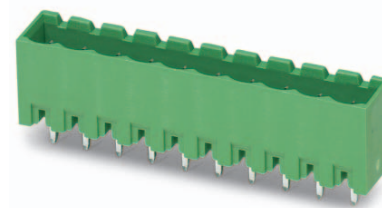


# Data sheet

Order No.: 1755778

Type: MSTBVA 2,5/ 6-G-5,08

Header



The figure shows a 10-position version of the product

## 1 Main features



- |                         |                     |                        |                     |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos.           | 6                   | • Nominal current      | 12 A                |
| • Nominal cross section | 2.5 mm <sup>2</sup> | • Nominal voltage      | 320 V               |
| • Color                 | green               | • Connection direction | 90 °                |
| • Pitch                 | 5.08 mm             | • Type of packaging    | packed in cardboard |
| • Mounting type         | Wave soldering      |                        |                     |

## 2 Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Well-known mounting principle allows worldwide use
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ Closed contour for optimum stability of the plug-in connection



Make sure you always use the latest documentation.

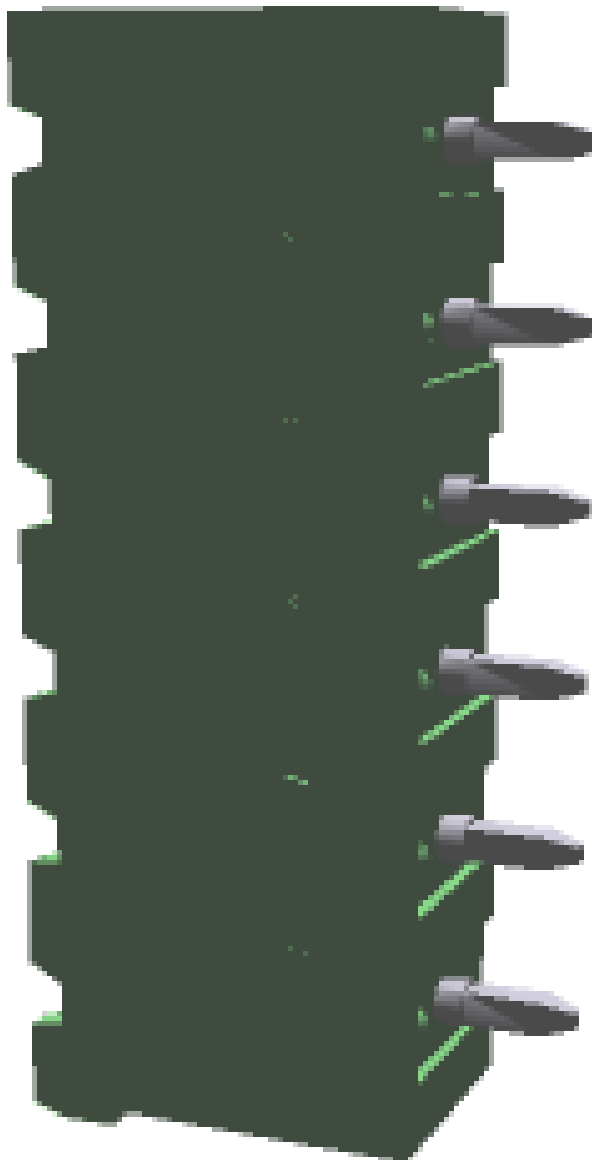
It can be downloaded at: [phoenixcontact.net/product/1755778](http://phoenixcontact.net/product/1755778)

**1755778 MSTBVA 2,5/ 6-G-5,08****3 Table of contents**

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1755778 MSTBVA 2,5/ 6-G-5,08

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



**1755778 MSTBVA 2,5/ 6-G-5,08****5 item properties**

Order No.	1755778
Type	MSTBVA 2,5/ 6-G-5,08
Type of contact	Male connector
Range of articles	MSTBVA 2,5/..-G
Pitch	5.08 mm
Number of positions	6
Locking	without
Mounting type	Wave soldering
Pin layout	Linear pinning

**5.1 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
Surface contact area	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm
Soldering area surface	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm
Surface characteristics	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****6.1 Dimensions for the product**

