

1861060

https://www.phoenixcontact.com/us/products/1861060

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBO 2,5/..-G1L, 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, locking: without, type of packaging: packed in cardboard, Product with pin output on left side

### Your advantages

• Plug-in direction orthogonal to the PCB

### Commercial data

Item number	1861060
Packing unit	200 pc
Minimum order quantity	200 pc
Sales key	AC08
Product key	ACHADB
Catalog page	Page 322 (C-1-2013)
GTIN	4017918155636
Weight per piece (including packing)	2.638 g
Weight per piece (excluding packing)	2.2 g
Customs tariff number	85366930
Country of origin	DE



https://www.phoenixcontact.com/us/products/1861060



### Technical data

### Product properties

Product type	PCB headers
Product family	MSTBO 2,5/G1L
Product line	COMBICON Connectors M
Туре	Header perpendicular to the PCB
Number of positions	4
Pitch	5 mm
Set comprises	2909905 ME 45 OT-MSTBO SET
	2907444 ME 22,5 OT-MSTBO SET
Number of connections	4
Number of rows	1
Number of potentials	4
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>	250 V
Degree of pollution	3
Contact resistance	1.5 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

### 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
Material data - housing	

Material data - nousing	
Color (Housing)	green (6021)
Insulating material	PA



1861060

https://www.phoenixcontact.com/us/products/1861060

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	P
Pitch	5 mm
Width [w]	19.95 mm
Height [h]	16.5 mm
Length [I]	14.65 mm
Solder pin length [P]	3.5 mm
Pin dimensions	1 x 1 mm
PCB design	
Hole diameter	1.4 mm

### Mechanical tests

Visual inspection
Specification

Result	Test passed
Dimension check	
Specification	IEC 60512-1-2:2002-02
Result	Test passed

IEC 60512-1-1:2002-02

### 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

Contact holder in insert		
Specification	IEC 60512-15-1:2008-05	
Contact holder in insert Requirements >20 N	Test passed	



https://www.phoenixcontact.com/us/products/1861060



### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	13 N
Withdraw strength per pos. approx.	7 N

### Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	4

### 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)	1.6 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
Sweep 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

### Durability test

Durability test		
Specification	IEC 60512-9-1:2010-03	
Impulse withstand voltage at sea level	4.8 kV	



1861060

https://www.phoenixcontact.com/us/products/1861060

Type of packaging

Outer packaging type

ontact resistance R <sub>1</sub>	1.5 mΩ
Contact resistance R <sub>2</sub>	1.5 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 105 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C 55 °C
Relative humidity (storage/transport)	30 % 70 %
Ambient temperature (assembly)	-5 °C 100 °C

packed in cardboard

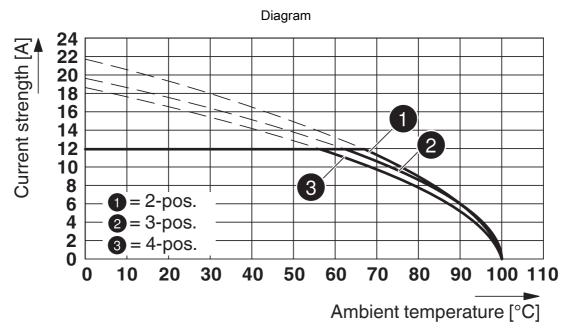
Carton



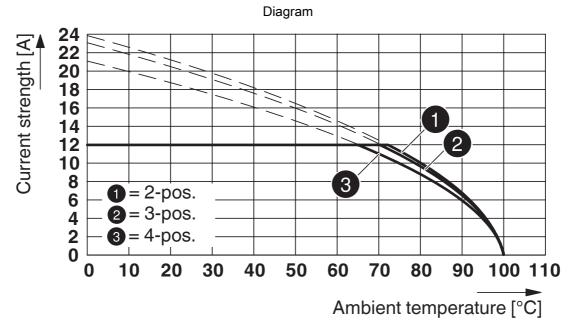
https://www.phoenixcontact.com/us/products/1861060



