

Data sheet

Order No.: 1792029

Type: MVSTBR 2,5/ 3-ST

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 3 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green | • Connection direction | 90 ° |
| • 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



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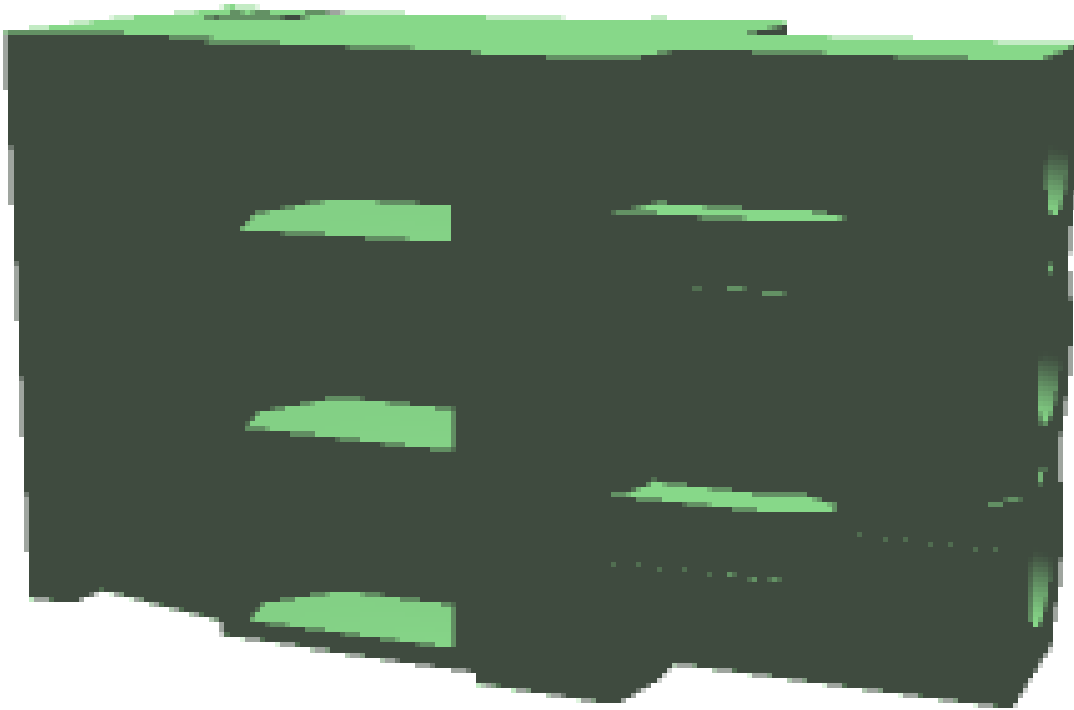
It can be downloaded at: phoenixcontact.net/product/1792029

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1792029 MVSTBR 2,5/ 3-ST

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



1792029 MVSTBR 2,5/ 3-ST**5 item properties**

Order No.	1792029
Type	MVSTBR 2,5/ 3-ST
Type of contact	Female connector
Range of articles	MVSTBR 2,5/...-ST
Pitch	5 mm
Number of positions	3
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted (L)
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	without

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 4 µm ... 8 µm	
Surface contact area	Sn 4 µm ... 8 µm	
Surface characteristics	Tin-plated	
Insulating material data		
Insulating material	Housing	Housing
CTI according to IEC 60112	PA	
Flammability rating according to UL 94	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

