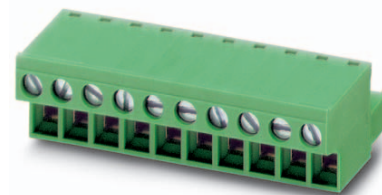


Order No.: 1777293

Type: FRONT-MSTB 2,5/ 3-ST-5,08

Plug component, Front screw connection



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 | 0 ° |
| • Pitch | 5.08 mm | • Type of packaging | packed in cardboard |
| • Connection method | Front screw connection | | |

2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Optimized for tight installation situations: operation and conductor connection from one direction
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors



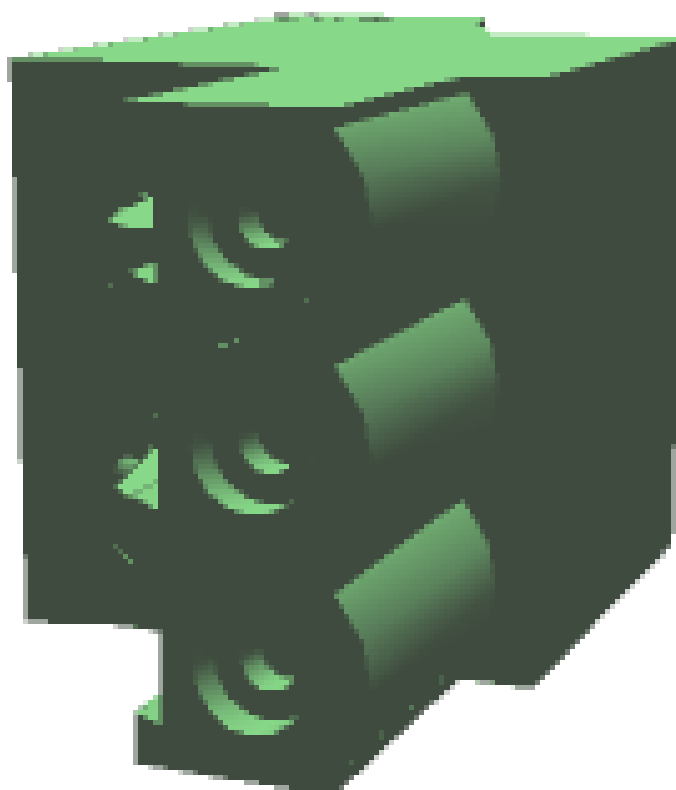
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1777293

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**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	6
9	Application	6
	9.1 Temperature limit values	6
10	Mechanical tests	7
	10.1 Termination and connection method	7
	10.2 Pull-out test	7
11	Electrical tests	8
	11.1 Electrical data	8
	11.2 Air and creepage distances	8
12	Current carrying capacity/derating curves	9
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	16

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

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



1777293 FRONT-MSTB 2,5/ 3-ST-5,08**5 item properties**

Order No.	1777293
Type	FRONT-MSTB 2,5/ 3-ST-5,08
Type of contact	Female connector
Range of articles	FRONT-MSTB 2,5/...-ST
Pitch	5.08 mm
Number of positions	3
Connection method	Front screw connection
Drive form screw head	Slotted (L)
Screw thread	M2,5
Tightening torque	0.5 Nm ... 0.6 Nm
Locking	without

5.1 Connection capacity

Conductor cross section, solid	0.34 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	10 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	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

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

6.1 Dimensions for the product

Length	27.2 mm
Width	15.24 mm
Total height	14.9 mm
Dimension a	10.16 mm

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**7 Series drawing****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)

1777293 FRONT-MSTB 2,5/ 3-ST-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	0.34 mm ² / solid / > 15 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

1777293 FRONT-MSTB 2,5/ 3-ST-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	1.5 mΩ
Degree of pollution	2

11.2 Air and creepage distances

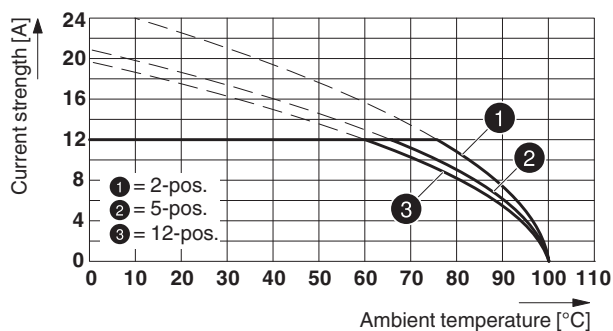
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category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

