

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

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 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: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: IC 2,5/...-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Easy PCB replacement thanks to plug-in modules
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections
- Can be combined with the MSTB 2,5 range
- Low temperature rise, thanks to maximum contact force

## Commercial data

Item number	1786190
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA03
Product key	AACADA
Catalog page	Page 272 (C-1-2013)
GTIN	4017918042349
Weight per piece (including packing)	7.128 g
Weight per piece (excluding packing)	6.74 g
Customs tariff number	85366990
Country of origin	DE

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

## Technical data

### Product properties

Product type	PCB connector
Product family	IC 2,5/...-ST
Product line	COMBICON Connectors M
Type	Inverted
Number of positions	4
Pitch	5.08 mm
Number of connections	4
Number of rows	1
Number of potentials	4
Mounting flange	without

### Electrical properties

Nominal current $I_N$	12 A
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	2.9 mΩ
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

### Connection data

#### Connection technology

Type	Inverted
Connector system	COMBICON MSTB 2,5
Nominal cross section	2.5 mm <sup>2</sup>
Contact connection type	Pin

#### Interlock

Locking type	without
Mounting flange	without

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

sleeve	
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm
Tightening torque	0.5 Nm ... 0.6 Nm

## Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
---------------------------	--------------------

## Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
---------------------------	--------------------

## Material specifications

### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 µm Sn)
Metal surface terminal point (middle layer)	Nickel (2 - 3 µm Ni)
Metal surface contact area (top layer)	Tin (5 - 7 µm Sn)
Metal surface contact area (middle layer)	Nickel (2 - 3 µm Ni)

### Material data - housing

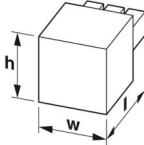
Color (Housing)	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

## Dimensions

# IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>

Dimensional drawing	
Pitch	5.08 mm
Width [w]	21.82 mm
Height [h]	15 mm
Length [l]	19.2 mm

## Mounting

Drive form screw head	Slotted (L)
-----------------------	-------------

## Notes

Notes on operation	In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.
--------------------	--

## Mechanical tests

### Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

### Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	7 N

### Torque test

Specification	IEC 60999-1:1999-11
---------------	---------------------

### Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

### Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

## Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

## Dimension check

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

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	2.9 mΩ
Contact resistance R <sub>2</sub>	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

