

https://www.phoenixcontact.com/us/products/1753518



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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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

## 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
- · Items that can be aligned in various pitches support flexible and space-saving PCB assembly
- · Easy PCB replacement thanks to plug-in modules

### Commercial data

Item number	1753518
Packing unit	100 pc
Minimum order quantity	100 pc
Sales key	AA03
Product key	AACSLB
Catalog page	Page 315 (C-1-2013)
GTIN	4017918028411
Weight per piece (including packing)	2.16 g
Weight per piece (excluding packing)	2.16 g
Customs tariff number	85366930
Country of origin	DE



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## Technical data

## Product properties

Product type	PCB headers
Product family	MSTBV 2,5/G
Product line	COMBICON Connectors M
Туре	Standard
Number of positions	6
Pitch	5 mm
Number of connections	6
Number of rows	1
Number of potentials	6
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	2.1 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]	30 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

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	COULDIO

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

6 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	18

### 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.

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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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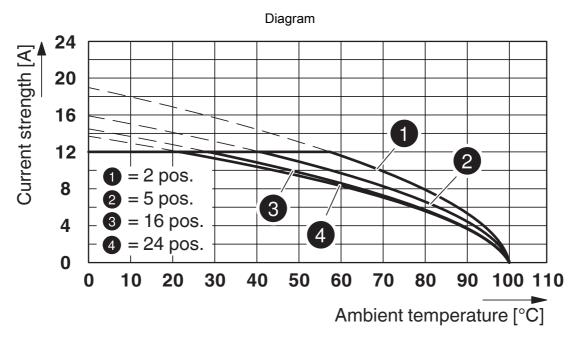
weep speed 1 octave/min	
Amplitude	0.35 mm (10 Hz 60.1 Hz)
Sweep speed	5g (60.1 Hz 150 Hz)
Test duration per axis	2.5 h
urability test	
Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	2.1 mΩ
Contact resistance R <sub>2</sub>	2.3 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ
matic 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
nbient conditions	
Ambient temperature (operation)	-40 °C 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C 70 °C
Ambient temperature (storage/transport)  Relative humidity (storage/transport)	-40 °C 70 °C 30 % 70 %



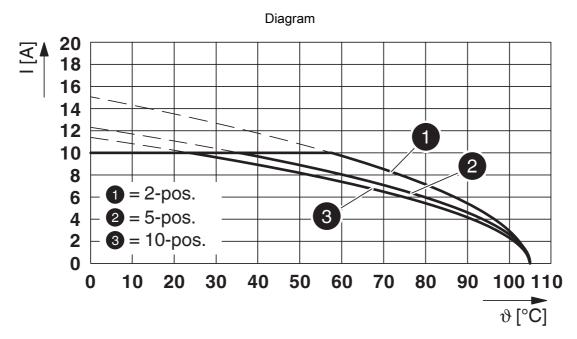
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# **Drawings**



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

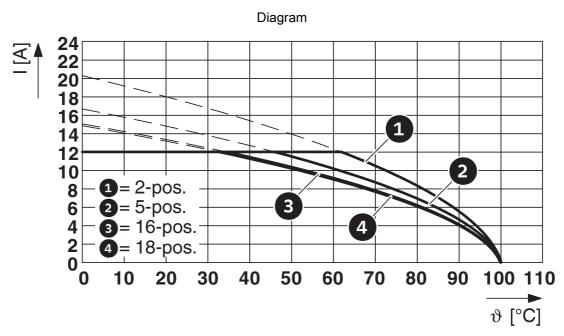


Type: TVFKC 1,5/...-ST with MSTBV 2,5/...-G

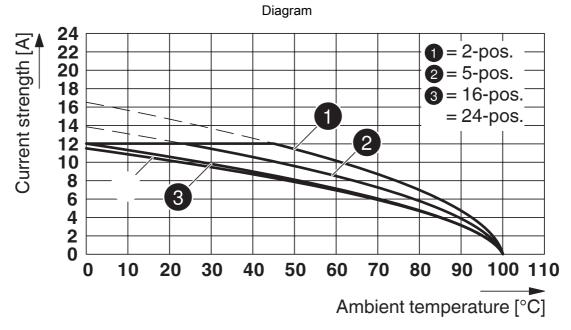
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Type: FKCN 2,5/...-ST with MSTBV 2,5/...-G

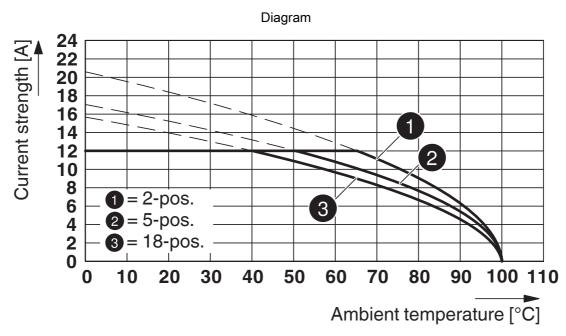


Type: SMSTB 2,5/...-ST with MSTBV 2,5/...-G

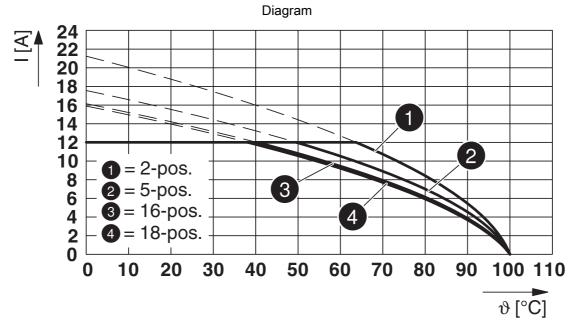


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Type: FKCS 2,5/...-ST with MSTBV 2,5/...-G

