

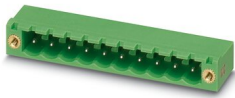
# MSTB 2,5 HC/ 2-GF - PCB header



1923979

<https://www.phoenixcontact.com/in/products/1923979>

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MSTB 2,5 HC/..-GF, 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 HC, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

## Your advantages

- Well-known mounting principle allows worldwide use
- Screwable flange for superior mechanical stability
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

## Commercial Data

Item number	1923979
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAC
Product Key	AACSGA
Catalog Page	Page 497 (C-1-2013)
GTIN	4017918600167
Weight per Piece (including packing)	2.216 g
Weight per Piece (excluding packing)	1.916 g
Customs tariff number	85366930
Country of origin	DE

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



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## Technical Data

### Product properties

Type	Standard
Product line	COMBICON Connectors M
Product type	PCB headers
Product family	MSTB 2,5 HC/...-GF
Number of positions	2
Pitch	5 mm
Number of connections	2
Number of rows	1
Mounting flange	Threaded flange
Number of potentials	2
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	16 A (see derating curve)
Nominal voltage $U_N$	320 V
Degree of pollution	3
Contact resistance	1 m $\Omega$
Rated voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

### Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

### Flange

Tightening torque	0.3 Nm
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### Attachment on the PCB

Tightening torque	0.3 Nm
Screw	Sheet metal screw ISO 1481-ST 2,2x6,5 C or ISO 7049-ST 2,2x6,5 C

### Material specifications

#### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
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Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface contact area (top layer)	Tin (3 - 5 $\mu\text{m}$ Sn)
Metal surface contact area (middle layer)	Nickel (1.3 - 3 $\mu\text{m}$ Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 $\mu\text{m}$ Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 $\mu\text{m}$ 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

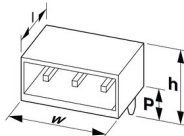
## Material data – actuating element

Color ( )	( )
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## Notes

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

Dimensional drawing	
Pitch	5 mm
Width [w]	20 mm
Height [h]	12.1 mm
Length [l]	12 mm
Installed height	8.6 mm
Solder pin length [P]	3.5 mm

## Mechanical tests

### Test for conductor damage and slackening

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

### Repeated connection and disconnection

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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	50
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	5 N

## 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

Specification	IEC 60512-5-1:2002-02
Tested number of positions	12

### Insulation resistance

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

### Temperature cycles

Specification	IEC 60999-1:1999-11
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Result	Test passed
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)	320 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
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

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance $R_1$	1 m $\Omega$
Contact resistance $R_2$	1 m $\Omega$
Insertion/withdrawal cycles	50

### 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

### Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	30g

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Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

## Ambient conditions

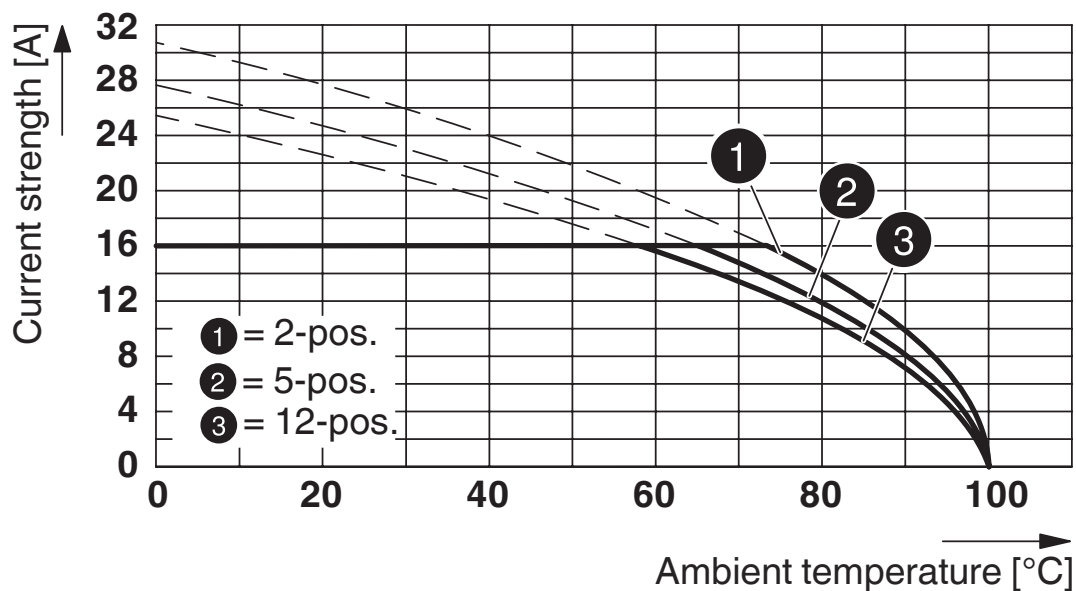
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Type of packaging	packed in cardboard
Outer packaging type	Carton

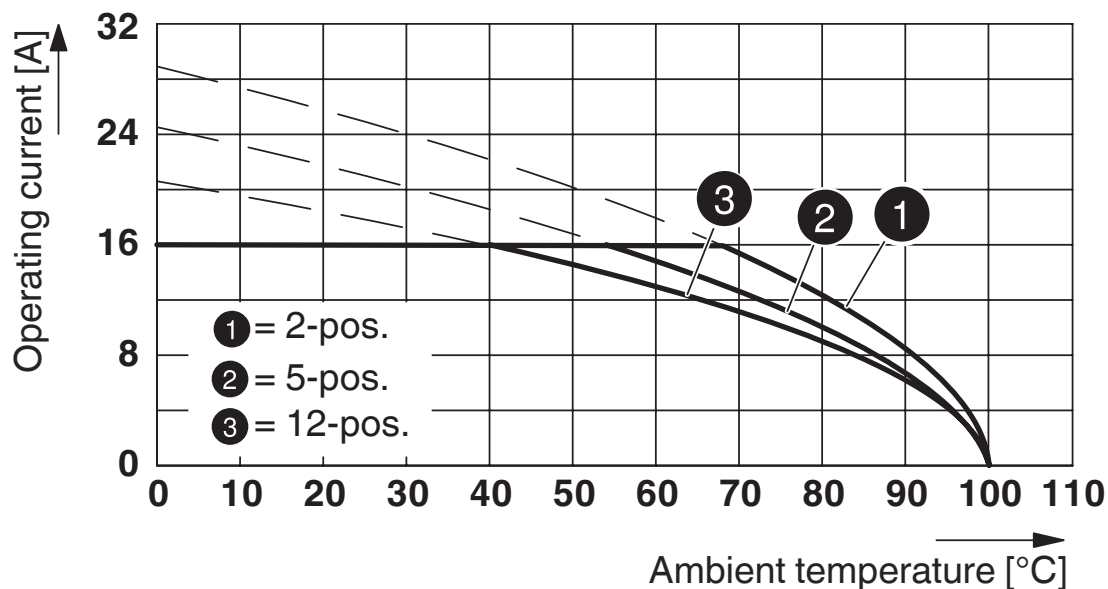
Drawings

Diagram



Type: MVSTBW 2,5 HC/...-STF with MSTB 2,5 HC/...-GF

Diagram



Type: FKC 2,5 HC/...-STF with MSTB 2,5 HC/...-GF

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




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## Approvals

 <b>IECEE CB Scheme</b> Approval ID: DE1-60988-B1B2				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	16 A	-	-

 <b>EAC</b> Approval ID: B.01687				
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 <b>cULus Recognized</b> Approval ID: E60425-19931011				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	300 V	16 A	-	-
	300 V	10 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40050079				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	16 A	-	-



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## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 8.0	EC002637
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### 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

### MSTB-BL - Accessories

1755477

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



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

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

0804183

<https://www.phoenixcontact.com/in/products/0804183>



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 mm, lettering field size: 5 x 3.8 mm

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## CR-MSTB - Coding section

1734401

<https://www.phoenixcontact.com/in/products/1734401>

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



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## MSTB 2,5 HC/ 2-STF - PCB connector

1912074

<https://www.phoenixcontact.com/in/products/1912074>

PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MSTB 2,5 HC/..-STF, pitch: 5 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 HC, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard



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

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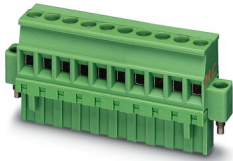
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## MVSTBR 2,5 HC/ 2-STF - PCB connector

1912511

<https://www.phoenixcontact.com/in/products/1912511>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MVSTBR 2,5 HC/...-STF, 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 HC, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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## MVSTBW 2,5 HC/ 2-STF - PCB connector

1912951

<https://www.phoenixcontact.com/in/products/1912951>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MVSTBW 2,5 HC/...-STF, 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 HC, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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

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## FKC 2,5 HC/ 2-STF - PCB connector

1942264

<https://www.phoenixcontact.com/in/products/1942264>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: FKC 2,5 HC/...-STF, 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 HC, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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