

https://www.phoenixcontact.com/us/products/1753437



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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, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MSTBV 2,5/..-G, pitch: 5 mm, 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



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## Commercial Data

Item number	1753437
Packing unit	1 pc
Minimum order quantity	250 pc
Sales Key	A01
Product Key	AACSLB
Catalog Page	Page 315 (C-1-2013)
GTIN	4017918028374
Weight per Piece (including packing)	0.693 g
Weight per Piece (excluding packing)	0.6 g
Customs tariff number	85366930
Country of origin	DE



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## **Technical Data**

## Product properties

Туре	Standard
Product line	COMBICON Connectors M
Product type	PCB headers
Number of positions	2
Pitch	5 mm
Number of connections	2
Number of rows	1
Mounting flange	without
Number of potentials	2
Pin layout	Linear pinning

## Electrical properties

Nominal current I <sub>N</sub>	12 A
Nominal voltage U <sub>N</sub>	320 V
Pollution degree	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

## Mounting

Mounting type Wave soldering	Wave soldering
Mounting type	Wave soldering

## 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

Housing color	green (6021)
Insulating material	PA
Insulating material group	T. Control of the Con
CTI according to IEC 60112	600



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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.

### **Dimensions**

Dimensional drawing	h ph
Pitch	5 mm
Width [w]	10 mm
Height [h]	15.9 mm
Length [I]	8.6 mm
Installed height	12 mm
Solder pin length [P]	3.9 mm

## Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed
Repeated connection and disconnection	
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
·	0.2 mm² / flexible / > 10 N 2.5 mm² / solid / > 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



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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
Electrical tests	
Thermal test   Test group C	

## Е

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 |

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Specification	IEC 60664-1:2007-04
Insulating material group	I
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



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## Environmental and real-life conditions

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 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 <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

### 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		

## Packaging specifications

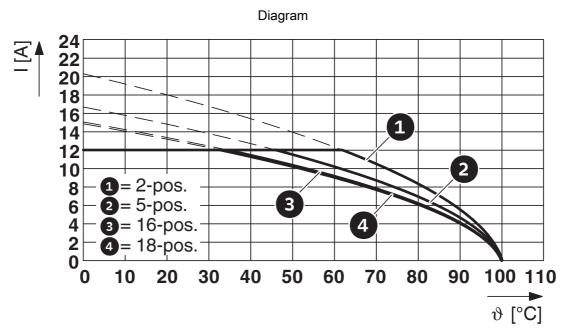
Type of packaging	packed in cardboard
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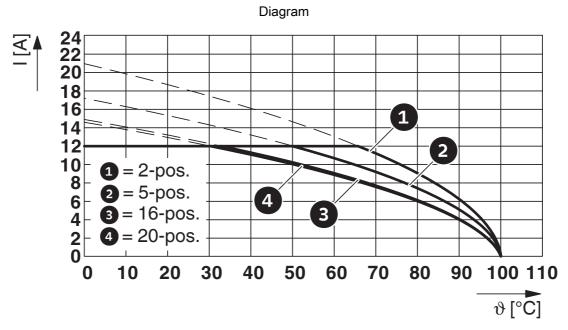
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## **Drawings**



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

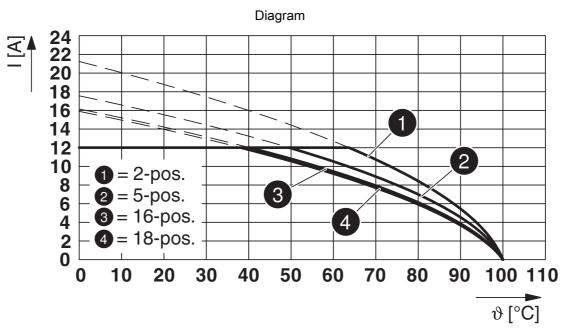


Type: FKCT 2,5/...-ST with MSTBV 2,5/...-G

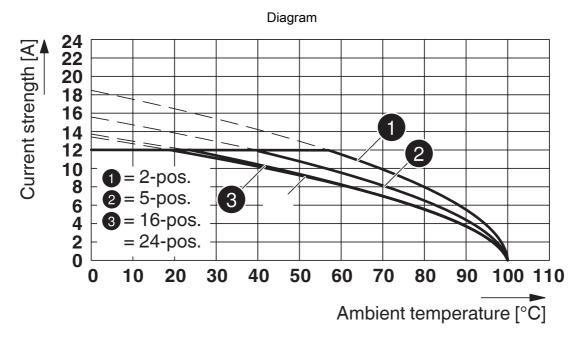


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Type: FKCV(W/R) 2,5/...-ST with MSTBV 2,5/...-G

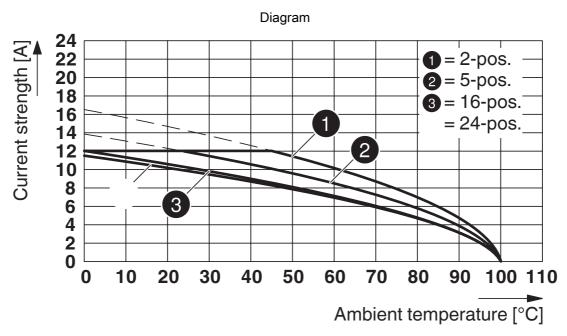


Type: FRONT-MSTB 2,5/..-ST with MSTBV 2,5/...-G

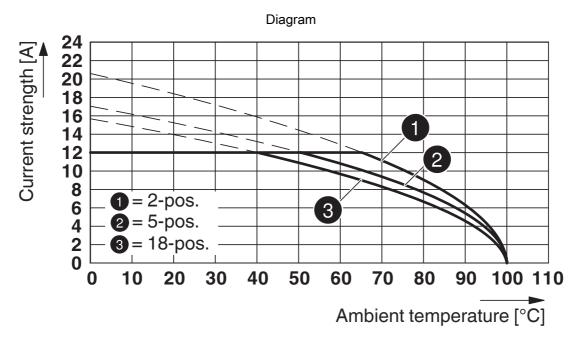
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Type: SMSTB 2,5/...-ST with MSTBV 2,5/...-G