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

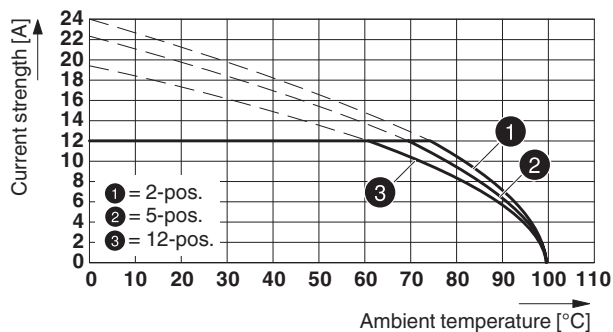
12 Current carrying capacity/derating curves

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

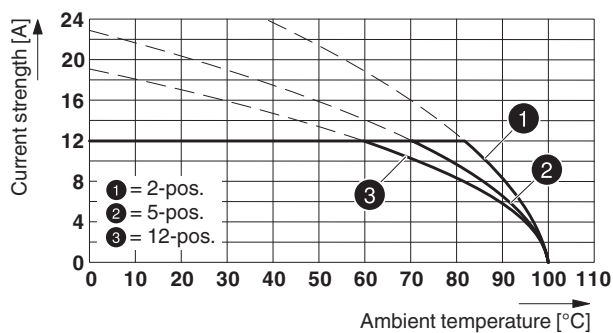
Type: FRONT-MSTB 2,5/...-ST-5,08 with CC 2,5/...-G-5,08 P26THR



Type: FRONT-MSTB 2,5/...-ST-5,08 with CCV 2,5/...-G-5,08 P26THR

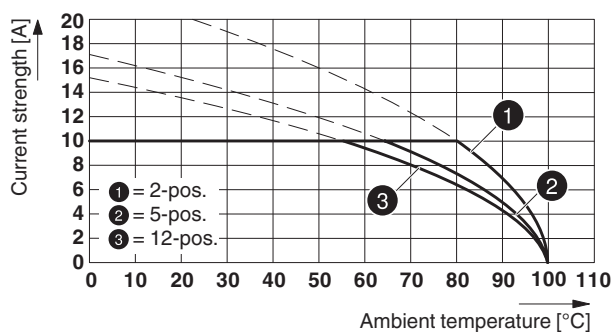
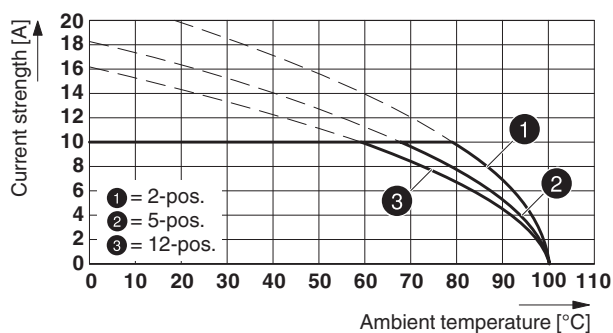
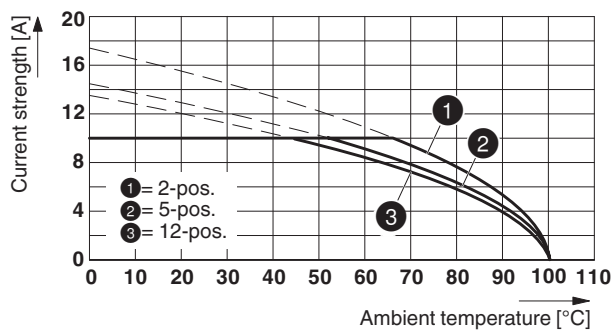
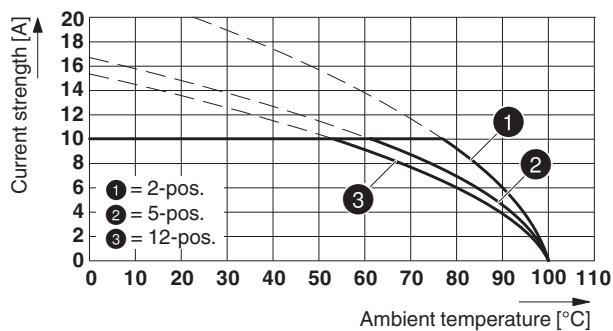


