

https://www.phoenixcontact.com/us/products/1755529



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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBVA 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

## Your advantages

- · Maximum flexibility when it comes to device design one header for connectors with different connection technologies
- · Well-known mounting principle allows worldwide use
- · Vertical connection enables multi-row arrangement on the PCB
- · Closed contour for optimum stability of the plug-in connection
- · Easy PCB replacement thanks to plug-in modules

### Commercial data

Item number	1755529
Packing unit	250 pc
Minimum order quantity	250 pc
Sales key	AA03
Product key	AACSLE
Catalog page	Page 315 (C-1-2013)
GTIN	4017918029104
Weight per piece (including packing)	1.246 g
Weight per piece (excluding packing)	1.246 g
Customs tariff number	85366930
Country of origin	DE



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## Technical data

## Product properties

Product type	PCB headers
Product family	MSTBVA 2,5/G
Product line	COMBICON Connectors M
Туре	Standard
Number of positions	3
Pitch	5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Mounting flange	without
Pin layout	Linear pinning
Solder pins per potential	1

## Electrical properties

Nominal current I <sub>N</sub>	12 A
Nominal voltage U <sub>N</sub>	320 V
Degree of pollution	3
Contact resistance	2.5 mΩ
Rated voltage (III/3)	320 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

## 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



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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

### 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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### **Dimensions**

Dimensional drawing	h h
Pitch	5 mm
Width [w]	17 mm
Height [h]	15.9 mm
Length [I]	8.6 mm
Installed height	12 mm
Solder pin length [P]	3.9 mm
Pin dimensions	1 x 1 mm
PCB design	
Hole diameter	1.4 mm

### Mechanical tests

## Visual inspection

Result

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

Test passed



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### Polarization and coding

3	
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
Insertion and withdrawal forces	
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N

### Electrical tests

### Thermal test | Test group C

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

6 N

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Withdraw strength per pos. approx.

7 iii olodianooo aha oloopago alotanooo	
Specification	IEC 60664-1:2007-04
Insulating material group	T .
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	320 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)	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

### Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz



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Type of packaging

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
urability test	
Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	2.5 mΩ
Contact resistance R <sub>2</sub>	2.5 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ
imatic test Specification	ISO 6988:1985-02
	ISO 6988:1985-02 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Specification	
Specification Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Specification Corrosive stress Thermal stress Power-frequency withstand voltage	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle 100 °C/168 h
Specification Corrosive stress Thermal stress Power-frequency withstand voltage	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle 100 °C/168 h
Specification Corrosive stress Thermal stress Power-frequency withstand voltage mbient conditions Ambient temperature (operation)	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle 100 °C/168 h 2.21 kV
Specification Corrosive stress Thermal stress Power-frequency withstand voltage mbient conditions	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle 100 °C/168 h 2.21 kV -40 °C 100 °C (dependent on the derating curve)

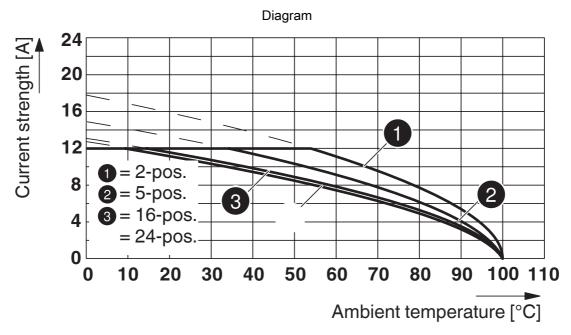
packed in cardboard

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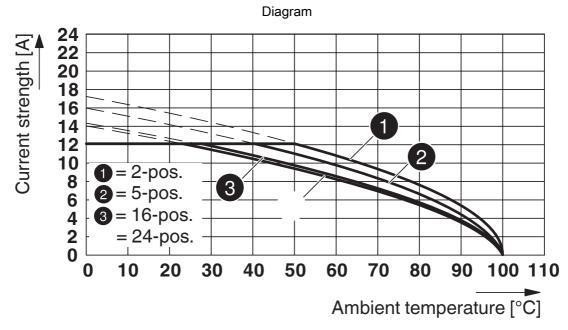
https://www.phoenixcontact.com/us/products/1755529