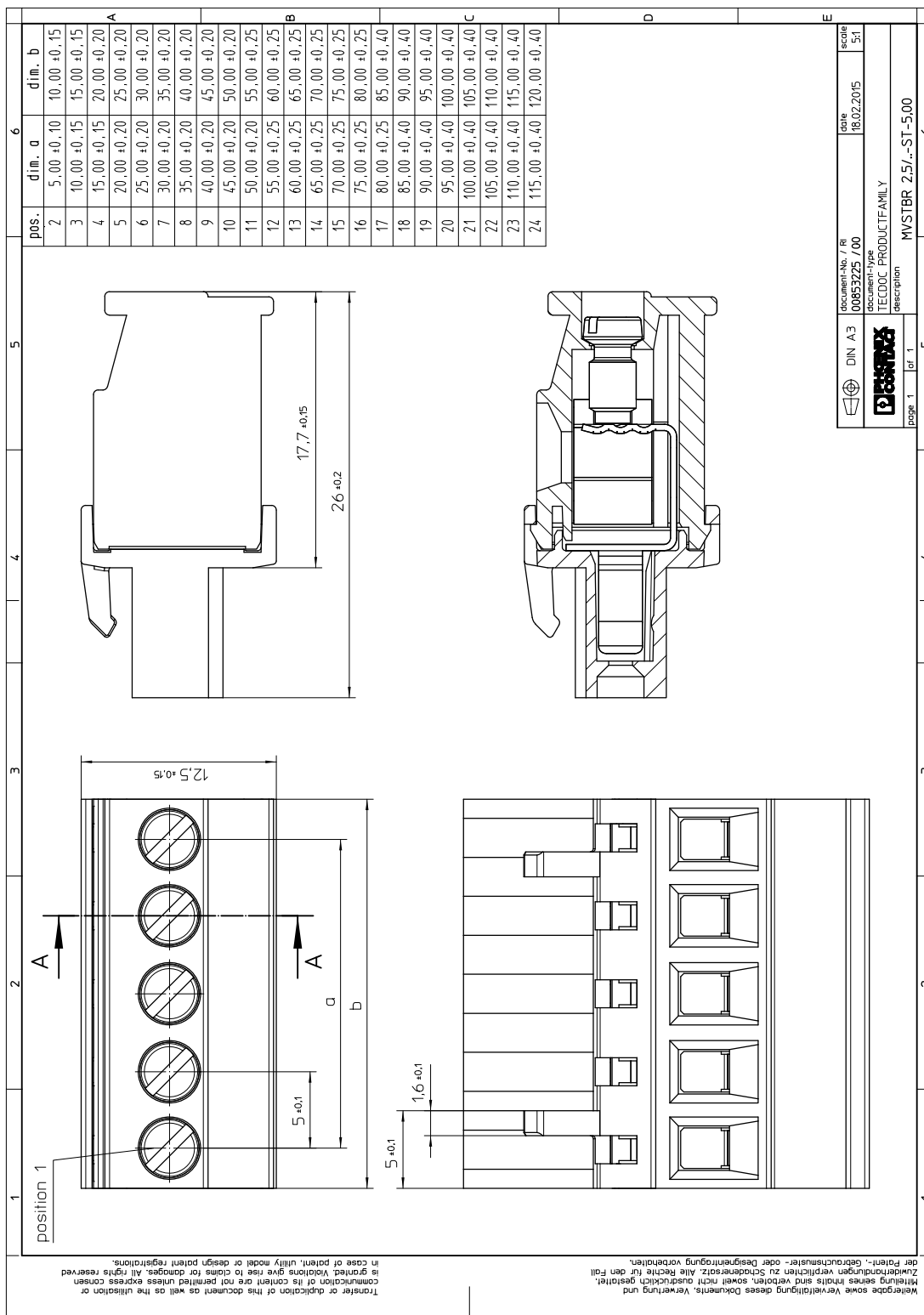
1792029 MVSTBR 2,5/ 3-ST

6.1 Dimensions for the product

Length	12.6 mm
Width	15 mm
Total height	26 mm
Dimension a	10 mm

1792029 MVSTBR 2,5/ 3-ST

7 Series drawing



1792029 MVSTBR 2,5/ 3-ST**8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	100

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)

1792029 MVSTBR 2,5/ 3-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	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.	36 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 ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 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

1792029 MVSTBR 2,5/ 3-ST**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

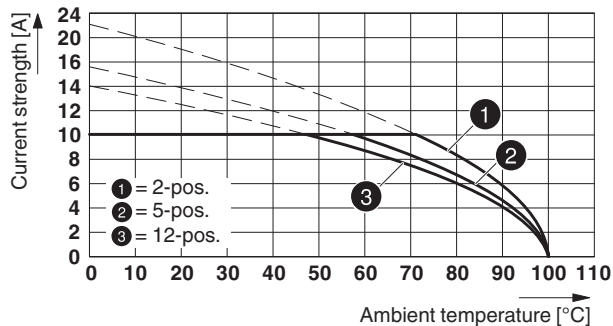
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category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

1792029 MVSTBR 2,5/ 3-ST

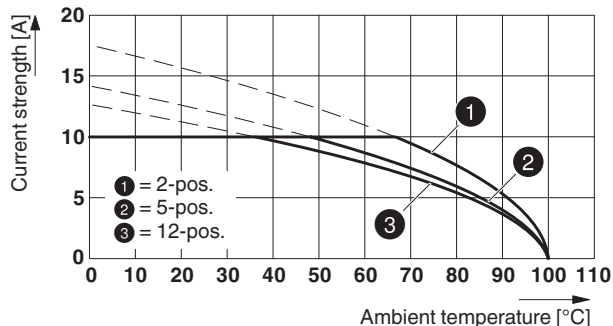
12 Current carrying capacity/derating curves

