

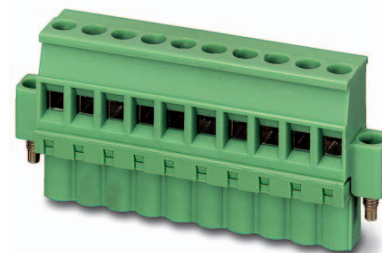
Data sheet

2017-10-24
Product version 02
Document revision 0

Order No.: 1835009

Type: MVSTBW 2,5/12-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. | 12 | • 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



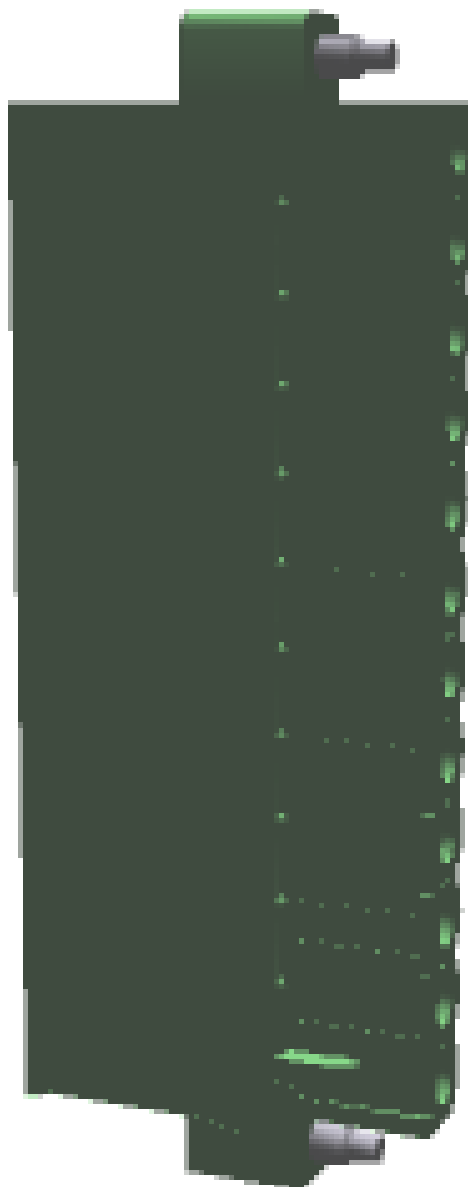
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1835009

3 Table of contents

1	Main features	1
2	Your advantages	1
3	Table of contents	2
4	3D model in PDF can be activated (Acrobat Reader only)	3
5	item properties	4
5.1	Connection capacity	4
5.2	Material data	4
6	Dimensions	4
6.1	Dimensions for the product	5
7	Series drawing	6
8	Packaging information	7
9	Application	7
9.1	Temperature limit values	7
10	Mechanical tests	8
10.1	Termination and connection method	8
10.2	Pull-out test	8
11	Electrical tests	9
11.1	Electrical data	9
11.2	Air and creepage distances	9
12	Current carrying capacity/derating curves	10
13	Environmental and durability tests	12
13.1	Vibration test	12
14	Classification for connectors	12
15	Approvals	12
16	Commercial Data	14
17	corresponding headers	14
18	Accessories	14
19	Combination tests	15

1835009 MVSTBW 2,5/12-STF-5,08

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



1835009 MVSTBW 2,5/12-STF-5,08**5 item properties**

Order No.	1835009
Type	MVSTBW 2,5/12-STF-5,08
Type of contact	Female connector
Range of articles	MVSTBW 2,5/...-STF
Pitch	5.08 mm
Number of positions	12
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

1835009 MVSTBW 2,5/12-STF-5,08**6.1 Dimensions for the product**

Length	12.6 mm
Width	71.12 mm
Total height	26 mm
Dimension a	55.88 mm

7 Series drawing

REF 1834903

1835009 MVSTBW 2,5/12-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)

1835009 MVSTBW 2,5/12-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

1835009 MVSTBW 2,5/12-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

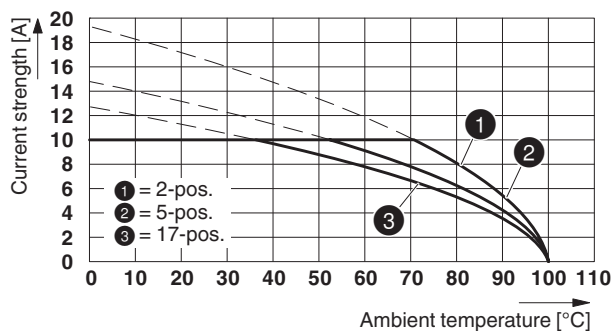
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category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