## **Drawings**



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

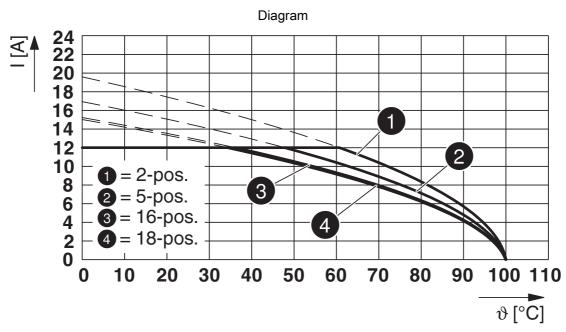


Type: MSTBP 2,5/...-ST with MSTBVA 2,5/...-G

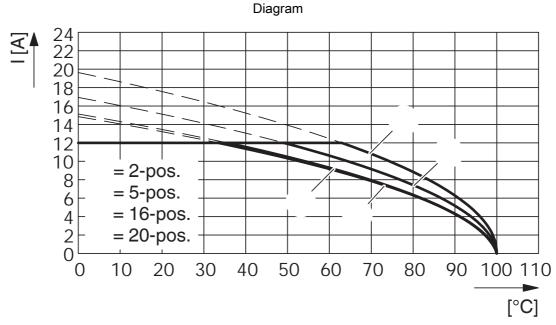


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Type: FKCV(W/R) 2,5/...-ST with MSTBVA 2,5/...-G

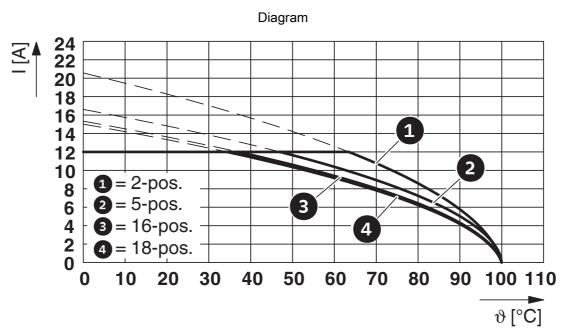


Type: FKCT 2,5/...-ST with MSTBVA 2,5/...-G

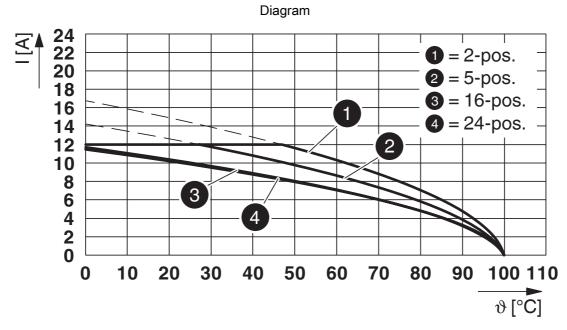


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Type: FKCN 2,5/...-ST with MSTBVA 2,5/...-G

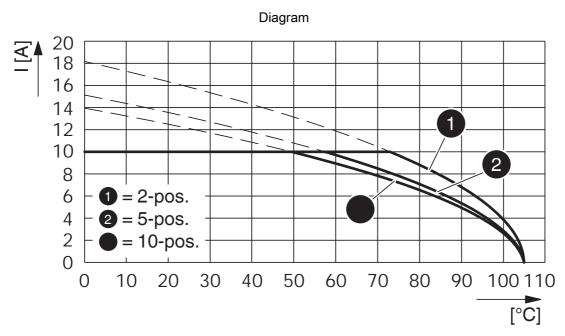


Type: MVSTBR 2,5/...-ST with MSTBVA 2,5/...-G

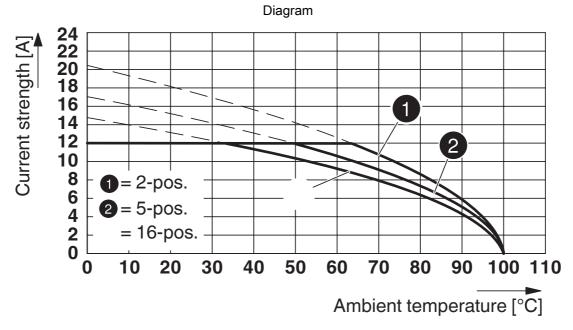


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Type: TVFKC 1,5/...-ST with MSTBVA 2,5/...-G