### **Drawings**



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

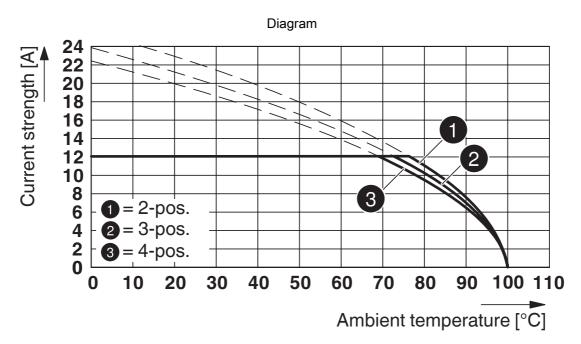


Type: FRONT-MSTB 2,5/...-ST with MSTBO 2,5/...-G1L

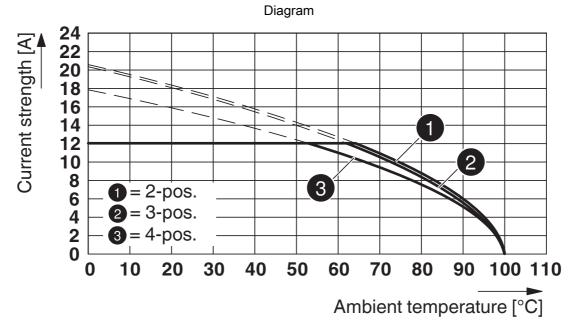


1861060

https://www.phoenixcontact.com/us/products/1861060



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

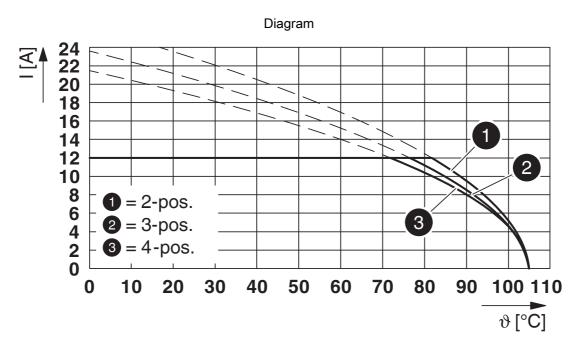


Type: MVSTB(R/W) 2,5/...-ST with MSTBO 2,5/...-G1L

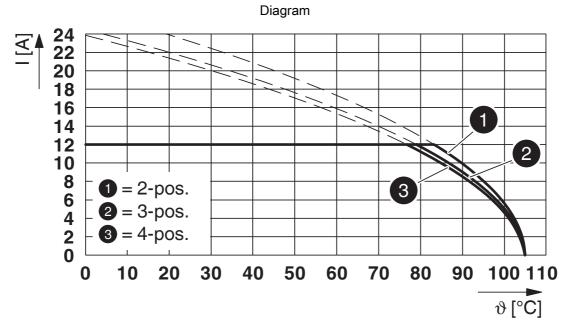


1861060

https://www.phoenixcontact.com/us/products/1861060



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

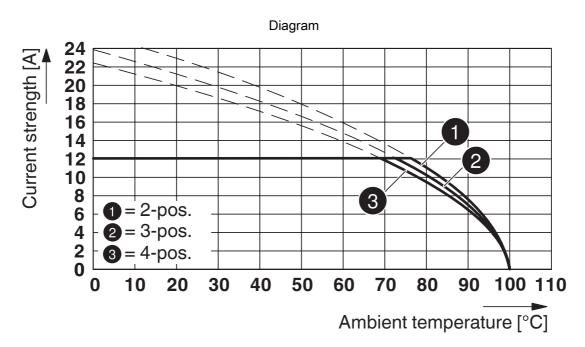


Type: FKCT 2,5/...-ST with MSTBO 2,5/...-G1L

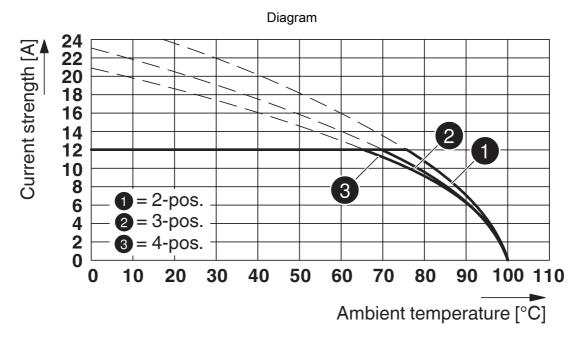


1861060

https://www.phoenixcontact.com/us/products/1861060



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

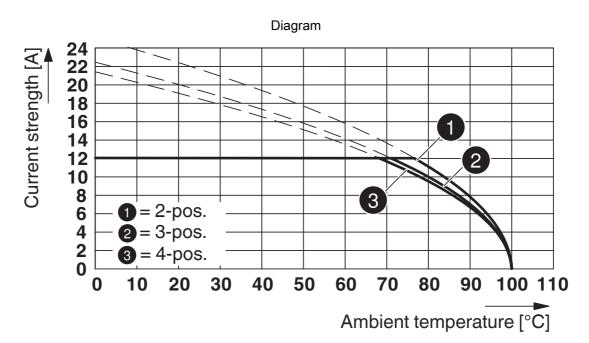


Type: MSTB 2,5/..-ST with MSTBO 2,5/...-G1L



1861060

https://www.phoenixcontact.com/us/products/1861060



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



https://www.phoenixcontact.com/us/products/1861060



### **Approvals**

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1861060

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

CULus Recognized Approval ID: E60425-20050718				
	Nominal voltage $U_N$	Nominal current I <sub>N</sub>	Cross section AWG	Cross section mm <sup>2</sup>
Use group B				
	300 V	16 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	8 A	-	-