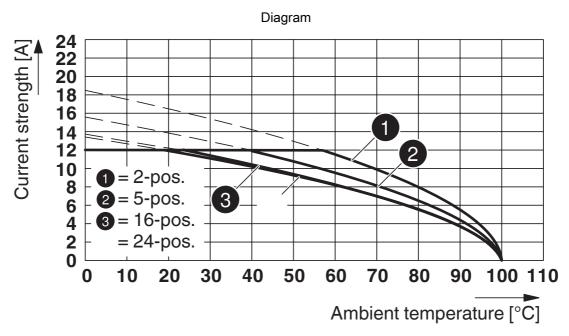


Type: FKCV(W/R) 2,5/...-ST with MSTBV 2,5/...-G

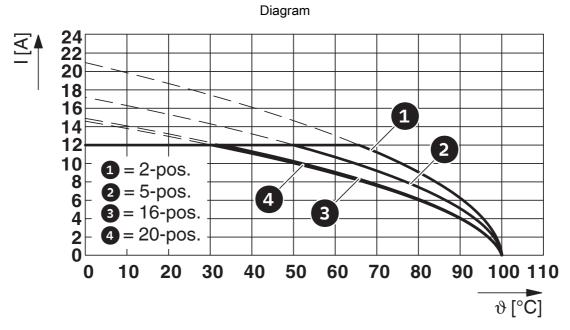


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Type: FRONT-MSTB 2,5/..-ST with MSTBV 2,5/...-G

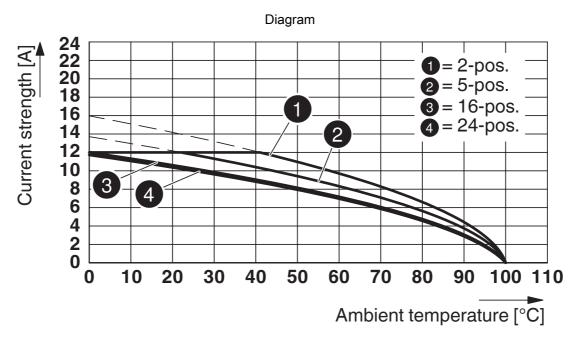


Type: FKCT 2,5/...-ST with MSTBV 2,5/...-G



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



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# **Approvals**

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1753518

CSA Approval ID: 13631-2585951				
	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 $U_N$	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	-	-

VDE Zeichengenehmigung Approval ID: 40050648				
	Nominal voltage $U_N$	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**

EC	CLASS-11.0	27460201
EC	CLASS-12.0	27460201
EC	CLASS-13.0	27460201
ETIM		
ET	TIM 9.0	EC002637
UNSP	SC	

39121400



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# Environmental product compliance

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

## 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



## 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



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### MSTB-BL - Accessories

1755477

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



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

### 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:  $5 \times 3.8 \text{ mm}$ , Number of individual labels: 120 ms



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#### TVFKC 1,5/6-ST - PCB connector

1713871

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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: 6, number of rows: 1, number of positions: 6, number of connections: 12, 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

### TVFKCL 1,5/6-ST - PCB connector

1715963

https://www.phoenixcontact.com/us/products/1715963



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: 6, number of rows: 1, number of positions: 6, number of connections: 12, 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



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### QC 1,5/6-ST - PCB connector

1718009

https://www.phoenixcontact.com/us/products/1718009



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### FKCN 2,5/6-ST - PCB connector

1732784

https://www.phoenixcontact.com/us/products/1732784



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

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### MSTB 2,5/6-ST - PCB connector

1754520

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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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### MSTBP 2,5/ 6-ST - PCB connector

1765810

https://www.phoenixcontact.com/us/products/1765810



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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



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### SMSTB 2,5/ 6-ST - PCB connector

#### 1768804

https://www.phoenixcontact.com/us/products/1768804



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### FRONT-MSTB 2,5/6-ST - PCB connector

#### 1779453

https://www.phoenixcontact.com/us/products/1779453



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

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### MSTBT 2,5/6-ST - PCB connector

1779877

https://www.phoenixcontact.com/us/products/1779877



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### MVSTBR 2,5/6-ST - PCB connector

1792058

https://www.phoenixcontact.com/us/products/1792058



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

1753518

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#### MVSTBW 2,5/6-ST - PCB connector

1792566

https://www.phoenixcontact.com/us/products/1792566



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### FKCT 2,5/6-ST - PCB connector

1909252

https://www.phoenixcontact.com/us/products/1909252



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

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### FKCVR 2,5/6-ST - PCB connector

1909757

https://www.phoenixcontact.com/us/products/1909757



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### FKCVW 2,5/6-ST - PCB connector

1910076

https://www.phoenixcontact.com/us/products/1910076



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, contact connection type: Socket, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

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### FKC 2,5/6-ST - PCB connector

1910393

https://www.phoenixcontact.com/us/products/1910393



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

### QC 1/6-ST-BUS - PCB connector

1921719

https://www.phoenixcontact.com/us/products/1921719



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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

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FKCS 2,5/6-ST - PCB connector

1974779

https://www.phoenixcontact.com/us/products/1974779



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: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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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Phoenix Contact USA 586 Fulling Mill Road Middletown, PA 17057, United States (+717) 944-1300 info@phoenixcon.com