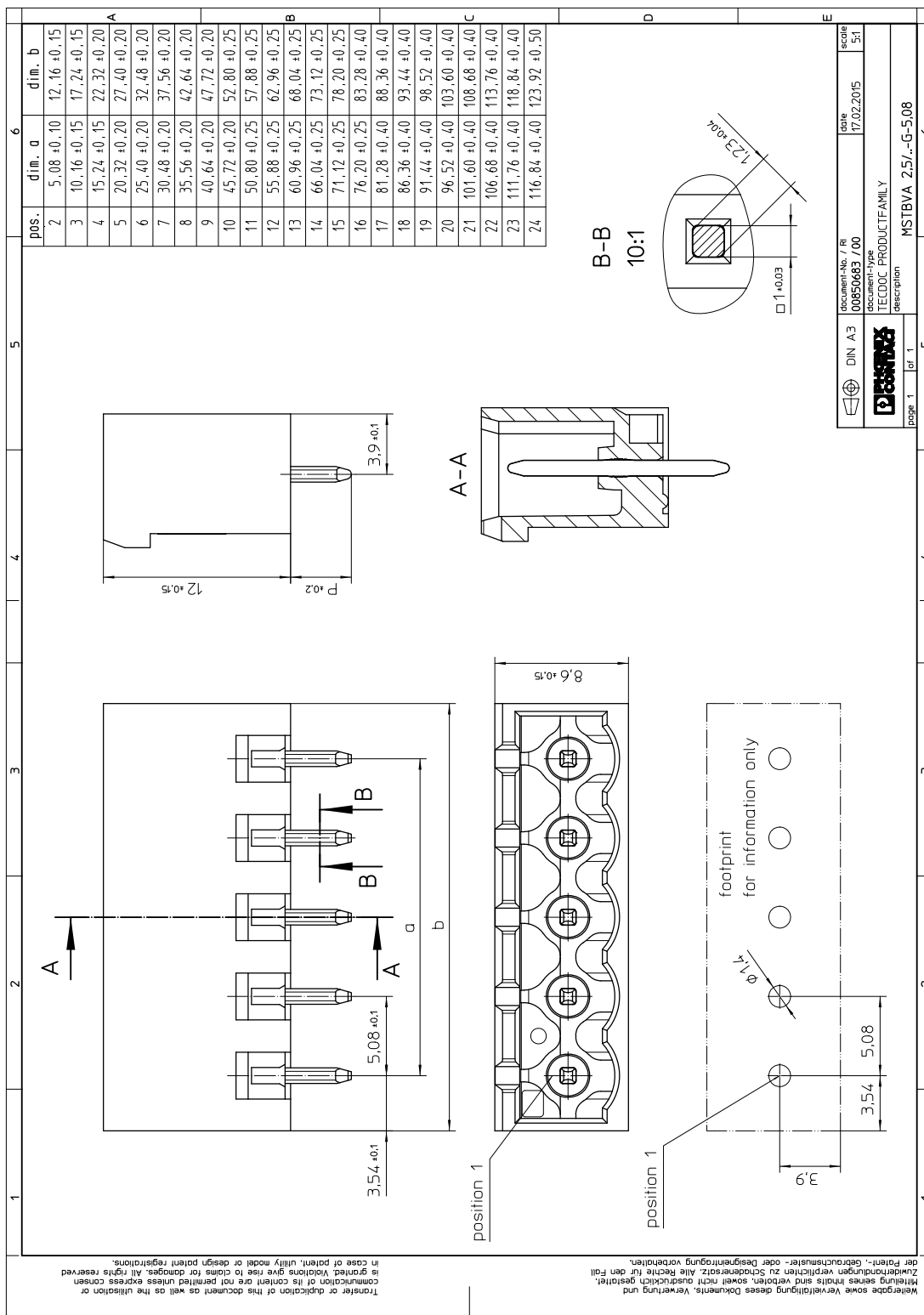
Length	8.6 mm
Width	32.48 mm
Height (without solder pin)	12 mm
Total height	15.9 mm
Solder pin [P]	3.9 mm
Dimension a	25.4 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.4 mm
Pin dimensions	1 x 1 mm