1861060

https://www.phoenixcontact.com/us/products/1861060

### Classifications

### **ECLASS**

	ECLASS-11.0	27460201
	ECLASS-12.0	27460201
	ECLASS-13.0	27460201
ET	TIM	
	ETIM 9.0	EC002637

### **UNSPSC**

UNSPSC 21.0	39121400
01101 00 21.0	03 12 1400



https://www.phoenixcontact.com/us/products/1861060



### Environmental product compliance

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



https://www.phoenixcontact.com/us/products/1861060



### Mandatory accessories

### MSTBT 2,5/4-ST - PCB connector

1779851

https://www.phoenixcontact.com/us/products/1779851



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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

### MSTBT 2,5 HC/ 4-ST - PCB connector

1926251

https://www.phoenixcontact.com/us/products/1926251



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 16 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBT 2,5 HC/..-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 HC, locking: without, mounting: without, type of packaging: packed in cardboard, The T-shape of the MSTBT plug distributes the height uniformly over the upper and lower sides of the printed circuit board

### Accessories



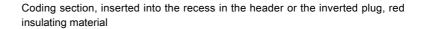
1861060

https://www.phoenixcontact.com/us/products/1861060

### CR MSTBO-G1 - Coding section

2199618

https://www.phoenixcontact.com/us/products/2199618





### MSTB-BF - Accessories

1759981

https://www.phoenixcontact.com/us/products/1759981



Mounting flange, for fixing both ends of the header onto the PCB, green insulating material, with M  $2\times14$  screws and nuts.



1861060

https://www.phoenixcontact.com/us/products/1861060

#### MSTB-BL - Accessories

1755477

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



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

### TVFKC 1,5/4-ST - PCB connector

1713855

https://www.phoenixcontact.com/us/products/1713855



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: 4, number of rows: 1, number of positions: 4, number of connections: 8, 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



https://www.phoenixcontact.com/us/products/1861060



#### TVFKCL 1,5/4-ST - PCB connector

#### 1715947

https://www.phoenixcontact.com/us/products/1715947



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: 4, number of rows: 1, number of positions: 4, number of connections: 8, 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 1,5/4-ST - PCB connector

### 1717987

https://www.phoenixcontact.com/us/products/1717987



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### FKCN 2,5/4-ST - PCB connector

1732768

https://www.phoenixcontact.com/us/products/1732768



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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 2,5/4-ST - PCB connector

1754481

https://www.phoenixcontact.com/us/products/1754481



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### MSTBP 2,5/4-ST - PCB connector

1765797

https://www.phoenixcontact.com/us/products/1765797



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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/ 4-ST - PCB connector

1768781

https://www.phoenixcontact.com/us/products/1768781



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### FRONT-MSTB 2,5/4-ST - PCB connector

1779437

https://www.phoenixcontact.com/us/products/1779437



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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 2,5/4-ST - PCB connector

1779851

https://www.phoenixcontact.com/us/products/1779851



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### MVSTBW 2,5/ 4-STEH - PCB connector

#### 1784299

https://www.phoenixcontact.com/us/products/1784299



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBW 2,5/..-STEH, 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

### MVSTBR 2,5/4-ST - PCB connector

### 1792032

https://www.phoenixcontact.com/us/products/1792032



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### MVSTBW 2,5/4-ST - PCB connector

#### 1792540

https://www.phoenixcontact.com/us/products/1792540



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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 2,5/4-ST - PCB connector

### 1909236

https://www.phoenixcontact.com/us/products/1909236



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



### FKCVR 2,5/4-ST - PCB connector

1909731

https://www.phoenixcontact.com/us/products/1909731



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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 2,5/4-ST - PCB connector

1910050

https://www.phoenixcontact.com/us/products/1910050



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



#### FKC 2,5/4-ST - PCB connector

1910377

https://www.phoenixcontact.com/us/products/1910377



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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 1/4-ST-BUS - PCB connector

1921696

https://www.phoenixcontact.com/us/products/1921696



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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



https://www.phoenixcontact.com/us/products/1861060



### FKCS 2,5/4-ST - PCB connector

1974753

https://www.phoenixcontact.com/us/products/1974753



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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

Phoenix Contact 2024 © - all rights reserved https://www.phoenixcontact.com

Phoenix Contact USA 586 Fulling Mill Road Middletown, PA 17057, United States (+717) 944-1300 info@phoenixcon.com