/us/products/1783740



Cable housing, pitch: 0 mm, number of positions: 10, dimension a: 50 mm, color: green

Screwdriver

Screwdriver - SZS 0,6X3,5 - 1205053

https://www.phoenixcontact.com/us/products/1205053

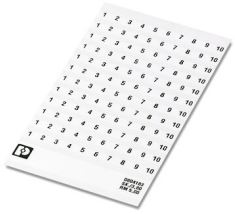


Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

Marker card

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183

https://www.phoenixcontact.com/us/products/0804183

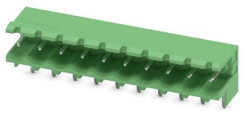


Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

PCB header

PCB header - MSTBW 2,5/10-G - 1736030

https://www.phoenixcontact.com/us/products/1736030

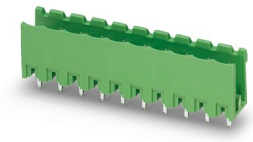


PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MSTBW 2,5/..-G, pitch: 5 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

PCB header

PCB header - MSTBV 2,5/10-G - 1753592

https://www.phoenixcontact.com/us/products/1753592



PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MSTBV 2,5/..-G, pitch: 5 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: without, mounting: without, type of packaging: packed in cardboard

PCB header

PCB header - MDSTBV 2,5/10-G - 1846014

https://www.phoenixcontact.com/us/products/1846014



PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 20, number of rows: 2, number of positions: 10, number of connections: 20, product range: MDSTBV 2,5/..-G, pitch: 5 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, Can be aligned! Mounting flange: Item No. 1836477, 1836480. In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

PCB connector - MSTB 2,5/10-ST

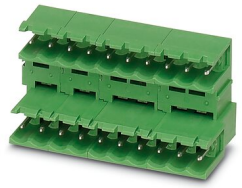
1754601

https://www.phoenixcontact.com/us/products/1754601

PCB header

PCB header - MDSTB 2,5/10-G - 1846441

https://www.phoenixcontact.com/us/products/1846441

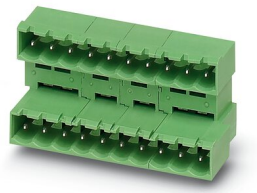


PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 20, number of rows: 2, number of positions: 10, number of connections: 20, product range: MDSTB 2,5/..-G, pitch: 5 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, Can be aligned! Mounting flange: Item No. 1736771, 1736768. In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

PCB header

PCB header - MDSTBA 2,5/10-G - 1846593

https://www.phoenixcontact.com/us/products/1846593



PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 20, number of rows: 2, number of positions: 10, number of connections: 20, product range: MDSTBA 2,5/..-G, pitch: 5 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, The article can be aligned to create different nos. of positions! In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

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