1755778 MSTBVA 2,5/ 6-G-5,08

7 Series drawing



**1755778 MSTBVA 2,5/ 6-G-5,08****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)

**1755778 MSTBVA 2,5/ 6-G-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.	30 N

**1755778 MSTBVA 2,5/ 6-G-5,08****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm <sup>2</sup>
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	2.4 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

Component	Header		
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

1755778 MSTBVA 2,5/ 6-G-5,08

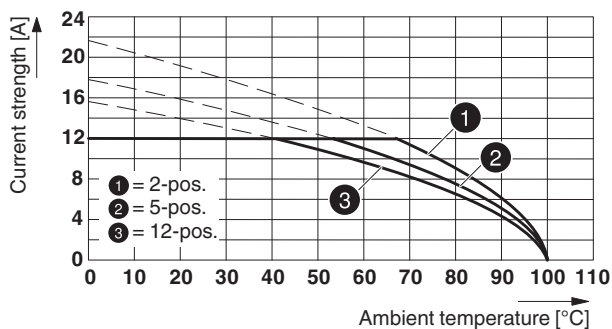
12 Current carrying capacity/derating curves

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 <sup>2</sup>
Note	

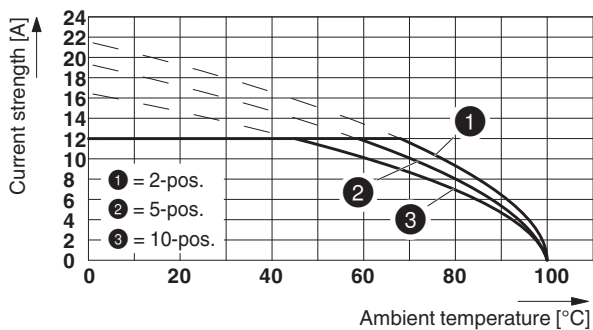
Type: MSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

87454\_1000\_en

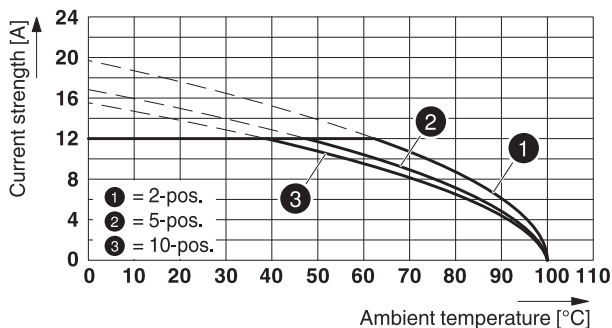
Type: FKCN 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



Type: TFKC 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



Type: TVMSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



2017-10-20

Product version 04

Document revision 0

**1755778 MSTBVA 2,5/ 6-G-5,08**

**Type: MSTBP 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08**

87462\_1000\_en


**1755778 MSTBVA 2,5/ 6-G-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
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protection class	
Protective conductor	without PE
Lock	no

**15 Approvals**

CSA 				
Use group	B	D		
mm <sup>2</sup> /AWG/kcmil				
Voltage	300 V	300 V		
Current	12 A	10 A		

VDE Gutachten mit Fertigungsüberwachung 				
mm <sup>2</sup> /AWG/kcmil				
Voltage	250 V			
Current	12 A			

IECEE CB Scheme 				
mm <sup>2</sup> /AWG/kcmil				
Voltage	250 V			
Current	12 A			

cULus Recognized 				
Use group	B	D		
mm <sup>2</sup> /AWG/kcmil				
Voltage	300 V	300 V		
Current	12 A	10 A		

EAC 				

**1755778 MSTBVA 2,5/ 6-G-5,08****16 Commercial Data**

Order No.	1755778
Type	MSTBVA 2,5/ 6-G-5,08
Pieces per package	100
Net weight	2.345 g
GTIN	4017918029357
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding plugs**

