

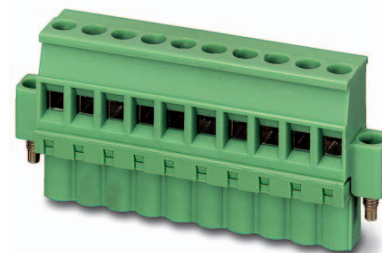
Data sheet

2017-10-24
Product version 02
Document revision 0

Order No.: 1835041

Type: MVSTBW 2,5/16-STF-5,08

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 16 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green | • Connection direction | -90 ° |
| • Pitch | 5.08 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
- ✓ Screwable flange for superior mechanical stability



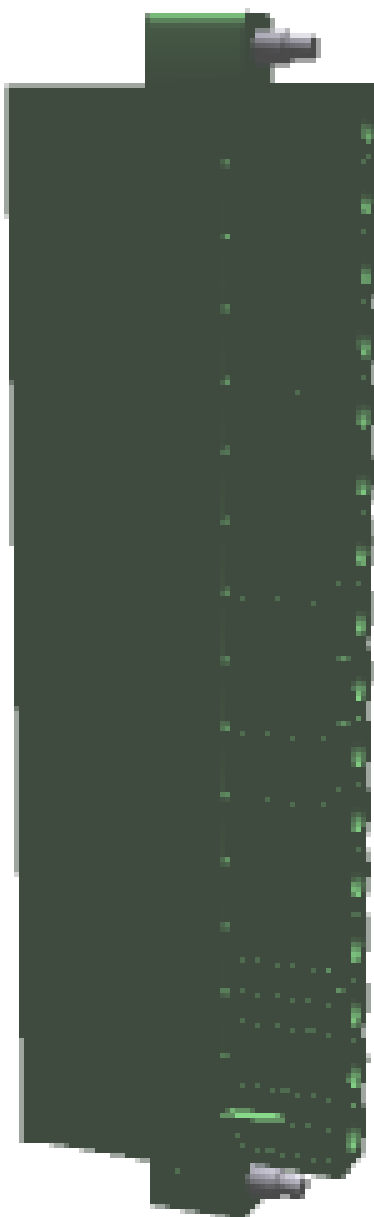
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1835041

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1835041 MVSTBW 2,5/16-STF-5,08

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



1835041 MVSTBW 2,5/16-STF-5,08**5 item properties**

Order No.	1835041
Type	MVSTBW 2,5/16-STF-5,08
Type of contact	Female connector
Range of articles	MVSTBW 2,5/...-STF
Pitch	5.08 mm
Number of positions	16
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	Screw flange

5.1 Connection capacity

Conductor cross section, solid	0.2 mm ² to 2.5 mm ²
Conductor cross section, flexible	0.2 mm ² to 2.5 mm ²
Conductor cross section AWG/kcmil	24 to 12
2 conductors with same cross section, solid	0.2 mm ² to 1 mm ²
2 conductors with same cross section, stranded	0.2 mm ² to 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² to 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² to 2.5 mm ²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm ² to 1 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² to 1.5 mm ²
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
Stripping length	7 mm

5.2 Material data

Material of metal parts		
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201	
Contact material	Cu alloy	
Terminal point surface	Sn 5 µm ... 7 µm	
Surface contact area	Sn 5 µm ... 7 µm	
Surface characteristics	hot-dip tin-plated	
Insulating material data	Housing	
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

1835041 MVSTBW 2,5/16-STF-5,08

6.1 Dimensions for the product

Length	12.6 mm
Width	91.44 mm
Total height	26 mm
Dimension a	76.2 mm

7 Series drawing

1835041 MVSTBW 2,5/16-STF-5,08**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)

1835041 MVSTBW 2,5/16-STF-5,08**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	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 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.	35 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	0.14 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / stranded / > 50 N

1835041 MVSTBW 2,5/16-STF-5,08**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm ²
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	2.8 mΩ
Degree of pollution	2

11.2 Air and creepage distances

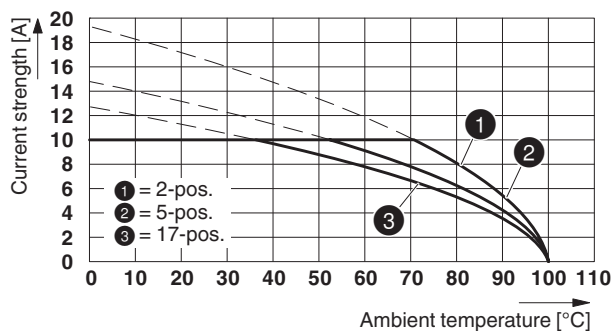
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	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	4 mm	1.6 mm	3.2 mm

1835041 MVSTBW 2,5/16-STF-5,08

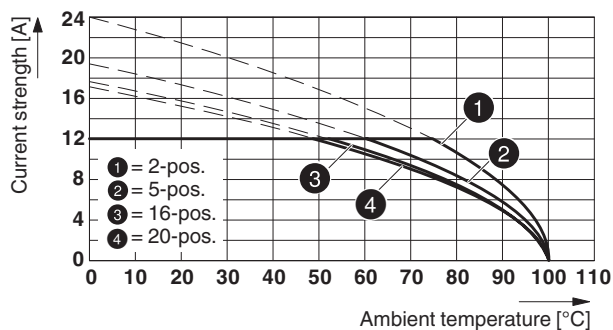
12 Current carrying capacity/derating curves