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	16

### Insulation resistance

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

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

## Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

## Packaging specifications

Type of packaging	packed in cardboard
-------------------	---------------------

# IC 2,5/ 4-ST-5,08 - PCB connector

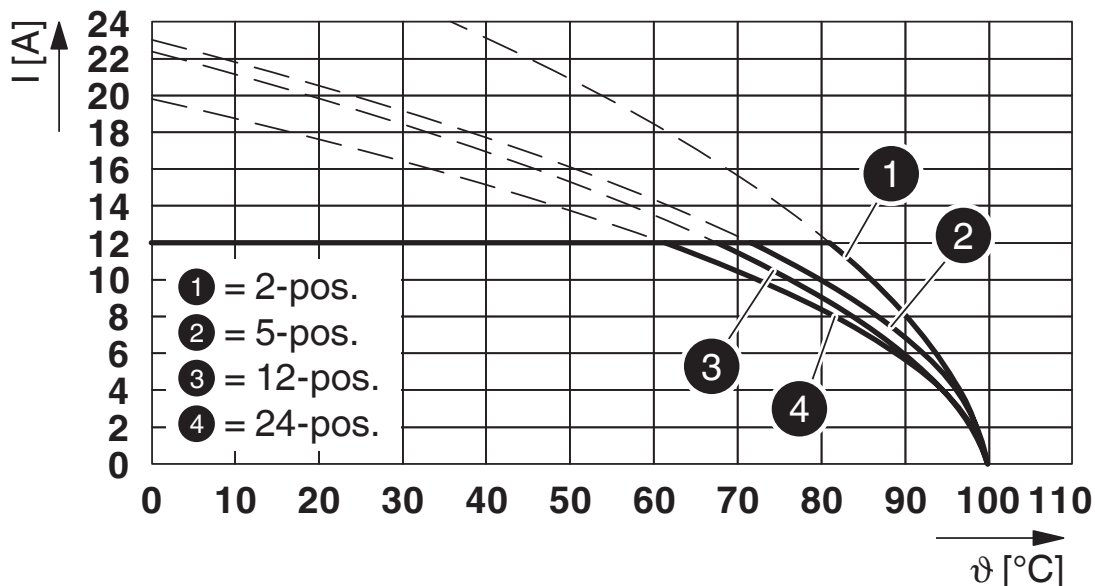


1786190

<https://www.phoenixcontact.com/us/products/1786190>

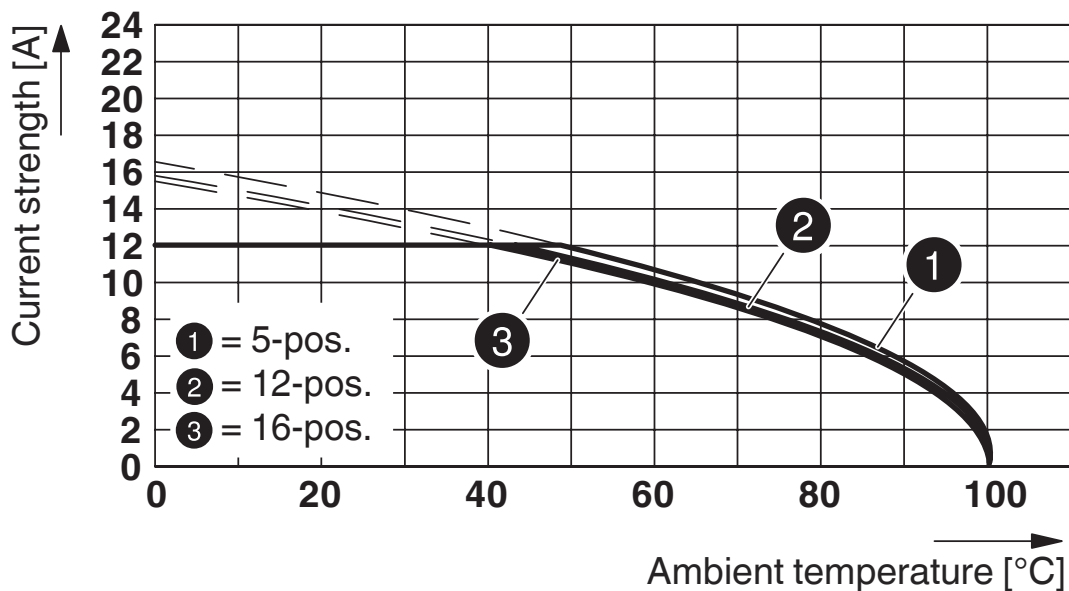
## Drawings

Diagram



Type: IC 2,5/...-ST-5,08 with ICV 2,5/...-G-5,08

Diagram



Type: (U)MSTBVK 2,5/...-ST-5,08 with IC 2,5/...-ST-5,08

# IC 2,5/ 4-ST-5,08 - PCB connector





1786190


<https://www.phoenixcontact.com/us/products/1786190>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1786190>

 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	300 V	10 A	28 - 12	-
Use group D				
	300 V	10 A	28 - 12	-

 <b>cULus Recognized</b> Approval ID: E60425-19931014				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	250 V	12 A	30 - 12	-
Use group D				
	300 V	10 A	30 - 12	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40050694				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	250 V	12 A	-	0.2 - 2.5



# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

## Classifications

### ECLASS

ECLASS-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

### ETIM

ETIM 9.0	EC002638
----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# IC 2,5/ 4-ST-5,08 - PCB connector