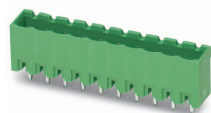
Order No.	Type
1719040	TVMSTB 2,5/ 6-ST-5,08
1754607	FKCN 2,5/ 6-ST-5,08
1757051	MSTB 2,5/ 6-ST-5,08
1769052	MSTBP 2,5/ 6-ST-5,08
1776126	MSTB 2,5/ 6-STZ-5,08
1777329	FRONT-MSTB 2,5/ 6-ST-5,08
1781027	MSTBT 2,5/ 6-ST-5,08
1792281	MVSTBR 2,5/ 6-ST-5,08
1792799	MVSTBW 2,5/ 6-ST-5,08
1808858	MSTBC 2,5/ 6-ST-5,08
1809543	MSTBC 2,5/ 6-STZ-5,08
1824162	MSTBU 2,5/ 6-STD-5,08
1824395	MSTBU 2,5/ 6-ST-5,08-FL
1826322	SMSTB 2,5/ 6-ST-5,08
1831359	MSTBVK 2,5/ 6-ST-5,08
1833852	UMSTBVK 2,5/ 6-ST-5,08
1853052	TMSTBP 2,5/ 6-ST-5,08
1873090	FKC 2,5/ 6-ST-5,08
1873692	FKCVW 2,5/ 6-ST-5,08
1873993	FKCVR 2,5/ 6-ST-5,08
1883297	QC 1/ 6-ST-5,08
1902152	FKCT 2,5/ 6-ST-5,08
1962642	TFKC 2,5/ 6-ST-5,08
1975118	FKCS 2,5/ 6-ST-5,08

**18 Accessories**

Description	Order No.	Type
Keying cap, for forming sections, plugs onto header pin, green insulating material	1755477	MSTB-BL
	0804293	SK 5,08/3,8:FORTL.ZAHLEN
Coding section, inserted into the recess in the header or the inverted plug, red insulating material	1734401	CR-MSTB

## 1755778 MSTBVA 2,5/ 6-G-5,08

## 19 Combination tests

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

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 $\Omega$ **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

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

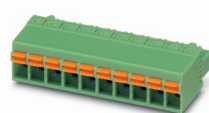
Degree of protection

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

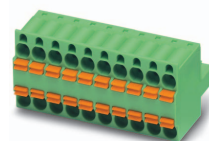
IEC 61984

**MSTBT 2,5/..-ST**

IEC 61984

**FKCN 2,5/..-ST**

IEC 61984

**TFKC 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.4 m $\Omega$ 

25

2.5 m $\Omega$ 

4.8 kV

2.21 kV

> 0.2 T $\Omega$ 

24

2.5 mm<sup>2</sup>

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
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

2.2 m $\Omega$ 

25

2.3 m $\Omega$ 

4.8 kV

2.21 kV

> 100 G $\Omega$ 

12

2.5 mm<sup>2</sup>

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

approx. 10 N / 9.5 N

Test passed

Test passed

2 m $\Omega$ 

25

2.2 m $\Omega$ 

4.8 kV

2.21 kV

10<sup>12</sup>  $\Omega$ 

10

2.5 mm<sup>2</sup>

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

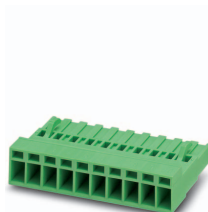
4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

**1755778 MSTBVA 2,5/ 6-G-5,08**



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

**MSTBC 2,5/..-ST**

**MSTBC 2,5/..-STZ**

**TVMSTB 2,5/..-ST**

**MSTBP 2,5/..-ST**

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

Polarization when inserted  
Requirement >20 N

Test passed

Test passed

Contact holder in insert  
Requirements >20 N

Test passed

Test passed

**Durability tests (B)**

Insertion/withdrawal cycles

25

25

Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$

4.8 kV

4.8 kV

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

2.21 kV

2.21 kV

Insulation resistance  
Requirements > 5 M $\Omega$

> 6 T $\Omega$

> 0.2 T $\Omega$

**Thermal tests (C)**

Tested number of positions

10

24

Tested conductor cross section

2.5 mm<sup>2</sup>

2.5 mm<sup>2</sup>

Test current

12 A DC

Upper limiting temperature  
Requirements < 100°C

Test passed

Test passed

**Climatic tests (D)**

Test sequence 1: low temperature storage

-40 °C/2 h

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

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 cycle

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$

4.8 kV

4.8 kV

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

2.21 kV

2.21 kV

**Environmental and endurance tests (E)**

Specification

IEC 61984:2008-10

IEC 61984:2008-10

Degree of protection

Finger safety with IP20  
test finger

Finger safety with IP20  
test finger



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