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 ²

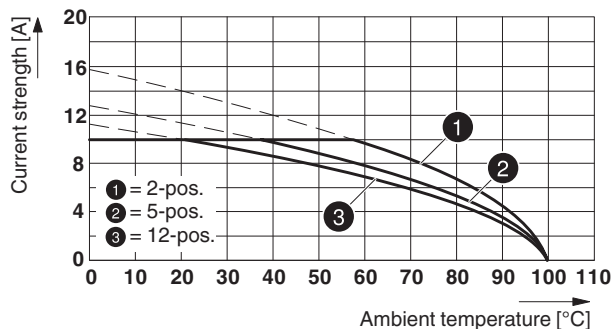
Type: MVSTB(R/W) 2,5/...-ST with MDSTB 2,5/...-G

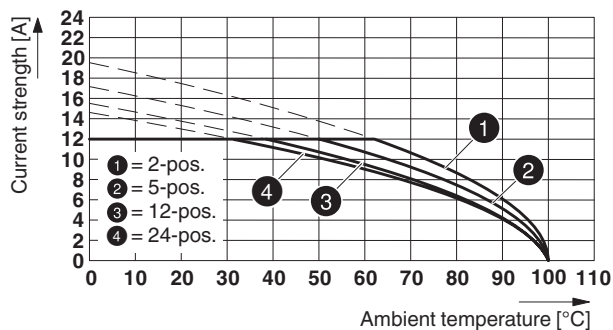


Type: MVSTB(R/W) 2,5/...-ST with MDSTBW 2,5/...-G



Type: MVSTB(R/W) 2,5/...-ST with MDSTBV 2,5/...-G



1792029 MVSTBR 2,5/ 3-ST**Type: MVSTB(R/W) 2,5/...-ST with MSTB 2,5/...-G****Type: MVSTB(R/W) 2,5/...-ST with MSTBO 2,5/...-G1R**

86429_2000_en

Type: MVSTB(R/W) 2,5/...-ST with MSTBO 2,5/...-G1L

86461_2000_en

Type: MVSTB(R/W) 2,5/...-ST with MSTBW 2,5/...-G

86525_2000_en

Type: MVSTB(R/W) 2,5/...-ST with SMSTB 2,5/...-G

87104_1000_en

Type: MVSTB(R/W) 2,5/...-ST with SMSTBA 2,5/...-G

87308_1000_en

Type: MVSTB(R/W) 2,5/...-ST with MSTBV 2,5 2,5/...-G

87309_1000_en

Type: MVSTB(R/W) 2,5/...-ST with MDSTB 2,5/...-G1

87449_1000_en


1792029 MVSTBR 2,5/ 3-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

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

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

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

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

2017-11-15

Product version 03

Document revision 0

1792029 MVSTBR 2,5/ 3-ST

EAC ENEC

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1792029 MVSTBR 2,5/ 3-ST**16 Commercial Data**

Order No.	1792029
Type	MVSTBR 2,5/ 3-ST
Pieces per package	100
Net weight	6.142 g
GTIN	4017918044503
	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
1736108	MSTBW 2,5/ 3-G
1736687	MDSTB 2,5/ 3-G1
1736726	MDSTBV 2,5/ 3-G1
1753453	MSTBV 2,5/ 3-G
1754452	MSTB 2,5/ 3-G
1755529	MSTBVA 2,5/ 3-G
1757488	MSTBA 2,5/ 3-G
1762059	MDSTB 2,5/ 3-G
1763045	MDSTBV 2,5/ 3-G
1768192	MSTB 2,5/ 3-G-LA
1769243	SMSTB 2,5/ 3-G
1769816	SMSTBA 2,5/ 3-G
1770494	MSTBA 2,5/ 3-G-LA
1802427	MDSTBW 2,5/ 3-G
1845798	MDSTBVA 2,5/ 3-G
1846522	MDSTBA 2,5/ 3-G
1861028	MSTBO 2,5/ 3-G1L
1861031	MSTBO 2,5/ 3-G1R
1874691	MDSTBA 2,5/ 3-GL
1874701	MDSTBA 2,5/ 3-GR
1874730	MDSTBVA 2,5/ 3-GL
1874743	MDSTBVA 2,5/ 3-GR
1899854	EMSTBA 2,5/ 3-G
1914865	EMSTBVA 2,5/ 3-G
1927506	MSTBA 2,5/ 3-G THT
1941016	MSTBVA 2,5/ 3-G THT
1963887	MSTB 2,5/ 3-G THT
1963955	MSTBV 2,5/ 3-G THT
2853750	MSTBO 2,5/ 3-G1L KMGY
2853763	MSTBO 2,5/ 3-G1R KMGY
2915216	MSTBO 2,5/ 3 G1L THRR44 BK
2915229	MSTBO 2,5/ 3 G1R THRR44 BK