1835009 MVSTBW 2,5/12-STF-5,08

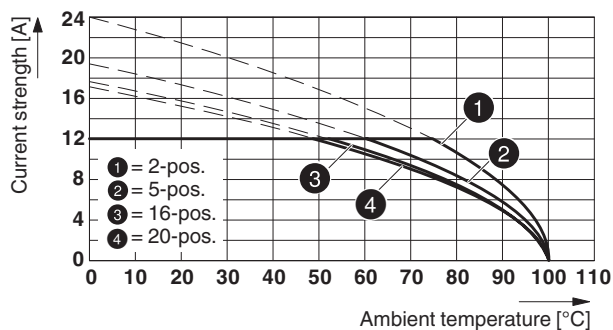
12 Current carrying capacity/derating curves

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

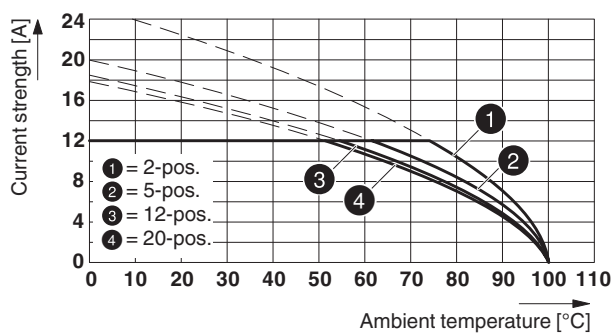
Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTB 2,5/...-GF-5,08



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

93059_1000_en

1835009 MVSTBW 2,5/12-STF-5,08

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

1835009 MVSTBW 2,5/12-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			

1835009 MVSTBW 2,5/12-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 

1835009 MVSTBW 2,5/12-STF-5,08**16 Commercial Data**

Order No.	1835009
Type	MVSTBW 2,5/12-STF-5,08
Pieces per package	50
Net weight	25.474 g
GTIN	4017918121730
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding headers

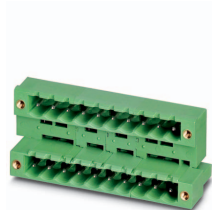
Order No.	Type
1776605	MSTB 2,5/12-GF-5,08
1777170	MSTBV 2,5/12-GF-5,08
1842461	MDSTB 2,5/12-GF-5,08
1845730	MDSTBV 2,5/12-GF-5,08
1899087	DFK-MSTBA 2,5/12-GF-5,08
1899388	DFK-MSTBVA 2,5/12-GF-5,08
1899715	EMSTB 2,5/12-GF-5,08
1915314	EMSTBV 2,5/12-GF-5,08
1954799	CC 2,5/12-GF-5,08 P26THR
1954906	CC 2,5/12-GF-5,08 P26THRR88
1955730	CCV 2,5/12-GF-5,08 P26THR
1955840	CCV 2,5/12-GF-5,08 P26THRR88
1956360	CC 2,5/12-GFL-5,08P26THR
1956438	CC 2,5/12-GFL-5,08P26THRR88
1956506	CC 2,5/12-GFR-5,08P26THR
1956577	CC 2,5/12-GFR-5,08P26THRR88
1959723	CCV 2,5/12-GFL-5,08P26THR
1959794	CCV 2,5/12-GFL-5,08P26THRR88
1959862	CCV 2,5/12-GFR-5,08P26THR
1959930	CCV 2,5/12-GFR-5,08P26THRR88

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

1835009 MVSTBW 2,5/12-STF-5,08

19 Combination tests

**MVSTBW 2,5/12-STF****MDSTB 2,5/12-STF****MVSTBU 2,5/12-STF-GFB****UMSTBVK 2,5/12-STF-GF****CC 2,5/12-STF-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

1835009 MVSTBW 2,5/12-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