1778014

https://www.phoenixcontact.com/in/products/1778014



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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, type of contact: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MSTB 2,5/..-STF, 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: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

### Your advantages

- · Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- · Screwable flange for superior mechanical stability
- · Allows connection of two conductors

### **Commercial Data**

Item number	1778014
Packing unit	100 рс
Minimum order quantity	100 рс
Sales Key	AAC
Product Key	AACAGD
Catalog Page	Page 263 (C-1-2013)
GTIN	4017918039882
Weight per Piece (including packing)	9.427 g
Weight per Piece (excluding packing)	9.419 g
Customs tariff number	85366990
Country of origin	DE



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### **Technical Data**

### Product properties

Туре	Standard
Product line	COMBICON Connectors M
Product type	PCB plug
Product family	MSTB 2,5/STF
Number of positions	5
Pitch	5.08 mm
Number of connections	5
Number of rows	1
Mounting flange	Screw flange
Number of potentials	5

### **Electrical properties**

Nominal current I <sub>N</sub>	12 A
Nominal voltage U <sub>N</sub>	320 V
Degree of pollution	3
Contact resistance	1.3 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	
Туре	Standard
Connector system	COMBICON MSTB 2,5
Nominal cross section	2.5 mm <sup>2</sup>
Type of contact	Socket
Interlock	
Locking type	Screw locking
Mounting flange	Screw flange
Tightening torque	0.3 Nm
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

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Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² 2.5 mm²
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 mm² 1 mm²
2 conductors with same cross section, flexible	0.2 mm² 1.5 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² 1 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² 1.5 mm²
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

### 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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 μm Sn)
Metal surface contact area (top layer)	Tin (5 - 7 μm Sn)
Material data - housing	
Color (Housing)	green (6021)
Insulating material	PA
Insulating material group	1
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

### Material data - actuating element

Color ()

()

### Dimensions

Dimensional drawing	h
Pitch	5.08 mm
Width [w]	35.41 mm
Height [h]	15 mm

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Length [I]

Drive form screw head Drive form screw head

Tightening torque

Notes on operation

Test for conductor damage and slackening

Conductor cross section/conductor type/tractive force

Mechanical tests

Specification Result

Pull-out test Specification

Mounting

Flange

Notes

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nnecto	or <b>PHŒNIX</b>
	18.3 mm
	Slotted (L)
	Slotted (L)
	0.3 Nm
	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.
	IEC 60999-1:1999-11
	Test passed
	IEC 60999-1:1999-11
	0.2 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	2.5 mm² / solid / > 50 N
	2.5 mm² / flexible / > 50 N

### Insertion and withdrawal forces

setpoint/actual value

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

Torque test

IEC 60999-1:1999-11
IEC 60512-15-1:2008-05
Test passed
IEC 60068-2-70:1995-12
Test passed
IEC 60512-13-5:2006-02
Test passed



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

### Environmental and real-life conditions

bration 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
urability test	
Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	1.3 mΩ
Contact resistance R <sub>2</sub>	1.4 mΩ
Insertion/withdrawal cycles	25
imatic 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
nocks	
Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)
nbient conditions	
Ambient temperature (operation)	-40 °C 100 °C (dependent on the derating curve)
Ambient temperature (operation) Ambient temperature (storage/transport)	-40 °C 70 °C
Relative humidity (storage/transport)	30 % 70 %
relative numinity (storage/transport)	-5 °C 100 °C

### Electrical tests

Thermal test | Test group C



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Specification	IEC 60512-5-1:2002-02
Tested number of positions	12
isulation resistance	
Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ
ir clearances and creepage distances	
Specification	IEC 60664-1:2007-04
Insulating material group	1
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

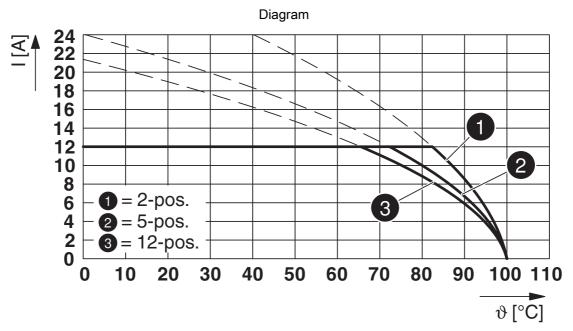
packed in cardboard



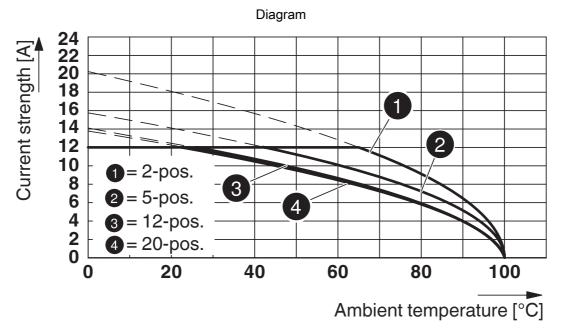
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### Drawings



Type: MSTB 2,5/...-STF-5,08 with CCV 2,5/...-GF-5,08-LR P...THR

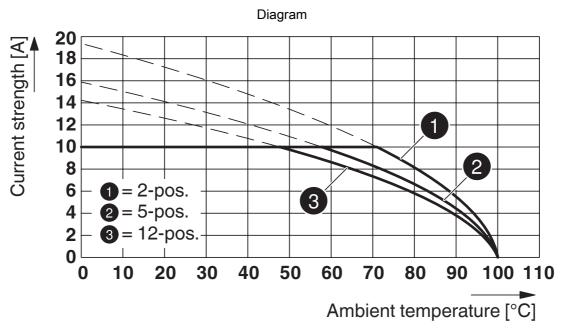


Type: MSTB 2,5/...-STF-5,08 with MSTBV 2,5/...-GF-5,08

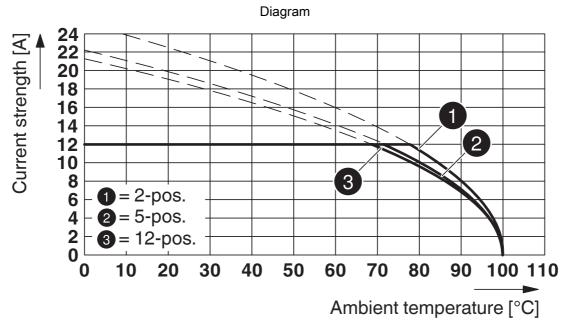


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Type: MSTB 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08



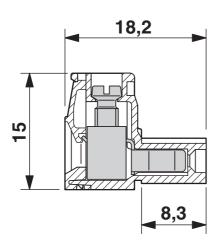
Type: MSTB 2,5/...-STF-5,08 with CCV 2,5/...-GF-5,08 P26THR

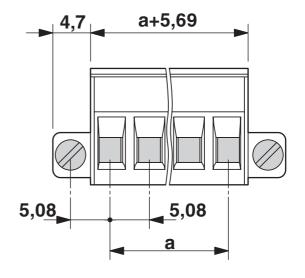


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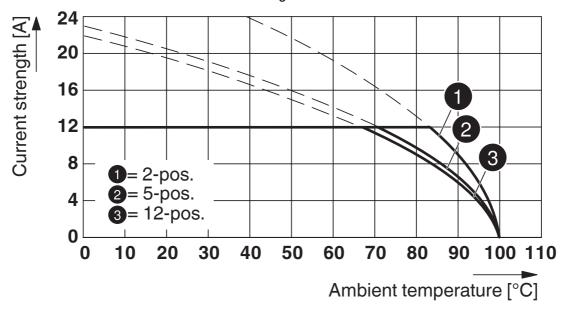
https://www.phoenixcontact.com/in/products/1778014

Dimensional drawing





Diagram

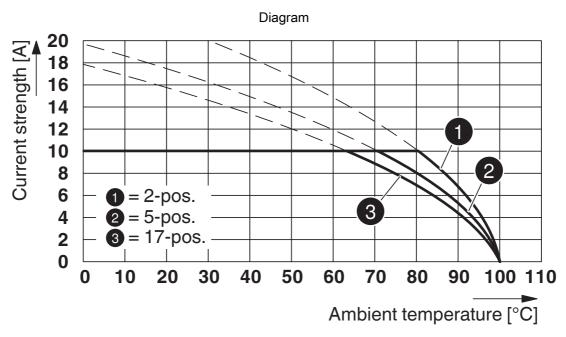


Type: MSTB 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08 P26THR

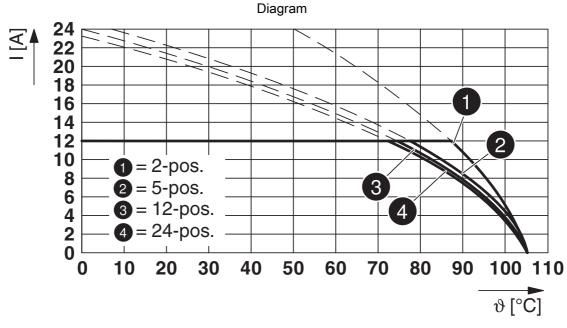


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Type: MSTB 2,5/...-STF-5,08 with MDSTB 2,5/...-GF-5,08



Type: MSTB 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08-LR P...THR



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### Approvals

Ð	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>
		300 V	15 A	28 - 12	-
		300 V	10 A	28 - 12	-
СВ	IECEE CB Schen	ne			

	IECEE CB Scheme Approval ID: DE1-60988-B1B2					
	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	-	0.2 - 2.5		