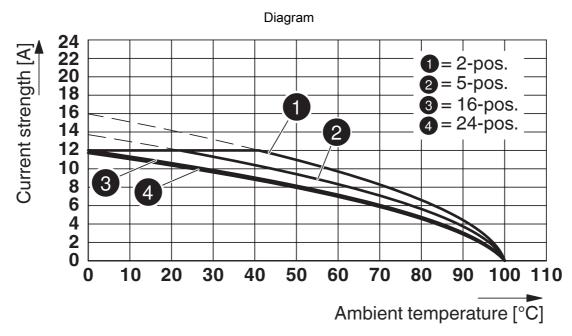


Type: FKCS 2,5/...-ST with MSTBV 2,5/...-G

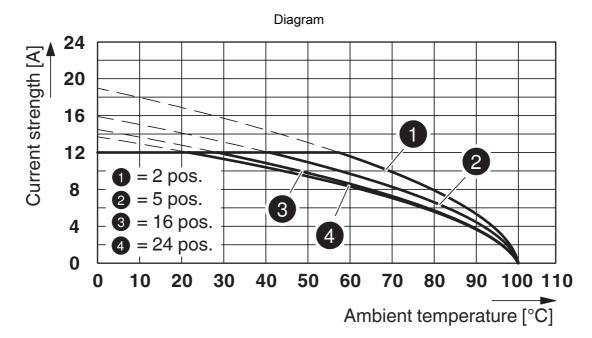
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Type: MVSTB(R/W) 2,5/...-ST with MSTBV 2,5 2,5/...-G



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



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## Approvals

CSA Approval ID: 13631				
	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	-	-

CB scheme	IECEE CB Schem Approval ID: DE1-60988				
		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	-	-

EAC
Approval ID: B.01687

CULus Recognized Approval ID: E60425-19931011					
	Nominal Voltage $\mathbf{U}_{\mathbf{N}}$	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 <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

### **ECLASS**

	ECLASS-9.0	27440402			
	ECLASS-10.0.1	27440402			
	ECLASS-11.0	27460201			
ETIM					
	ETIM 8.0	EC002637			
UNSPSC					
	UNSPSC 21.0	39121400			



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## **Environmental Product Compliance**

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



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### Accessories

### Coding section

Coding section - CR-MSTB - 1734401 https://www.phoenixcontact.com/us/products/1734401

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



### 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  $\dots$  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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### Accessories

Accessories - MSTB-BL - 1755477 https://www.phoenixcontact.com/us/products/1755477



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

### Marker card

Marker card - SK 5/3,8:UNBEDRUCKT - 0805409 https://www.phoenixcontact.com/us/products/0805409

Marker card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm





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#### PCB connector

PCB connector - TVFKC 1,5/ 2-ST - 1713839 https://www.phoenixcontact.com/us/products/1713839



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 4, product range: TVFKC 1,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, pin layout: Linear pinning, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

### PCB connector

PCB connector - TVFKCL 1,5/ 2-ST - 1715921 https://www.phoenixcontact.com/us/products/1715921



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 4, 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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#### PCB connector

PCB connector - QC 1,5/ 2-ST - 1717961

https://www.phoenixcontact.com/us/products/1717961



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, 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

#### PCB connector

PCB connector - FKCN 2,5/ 2-ST - 1732742

https://www.phoenixcontact.com/us/products/1732742



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

PCB connector - MSTB 2,5/ 2-ST - 1754449 https://www.phoenixcontact.com/us/products/1754449



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

### PCB connector

PCB connector - MSTBP 2,5/ 2-ST - 1765771 https://www.phoenixcontact.com/us/products/1765771



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

PCB connector - SMSTB 2,5/ 2-ST - 1768765 https://www.phoenixcontact.com/us/products/1768765



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

#### PCB connector

PCB connector - FRONT-MSTB 2,5/ 2-ST - 1779411 https://www.phoenixcontact.com/us/products/1779411



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

PCB connector - MSTBT 2,5/ 2-ST - 1779835 https://www.phoenixcontact.com/us/products/1779835



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

#### PCB connector

PCB connector - MVSTBR 2,5/ 2-ST - 1792016 https://www.phoenixcontact.com/us/products/1792016



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



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#### PCB connector

PCB connector - MVSTBW 2,5/ 2-ST - 1792524 https://www.phoenixcontact.com/us/products/1792524



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

#### PCB connector

PCB connector - FKCT 2,5/ 2-ST - 1909210 https://www.phoenixcontact.com/us/products/1909210



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

PCB connector - FKCVR 2,5/ 2-ST - 1909715 https://www.phoenixcontact.com/us/products/1909715



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

#### PCB connector

PCB connector - FKCVW 2,5/ 2-ST - 1910034 https://www.phoenixcontact.com/us/products/1910034



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

PCB connector - FKC 2,5/ 2-ST - 1910351 https://www.phoenixcontact.com/us/products/1910351



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

#### PCB connector

PCB connector - QC 1/2-ST-BUS - 1921670 https://www.phoenixcontact.com/us/products/1921670



PCB connector, nominal cross section: 1 mm², color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, 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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#### PCB connector

PCB connector - FKCS 2,5/ 2-ST - 1974737 https://www.phoenixcontact.com/us/products/1974737



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