18 Accessories

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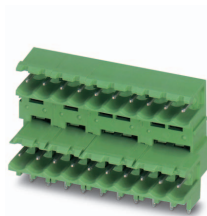
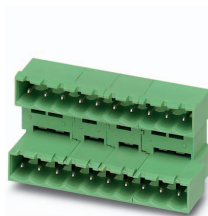
Document revision 0

1792029 MVSTBR 2,5/ 3-ST

Description	Order No.	Type
	0805409	SK 5/3,8:UNBEDRUCKT
	0805072	SK 5/3,8: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

1792029 MVSTBR 2,5/ 3-ST

19 Combination tests



MVSTBR 2,5/..-ST

MDSTB 2,5/..-G

MDSTBA 2,5/..-G

MDSTBW 2,5/..-G

MDSTBV 2,5/..-G

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

Polarization when inserted
Requirement >20 N

Test passed

Test passed

Test passed

Contact holder in insert
Requirements >20 N

Test passed

Test passed

Test passed

Durability tests (B)

Contact resistance R₁

2.8 mΩ

2.7 mΩ

3.6 mΩ

Insertion/withdrawal cycles

25

25

25

Contact resistance R₂

2.8 mΩ

2.8 mΩ

3.6 mΩ

Rated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)

4.8 kV

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)

2.21 kV

2.21 kV

2.21 kV

Insulation resistance
Requirements > 5 MΩ

> 0.1 TΩ

> 1 TΩ

> 0.5 TΩ

Thermal tests (C)

Tested number of positions

12

12

12

Tested conductor cross section

2.5 mm²

2.5 mm²

2.5 mm²

Test current

10 A

10 A

10 A

Upper limiting temperature
Requirements < 100°C

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

Test sequence 2: heat storage

100 °C/168 h

100 °C/168 h

100 °C/168 h

Test sequence 3: noxious gas storage
(ISO 6988)

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

Rated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)

4.8 kV

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)

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

Degree of protection

Finger safety with IP20
test finger

Finger safety with IP20
test finger

Finger safety with IP20
test finger

1792029 MVSTBR 2,5/ 3-ST



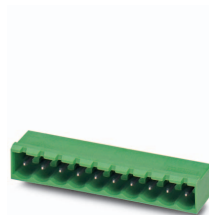
MVSTBR 2,5/...-ST



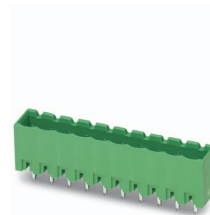
MDSTBVA 2,5/...-G



DFK-MSTB 2,5/...-G



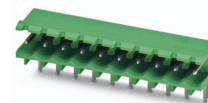
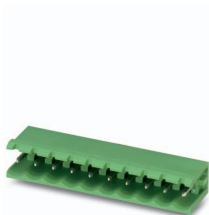
MSTBA 2,5/...-G



MSTBVA 2,5/...-G

Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position				
Polarization when inserted Requirement >20 N				
Contact holder in insert Requirements >20 N				
Durability tests (B)				
Insertion/withdrawal cycles				
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				

1792029 MVSTBR 2,5/ 3-ST



MVSTBR 2,5/...-ST

MSTB 2,5/...-G

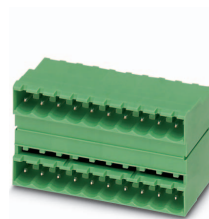
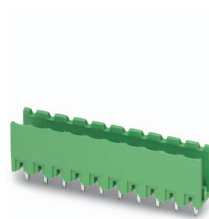
MSTBO 2,5/...-G1R

MSTBO 2,5/...-G1L

MSTBW 2,5/...-G

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	2.5 mΩ	2.6 mΩ	2.6 mΩ	2.5 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	2.5 mΩ	2.6 mΩ	2.6 mΩ	2.6 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Insulation resistance Requirements > 5 MΩ	> 0.3 TΩ	> 0.3 TΩ	> 0.1 TΩ	> 0.5 TΩ
Thermal tests (C)				
Tested number of positions	24	4	4	21
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	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 ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 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

1792029 MVSTBR 2,5/ 3-ST



MVSTBR 2,5/...-ST

SMSTB 2,5/...-G

SMSTBA 2,5/...-G

MSTBV 2,5/...-G

MDSTB 2,5/...-G1

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	2.4 mΩ	2.5 mΩ	3.6 mΩ	2.2 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	2.5 mΩ	2.5 mΩ	3.7 mΩ	2.3 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV	2.21 kV	2.21 kV
Insulation resistance Requirements > 5 MΩ	> 0.2 TΩ	> 0.3 TΩ	> 0.3 TΩ	> 0.2 TΩ
Thermal tests (C)				
Tested number of positions	24	24	24	20
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current				10 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 ≥ (1.2/50 μs)	4.8 kV	4.8 kV	4.8 kV	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 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



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