### ERE EAC

Approval ID: B.01687

6 <b>91</b> .05	CULus Recognized Approval ID: E60425-19931011				
		Nominal Voltage U <sub>N</sub>	Nominal Current I <sub>N</sub>	Cross Section AWG	Cross Section mm <sup>2</sup>
		300 V	15 A	30 - 12	-
		300 V	10 A	30 - 12	-



DNV GL Approval ID: TAE00001EY

VDE Zeichengene Approval ID: 40050694	hmigung			
	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	-	0.2 - 2.5

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### Classifications

### ECLASS

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

### ETIM

	ETIM 8.0	EC002638		
UN	UNSPSC			
	UNSPSC 21.0	39121400		

1778014 https://www.phoenixcontact.com/in/products/1778014



## **Environmental Product Compliance**

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

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### Accessories

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Note: Applying some accessories below might limit this product.

### EBP 2-5 - Insertion bridge

1733169 https://www.phoenixcontact.com/in/products/1733169

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



6 Max. current carrying capacity: 12 A

### EBP 4-5 - Insertion bridge

1733185 https://www.phoenixcontact.com/in/products/1733185

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Max. current carrying capacity: 12 A

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EBP 5-5 - Insertion bridge

1733198

https://www.phoenixcontact.com/in/products/1733198

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



Max. current carrying capacity: 12 A

EBP 3-5 - Insertion bridge

1733172 https://www.phoenixcontact.com/in/products/1733172

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Max. current carrying capacity: 12 A

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### SZS 0,6X3,5 - Screwdriver

#### 1205053

https://www.phoenixcontact.com/in/products/1205053



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

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

0804293 https://www.phoenixcontact.com/in/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:  $5.08 \times 3.8 \text{ mm}$ 

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### SK U/3,8 WH:UNBEDRUCKT - Marker card

### 0803906

https://www.phoenixcontact.com/in/products/0803906

Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440



### B-STIFT - Marker pen

1051993 https://www.phoenixcontact.com/in/products/1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5  $\rm mm$ 

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### X-PEN 0,35 - Marker pen

#### 0811228

https://www.phoenixcontact.com/in/products/0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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

1803895 https://www.phoenixcontact.com/in/products/1803895



Cable housing, pitch: 0 mm, number of positions: 5, color: green

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### MSTB 2,5/ 5-GF-5,08 - PCB header

1776537

https://www.phoenixcontact.com/in/products/1776537



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, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MSTB 2,5/..-GF, pitch: 5.08 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, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

### MSTBV 2,5/ 5-GF-5,08 - PCB header

1777109 https://www.phoenixcontact.com/in/products/1777109



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, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MSTBV 2,5/..-GF, pitch: 5.08 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: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

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### MDSTB 2,5/ 5-GF-5,08 - PCB header

1842393

https://www.phoenixcontact.com/in/products/1842393



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 10, number of rows: 2, number of positions: 5, number of connections: 10, product range: MDSTB 2,5/..-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard, The article can be aligned to create different nos. of positions! In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

### MDSTBV 2,5/ 5-GF-5,08 - PCB header

1845662

https://www.phoenixcontact.com/in/products/1845662



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 10, number of rows: 2, number of positions: 5, number of connections: 10, product range: MDSTBV 2,5/..-GF, pitch: 5.08 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: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard, The article can be aligned to create different nos. of positions! In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

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### DFK-MSTBA 2,5/ 5-GF-5,08 - Feed-through header

#### 1899016

https://www.phoenixcontact.com/in/products/1899016



Feed-through header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-MSTBA 2,5/..-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

### DFK-MSTBVA 2,5/ 5-GF-5,08 - Feed-through header

1899317

https://www.phoenixcontact.com/in/products/1899317



Feed-through header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-MSTBVA 2,5/..-GF, pitch: 5.08 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: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

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### CC 2,5/ 5-GF-5,08 P26THR - PCB header

1954728

https://www.phoenixcontact.com/in/products/1954728



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: CC 2,5/..-GF, pitch: 5.08 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

### CC 2,5/ 5-GF-5,08 P26THRR56 - PCB header

1954838 https://www.phoenixcontact.com/in/products/1954838



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: CC 2,5/..-GF, pitch: 5.08 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: 56 mm wide tape, For user information and design recommendations for through-hole reflow technology, go to: Downloads

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### CCV 2,5/ 5-GF-5,08 P26THR - PCB header

1955662

https://www.phoenixcontact.com/in/products/1955662



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: CCV 2,5/..-GF, pitch: 5.08 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

#### CCV 2,5/ 5-GF-5,08 P26THRR56 - PCB header

1955772 https://www.phoenixcontact.com/in/products/1955772



PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: CCV 2,5/..-GF, pitch: 5.08 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: 56 mm wide tape, For user information and design recommendations for through-hole reflow technology, go to: Downloads

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PHOENIX CONTACT (I) Pvt. Ltd. A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420 info@phoenixcontact.co.in