1786190

<https://www.phoenixcontact.com/us/products/1786190>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

### EF3.0 Climate Change

CO2e kg	0.059 kg CO2e
---------	---------------

# IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>

## 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 5,08/3,8:FORTL.ZAHLEN - Marker card

0804293

<https://www.phoenixcontact.com/us/products/0804293>

Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm



# IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



## KGG-MSTB 2,5/ 4 - Cable housing

1803882

<https://www.phoenixcontact.com/us/products/1803882>



Cable housing, color: green, product range: KGG-MSTB 2,5, width: 19 mm

---

## SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/us/products/1205053>



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

## IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



### MSTB-BL - Accessories

1755477

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



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

---

### EBP 2- 5 - Insertion bridge

1733169

<https://www.phoenixcontact.com/us/products/1733169>



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

## IC 2,5/ 4-ST-5,08 - PCB connector

1786190

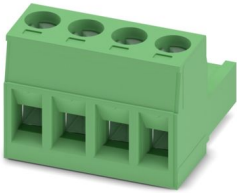
<https://www.phoenixcontact.com/us/products/1786190>



### MSTB 2,5/ 4-ST-5,08 - PCB connector

1757035

<https://www.phoenixcontact.com/us/products/1757035>

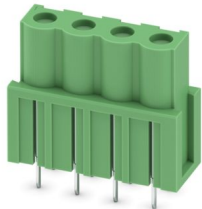


PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTB 2,5/...-ST, pitch: 5.08 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

### ICV 2,5/ 4-G-5,08 - PCB header

1785968

<https://www.phoenixcontact.com/us/products/1785968>



PCB headers, 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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: ICV 2,5/...-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.6 mm, number of solder pins per potential: 2, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

# IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



## MSTBC 2,5/ 4-STZ-5,08 - PCB connector

1809527

<https://www.phoenixcontact.com/us/products/1809527>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, 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: MSTBC 2,5/...-STZ, pitch: 5.08 mm, connection method: Crimp 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, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

## MSTBC 2,5/ 4-ST-5,08 - PCB connector

1808832

<https://www.phoenixcontact.com/us/products/1808832>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, 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: MSTBC 2,5/...-ST, pitch: 5.08 mm, connection method: Crimp 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, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

# IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



## MVSTBW 2,5/ 4-ST-5,08 - PCB connector

1792773

<https://www.phoenixcontact.com/us/products/1792773>



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBW 2,5/...-ST, pitch: 5.08 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-5,08 - PCB connector

1792265

<https://www.phoenixcontact.com/us/products/1792265>



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBR 2,5/...-ST, pitch: 5.08 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



## IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



### MSTBT 2,5/ 4-ST-5,08 - PCB connector

1780002

<https://www.phoenixcontact.com/us/products/1780002>

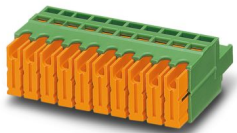


PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBT 2,5/..-ST, pitch: 5.08 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

### QC 1/ 4-ST-5,08 - PCB connector

1883271

<https://www.phoenixcontact.com/us/products/1883271>



PCB connector, nominal cross section: 1 mm<sup>2</sup>, 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, pitch: 5.08 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

## IC 2,5/ 4-ST-5,08 - PCB connector

1786190

<https://www.phoenixcontact.com/us/products/1786190>



## FKCVR 2,5/ 4-ST-5,08 - PCB connector

1873977

<https://www.phoenixcontact.com/us/products/1873977>

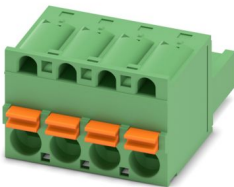


PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKCVR 2,5/..-ST, pitch: 5.08 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/ 4-ST-5,08 - PCB connector

1873074

<https://www.phoenixcontact.com/us/products/1873074>



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: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKC 2,5/..-ST, pitch: 5.08 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](mailto:info@phoenixcon.com)