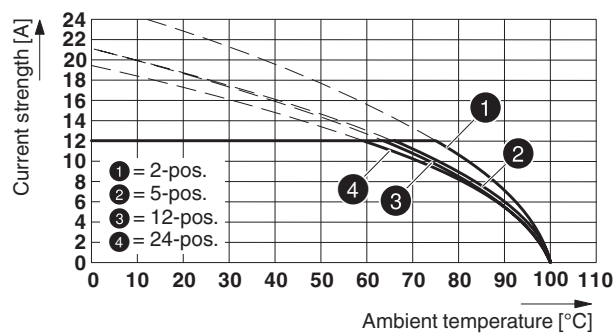
Type: FRONT-MSTB 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



Type: FRONT-MSTB 2,5/...-ST-5,08 with MSTBA 2,5/...-G-5,08

96295_1000_en

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08****Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08****Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTBV 2,5/...-G-5,08****Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTBW 2,5/...-G-5,08**

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**Type: FRONT-MSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: FRONT-MSTB 2,5/...-ST-5,08 with MSTBW 2,5/...-G-5,08**

1777293 FRONT-MSTB 2,5/ 3-ST-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

CSA 				
Use group	B	D		
mm ² /AWG/kcmil	22-12	22-12		
Voltage	300 V	300 V		
Current	15 A	10 A		

VDE Gutachten mit Fertigungsüberwachung 				
mm ² /AWG/kcmil	0.34-2.5			
Voltage	250 V			
Current	12 A			

IECEE CB Scheme 				
mm ² /AWG/kcmil	0.34-2.5			
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		

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

EAC 

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**16 Commercial Data**

Order No.	1777293
Type	FRONT-MSTB 2,5/ 3-ST-5,08
Pieces per package	100
Net weight	8.9 g
GTIN	4017918039448
	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
1735879	MSTBW 2,5/ 3-G-5,08
1736742	MDSTBV 2,5/ 3-G1-5,08
1755749	MSTBVA 2,5/ 3-G-5,08
1757255	MSTBA 2,5/ 3-G-5,08
1758021	MSTBV 2,5/ 3-G-5,08
1759020	MSTB 2,5/ 3-G-5,08
1762075	MDSTB 2,5/ 3-G-5,08
1762376	MDSTB 2,5/ 3-G1-5,08
1763087	MDSTBV 2,5/ 3-G-5,08
1767384	SMSTBA 2,5/ 3-G-5,08
1769476	SMSTB 2,5/ 3-G-5,08
1770957	MSTBA 2,5/ 3-G-5,08-LA
1802414	MDSTBW 2,5/ 3-G-5,08
1842076	MDSTBA 2,5/ 3-G-5,08
1845345	MDSTBVA 2,5/ 3-G-5,08
1847110	MSTBO 2,5/ 3-GR-5,08
1850440	MSTBO 2,5/ 3-GL-5,08
1859522	EMSTBVA 2,5/ 3-G-5,08
1874714	MDSTBA 2,5/ 3-GL-5,08
1874727	MDSTBA 2,5/ 3-GR-5,08
1874756	MDSTBVA 2,5/ 3-GL-5,08
1874769	MDSTBVA 2,5/ 3-GR-5,08
1880313	EMSTBA 2,5/ 3-G-5,08
1898842	DFK-MSTBA 2,5/ 3-G-5,08
1899142	DFK-MSTBVA 2,5/ 3-G-5,08
1954391	CC 2,5/ 3-G-5,08 P26THR
1954595	CC 2,5/ 3-G-5,08 P26THRR32
1954922	CCA 2,5/ 3-G-5,08 P26THR
1955044	CCA 2,5/ 3-G-5,08 P26THRR32
1955390	CCV 2,5/ 3-G-5,08 P26THR
1955536	CCV 2,5/ 3-G-5,08 P26THRR32
1955866	CCVA 2,5/ 3-G-5,08 P26THR
1955976	CCVA 2,5/ 3-G-5,08 P26THRR32

