MVSTBW 2,5/20-ST - PCB connector

1792702

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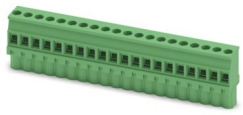


PCB connector, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 20, number of rows: 1, number of positions: 20, number of connections: 20, product range: MVSTBW 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, 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
- Allows connection of two conductors
- Low temperature rise, thanks to maximum contact force

Commercial data

Item number	1792702
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA03
Product key	AACAJH
Catalog page	Page 131 (CC-2005)
GTIN	4017918045135
Weight per piece (including packing)	43.64 g
Weight per piece (excluding packing)	41.082 g
Customs tariff number	85366990
Country of origin	DE

Technical data

Product properties

Product type	PCB connector
Product family	MVSTBW 2,5/..-ST
Product line	COMBICON Connectors M
Type	Standard
Number of positions	20
Pitch	5 mm
Number of connections	20
Number of rows	1
Number of potentials	20
Mounting flange	without

Data management status

Article revision	03

Electrical properties

Nominal current I_N	12 A
Nominal voltage U_N	320 V
Contact resistance	2.5 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

Connector system	COMBICON MSTB 2,5
Nominal cross section	2.5 mm²
Contact connection type	Socket

Interlock

Locking type	without
Mounting flange	without

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	-90 °
Conductor cross section rigid	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
Drive form screw head	Slotted (L)
Tightening torque	0.5 Nm ... 0.6 Nm

Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6

Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6

Material specifications

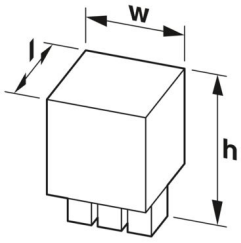
Material data - contact

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 (4 - 8 µm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 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

Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	100 mm
Height [h]	26 mm
Length [l]	12.5 mm

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

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)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R_1	2.5 mΩ
Contact resistance R_2	2.5 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/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 MΩ

Air clearances and creepage distances |

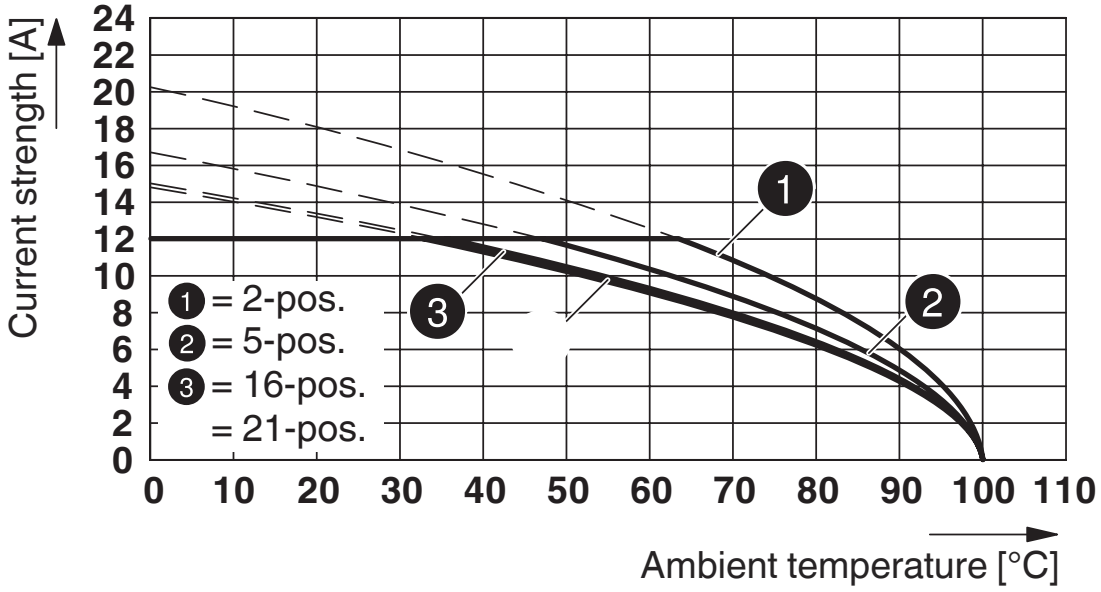
Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (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