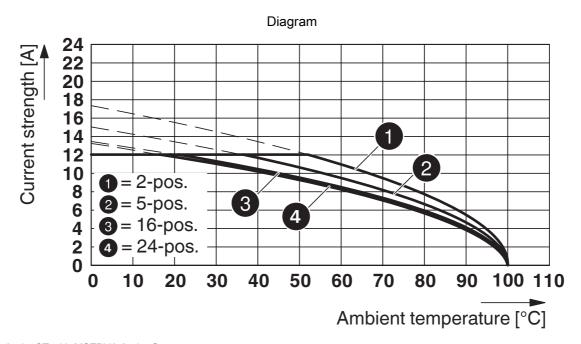


Type: MSTBT 2,5/...-ST with MSTBVA 2,5/...-G



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



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## **Approvals**

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1755529

<b>CSA</b> Approval ID: 13631-2585	951			
	Nominal voltage $U_N$	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
Use group B				
	300 V	12 A	-	-
Use group D				
	300 V	10 A	-	-

cULus Recognized Approval ID: E60425-19931011				
	Nominal voltage U <sub>N</sub>	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
Use group B				
	300 V	12 A	-	-
Use group D				
	300 V	10 A	-	-

VDE Zeichengenehmigung Approval ID: 40050648				
	Nominal voltage U <sub>N</sub>	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
	250 V	12 A	-	-



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# Classifications

UNSPSC 21.0

### **ECLASS**

27460201
27460201
27460201
EC002637

39121400



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# Environmental product compliance

EU RoHS	
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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%	



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### Accessories

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

0804183

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



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

### MSTB-BL - Accessories

1755477

https://www.phoenixcontact.com/us/products/1755477



Keying cap, for forming sections, plugs onto header pin, green insulating material



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### 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



### TVFKC 1,5/3-ST - PCB connector

1713842

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 6, product range: TVFKC 1,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

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#### TVFKCL 1,5/3-ST - PCB connector

1715934

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 6, product range: TVFKCL 1,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

### QC 1,5/3-ST - PCB connector

1717974

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: QC 1,5/..-ST, pitch: 5 mm, connection method: Displacement connection, 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

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#### FKCN 2,5/3-ST - PCB connector

1732755

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCN 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

### MSTB 2,5/ 3-ST - PCB connector

1754465

https://www.phoenixcontact.com/us/products/1754465



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, 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

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### MSTBP 2,5/ 3-ST - PCB connector

1765784

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBP 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

### SMSTB 2,5/ 3-ST - PCB connector

1768778

https://www.phoenixcontact.com/us/products/1768778



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: SMSTB 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -45 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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#### FRONT-MSTB 2,5/ 3-ST - PCB connector

1779424

https://www.phoenixcontact.com/us/products/1779424



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FRONT-MSTB 2,5/..-ST, pitch: 5 mm, connection method: Front screw connection, 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

### MSTBT 2,5/3-ST - PCB connector

1779848

https://www.phoenixcontact.com/us/products/1779848



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBT 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

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#### MVSTBR 2,5/3-ST - PCB connector

1792029

https://www.phoenixcontact.com/us/products/1792029



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MVSTBR 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

### MVSTBW 2,5/ 3-ST - PCB connector

1792537

https://www.phoenixcontact.com/us/products/1792537



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, 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

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### FKCT 2,5/3-ST - PCB connector

1909223

https://www.phoenixcontact.com/us/products/1909223



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCT 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

### FKCVR 2,5/ 3-ST - PCB connector

1909728

https://www.phoenixcontact.com/us/products/1909728



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCVR 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

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### FKCVW 2,5/ 3-ST - PCB connector

1910047

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCVW 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

### FKC 2,5/3-ST - PCB connector

1910364

https://www.phoenixcontact.com/us/products/1910364



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKC 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

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#### QC 1/3-ST-BUS - PCB connector

1921683

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PCB connector, nominal cross section: 1 mm², color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: QC 1/..-ST-BUS, pitch: 5 mm, connection method: Displacement connection, 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, The plug allows conductors to be looped through from module to module, without interruption

### FKCS 2,5/3-ST - PCB connector

1974740

https://www.phoenixcontact.com/us/products/1974740



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCS 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, 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

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