18 Accessories

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

Description	Order No.	Type
Removal aid, for FRONT-MSTB, facilitates extraction of several plugs mounted behind each other	1763058	FRONT-MSTB-EW
	0804293	SK 5,08/3,8:FORTL.ZAHLEN
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
	0803883	SK U/2,8 WH:UNBEDRUCKT
	0805108	SK 5,08/2,8:SO
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

19 Combination tests

**FRONT-MSTB 2,5/..-ST**

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

**CC 2,5/..-G**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.5 m Ω

25

1.5 m Ω

4.8 kV

2.21 kV

> 0.2 T Ω

12

2.5 mm²

12 A

Test passed

-40 °C/2 h

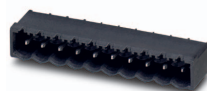
100 °C/168 h

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**CCA 2,5/..-G**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.6 m Ω

25

1.6 m Ω

4.8 kV

2.21 kV

> 0.5 T Ω

12

2.5 mm²

12 A

Test passed

-40 °C/2 h

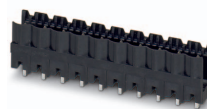
100 °C/168 h

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**CCV 2,5/..-G**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.6 m Ω

25

1.6 m Ω

4.8 kV

2.21 kV

> 0.5 T Ω

12

2.5 mm²

12 A

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**CCVA 2,5/..-G**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.7 m Ω

25

1.8 m Ω

4.8 kV

2.21 kV

> 12 T Ω

12

2.5 mm²

12 A DC

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

1777293 FRONT-MSTB 2,5/ 3-ST-5,08

**FRONT-MSTB 2,5/..-ST**

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)**

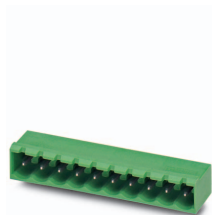
Test sequence 1: low temperature storage

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

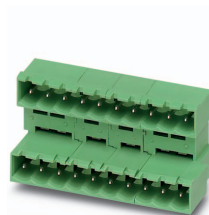
Degree of protection

**MSTBA 2,5/..-G**

IEC 61984

**MDSTB 2,5/..-G**

IEC 61984

**MDSTBA 2,5/..-G**

IEC 61984

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

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.4 m Ω

25

1.4 m Ω

4.8 kV

> 0.2 T Ω

24

2.5 mm²

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

IEC 61984:2008-10

Finger safety with IP20
test finger

approx. 8 N / 6 N

Test passed

Test passed

1.8 m Ω

25

1.9 m Ω

4.8 kV

2.21 kV

> 20 G Ω

12

2.5 mm²

10 A

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

approx. 8 N / 6 N

Test passed

Test passed

1.9 m Ω

25

1.9 m Ω

4.8 kV

2.21 kV

> 0.1 T Ω

12

2.5 mm²

10 A

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

approx. 8 N / 6 N

Test passed

Test passed

2.8 m Ω

25

2.8 m Ω

4.8 kV

2.21 kV

> 20 G Ω

12

2.5 mm²

10 A

Test passed

-40 °C/2 h

100 °C/168 h

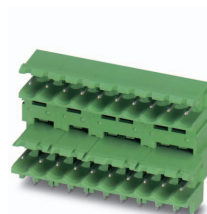
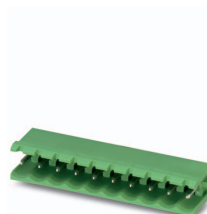
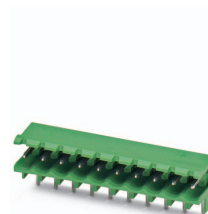
0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger

1777293 FRONT-MSTB 2,5/ 3-ST-5,08**FRONT-MSTB 2,5/..-ST****DFK-MSTBA 2,5/..-G****MDSTBW 2,5/..-G****MSTB 2,5/..-G****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
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)				
Insertion/withdrawal cycles		25	25	25
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu s)$		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
Insulation resistance Requirements > 5 M Ω		> 0.3 T Ω	> 0.3 T Ω	> 0.2 T Ω
Thermal tests (C)				
Tested number of positions		12	24	24
Tested conductor cross section		2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current		10 A	12 A	12 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 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
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$		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