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 ²

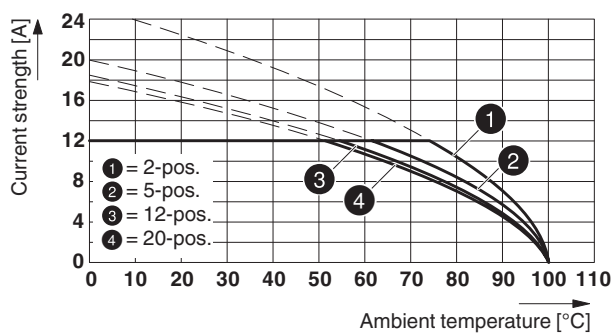
Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTB 2,5/...-GF-5,08



Type: MVSTBW 2,5/...-STF-5,08 with MVSTBU 2,5/...-GFB-5,08



Type: MVSTBW 2,5/...-STF-5,0 with UMSTBVK 2,5/...-GF-5,08



Type: MVSTB(R/W) 2,5/...-STF-5,08 with CC 2,5/...-GF-5,08 P26THR

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1835041 MVSTBW 2,5/16-STF-5,08

Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

1835041 MVSTBW 2,5/16-STF-5,08**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

UL Recognized 				
Use group	B	D		
mm ² /AWG/kcmil	30-12	30-12		
Voltage	300 V	300 V		
Current	15 A	10 A		

VDE Gutachten mit Fertigungsüberwachung 				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	12 A			

cUL Recognized 				
Use group	B	D		
mm ² /AWG/kcmil	30-12	30-12		
Voltage	300 V	300 V		
Current	15 A	10 A		

IECEE CB Scheme 				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	250 V			
Current	12 A			

1835041 MVSTBW 2,5/16-STF-5,08CSA 

Use group	B	D		
mm ² /AWG/kcmil	28-12	28-12		
Voltage	300 V	300 V		
Current	10 A	10 A		

EAC cULus Recognized 

1835041 MVSTBW 2,5/16-STF-5,08**16 Commercial Data**

Order No.	1835041
Type	MVSTBW 2,5/16-STF-5,08
Pieces per package	50
Net weight	33.584 g
GTIN	4017918103446
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding headers

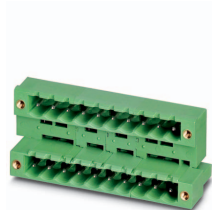
Order No.	Type
1776647	MSTB 2,5/16-GF-5,08
1777219	MSTBV 2,5/16-GF-5,08
1899126	DFK-MSTBA 2,5/16-GF-5,08
1899427	DFK-MSTBVA 2,5/16-GF-5,08
1899757	EMSTB 2,5/16-GF-5,08
1915356	EMSTBV 2,5/16-GF-5,08

18 Accessories

Description	Order No.	Type
	0805412	SK 5,08/3,8:UNBEDRUCKT
	0805085	SK 5,08/3,8:SO
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT
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
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB

1835041 MVSTBW 2,5/16-STF-5,08

19 Combination tests

**MVSTBW 2,5/...-STF****MDSTB 2,5/...-GF****MVSTBU 2,5/...-GFB****UMSTBVK 2,5/...-GF****CC 2,5/...-GF**

Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 8 N / 6 N	approx. 8 N / 6 N	approx. 8 N / 6 N	approx. 8 N / 6 N
Polarization when inserted Requirement >20 N	Test passed	Test passed	Test passed	Test passed
Contact holder in insert Requirements >20 N	Test passed	Test passed	Test passed	Test passed
Durability tests (B)				
Contact resistance R_1	2.8 mΩ	3 mΩ	2.9 mΩ	2.2 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R_2	2.8 mΩ	3.2 mΩ	2.9 mΩ	2.3 mΩ
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu s)$	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Insulation resistance Requirements > 5 MΩ	> 0.1 TΩ	> 0.9 TΩ	> 0.7 TΩ	> 0.2 TΩ
Thermal tests (C)				
Tested number of positions	17	20	20	12
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	10 A	12 A	12 A	12 A
Upper limiting temperature Requirements < 100°C	Test passed	Test passed	Test passed	Test passed
Climatic tests (D)				
Test sequence 1: low temperature storage	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h
Test sequence 2: heat storage	100 °C/168 h	100 °C/168 h	100 °C/168 h	100 °C/168 h
Test sequence 3: noxious gas storage (ISO 6988)	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu s)$	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger

1835041 MVSTBW 2,5/16-STF-5,08**MVSTBW 2,5/...-STF**

Specification

Mechanical tests (A)

Insertion/withdrawal force per position

Polarization when inserted
Requirement >20 NContact holder in insert
Requirements >20 N**Durability tests (B)**Contact resistance R_1

Insertion/withdrawal cycles

Contact resistance R_2 Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ Insulation resistance
Requirements > 5 M Ω **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage
(ISO 6988)Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

**MDSTBV 2,5/...-GF**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

3.4 m Ω

25

3.4 m Ω

4.8 kV

2.21 kV

> 0.2 T Ω

18

2.5 mm²

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger