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# Data sheet

Order No.: 1911871

Type: MSTB 2,5 HC/ 4-ST

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

## 1 Main features



- |                           |                                      |                        |                           |
|---------------------------|--------------------------------------|------------------------|---------------------------|
| • No. of pos.             | 4                                    | • Nominal current      | 16 A (see derating curve) |
| • Conductor cross section | 2.5 mm <sup>2</sup>                  | • Nominal voltage      | 320 V                     |
| • Color                   | green                                | • Connection direction | 0°                        |
| • Pitch                   | 5 mm                                 | • Type of packaging    | packed in cardboard       |
| • Connection method       | Screw connection with tension sleeve |                        |                           |

## 2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ Integrated double steel spring provides additional safety in the event of temperature and power fluctuations



Make sure you always use the latest documentation.

It can be downloaded at: [phoenixcontact.net/product/1911871](http://phoenixcontact.net/product/1911871)

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1911871 MSTB 2,5 HC/ 4-ST

**4 3D model in PDF can be activated (Acrobat Reader only)**



**1911871 MSTB 2,5 HC/ 4-ST****5 item properties**

Order No.	1911871
Type	MSTB 2,5 HC/ 4-ST
Type of contact	Female connector
Range of articles	MSTB 2,5 HC/...ST
Pitch	5 mm
Number of positions	4
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	without

**5.1 Connection capacity**

Conductor cross section, solid	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil	24 to 12
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> to 1 mm <sup>2</sup>
2 conductors with same cross section, stranded	0.2 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 1 mm <sup>2</sup>
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.8 mm x 2.4 mm / 2.5 mm
Stripping length	7 mm

**5.2 Material data**

<b>Material of metal parts</b>	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Sn 4 µm ... 8 µm
Surface contact area	Sn 4 µm ... 8 µm
Surface characteristics	hot-dip tin-plated
<b>Insulating material data</b>	
Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	green (6021)
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

**6 Dimensions**

**1911871 MSTB 2,5 HC/ 4-ST**

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**6.1 Dimensions for the product**

Length	18.1 mm
Width	20 mm
Total height	15 mm
Dimension a	15 mm

**1911871 MSTB 2,5 HC/ 4-ST****7 Series drawing****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

**9 Application****9.1 Temperature limit values**

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

**1911871 MSTB 2,5 HC/ 4-ST****10 Mechanical tests**

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual test	Test passed
Specification	IEC 60512-1-1:2002-02
Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02
Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12
Insertion and withdrawal force	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	50
Insertion strength per pos. approx.	4 N
Withdraw strength per pos. approx.	3 N
Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N
Contact retention in insert	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	41.5 N

**10.1 Termination and connection method**

Specification	IEC 60999-1:1999-11
Check for damage to conductor or loosening	Test passed

**10.2 Pull-out test**

Termination and connection method: pull-out test	
Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.2 mm <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm <sup>2</sup> / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / stranded / > 50 N
Conductor cross section/conductor type/tractive force actual value	AWG 12 / stranded / > 60 N



**1911871 MSTB 2,5 HC/ 4-ST****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	16 A / 2.5 mm <sup>2</sup>
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	0.6 mΩ
Degree of pollution	2

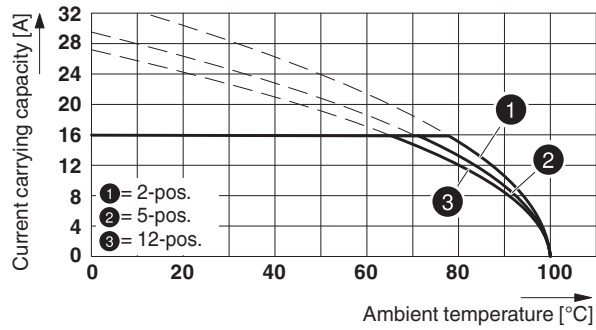
**11.2 Air and creepage distances**

Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	3.2 mm	3 mm	3.2 mm

## 1911871 MSTB 2,5 HC/ 4-ST

**12 Current carrying capacity/derating curves**

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram
Conductor cross section	2.5 mm <sup>2</sup>

**Derating curve for: MSTB 2,5 HC/...-ST with MSTBVA 2,5 HC/...-G**





**1911871 MSTB 2,5 HC/ 4-ST****13 Environmental and durability tests****13.1 Vibration test**

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

**14 Classification for connectors**

Specification	IEC 61984:2008-10
Main features	Connectors without switching capacity (COC)
Construction form	Fixed connectors
Strain relief elements	without strain relief
Connection method	Can be reconnected
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protective conductor	without PE
Lock	no
Connection method	Screw terminal points

**15 Approvals**

VDE Gutachten mit Fertigungsüberwachung 			
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		
Voltage	250 V		
Current	16 A		
IECEE CB Scheme 			
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		
Voltage	250 V		
Current	16 A		
cULus Recognized 			
Use group	B	D	
mm <sup>2</sup> /AWG/kcmil	30-12	30-12	
Voltage	300 V	300 V	
Current	16 A	10 A	
EAC 			

**1911871 MSTB 2,5 HC/ 4-ST****16 Commercial Data**

Order No.	1911871
Type	MSTB 2,5 HC/ 4-ST
Pieces per package	50
Net weight	6.782 g
GTIN	4017918191023
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding headers**

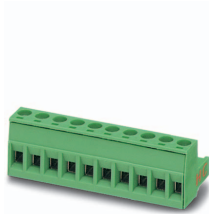
Order No.	Type
1923775	MSTBA 2,5 HC/ 4-G
1924211	MSTBVA 2,5 HC/ 4-G

**18 Accessories**

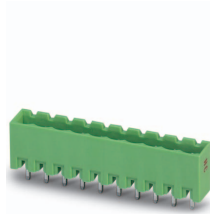
Description	Order No.	Type
Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip	1205053	SZS 0,6X3,5
	0804183	SK 5/3,8:FORTL.ZAHLEN
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
	0825124	SK 3,8 REEL P5 WH CUS
	0803906	SK U/3,8 WH:UNBEDRUCKT
	0805218	SK 3,8 WH:REEL

## 1911871 MSTB 2,5 HC/ 4-ST

## 19 Combination tests



MSTB 2,5 HC/..-ST

MSTBVA 2,5 HC/  
..-G

Specification

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

approx. 4 N / 3 N

Polarization when inserted  
Requirement >20 N

Test passed

Contact holder in insert  
Requirements >20 N

Test passed

**Durability tests (B)**Contact resistance  $R_1$ 0.6 m $\Omega$ 

Insertion/withdrawal cycles

50

Contact resistance  $R_2$ 0.7 m $\Omega$ Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu\text{s})$ 

4.8 kV

Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ 

2.21 kV

Insulation resistance  
Requirements > 5 M $\Omega$ > 5 T $\Omega$ **Thermal tests (C)**

Tested number of positions

12

Tested conductor cross section

2.5 mm<sup>2</sup>

Test current

16 A DC

Upper limiting temperature  
Requirements < 100°C

Test passed

**Climatic tests (D)**

Test sequence 1: low temperature storage

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

Test sequence 3: noxious gas storage  
(ISO 6988)0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycleRated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu\text{s})$ 

4.8 kV

Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ 

2.21 kV

**Environmental and endurance tests (E)**

Specification

IEC 61984:2008-10

Degree of protection

Finger safety with IP20  
test finger