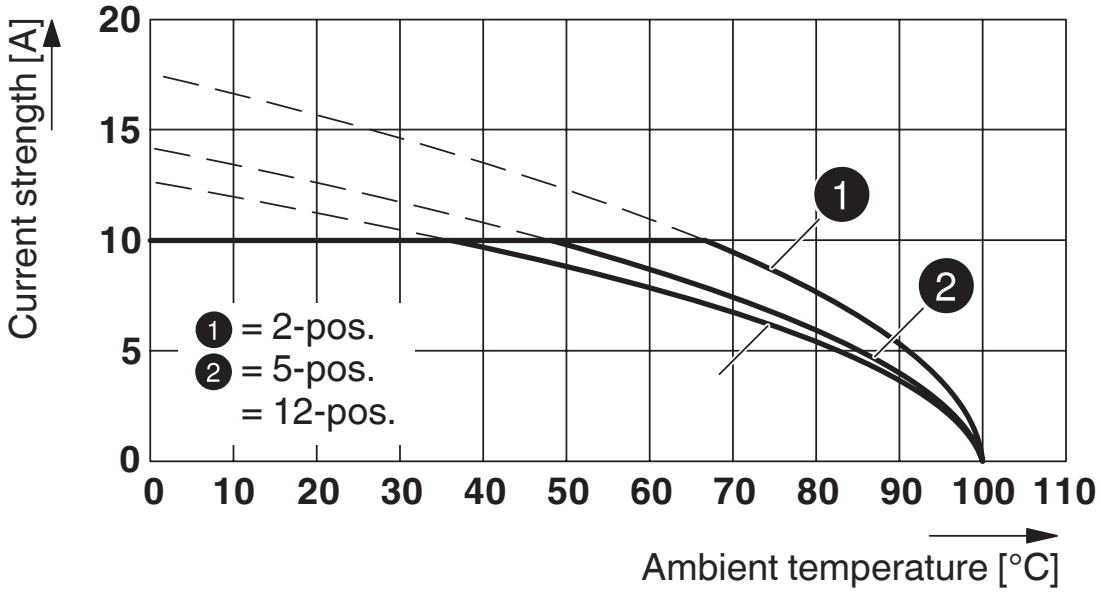
Drawings

Diagram



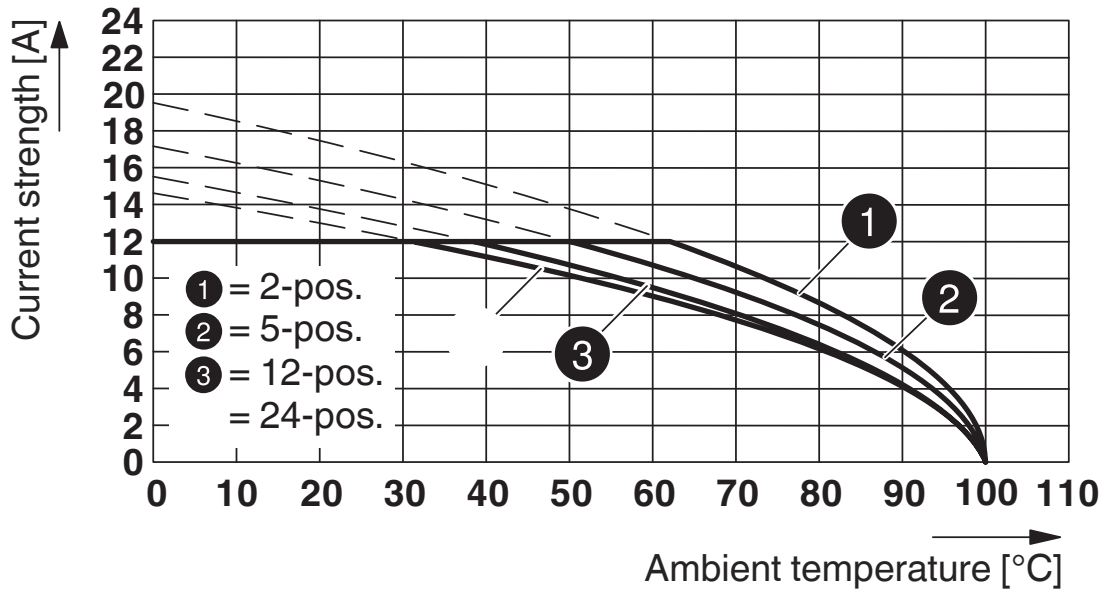
Type: MVSTB(R/W) 2,5/...-ST with MSTBW 2,5/...-G

Diagram



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

Diagram



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

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1792702

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	300 V	10 A	28 - 12	-
Use group D				
	300 V	10 A	28 - 12	-

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-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

ETIM

ETIM 9.0	EC002638

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%

Accessories

SK 5/3,8:UNBEDRUCKT - Marker card

0805409

https://www.phoenixcontact.com/us/products/0805409

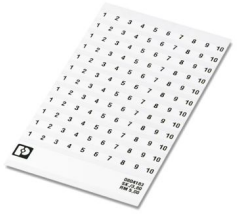


Marker card, Sheet, white, unlabeled, can be labeled with: Marker pen: without print, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm, Number of individual labels: 120

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

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

B-STIFT - Marker pen

1051993

https://www.phoenixcontact.com/us/products/1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

SZS 0,6X3,5 - Screwdriver

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

CR-MSTB - Coding section

1734401

https://www.phoenixcontact.com/us/products/1734401

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



CP-MSTB - Coding profile

1734634

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

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



MSTBW 2,5/20-G - PCB header

1735934

https://www.phoenixcontact.com/us/products/1735934



PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 20, number of rows: 1, number of positions: 20, number of connections: 20, 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

MSTBV 2,5/20-G - PCB header

1753796

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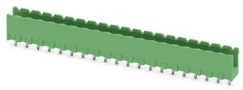

PCB headers, nominal cross section: 2.5 mm^2, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 20, number of rows: 1, number of positions: 20, number of connections: 20, product range: MSTBV 2,5/..-G, pitch: 5 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

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