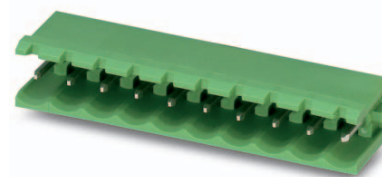


Data sheet

Order No.: 1759075

Type: MSTB 2,5/ 8-G-5,08

Header



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos. | 8 | • Nominal current | 12 A |
| • Nominal 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 |
| • Mounting type | Wave soldering | | |

2 Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Easy PCB replacement thanks to plug-in modules
- ✓ Well-known mounting principle allows worldwide use
- ✓ Plug-in direction parallel to the PCB
- ✓ Items that can be aligned in various pitches support flexible and space-saving PCB assembly



Make sure you always use the latest documentation.

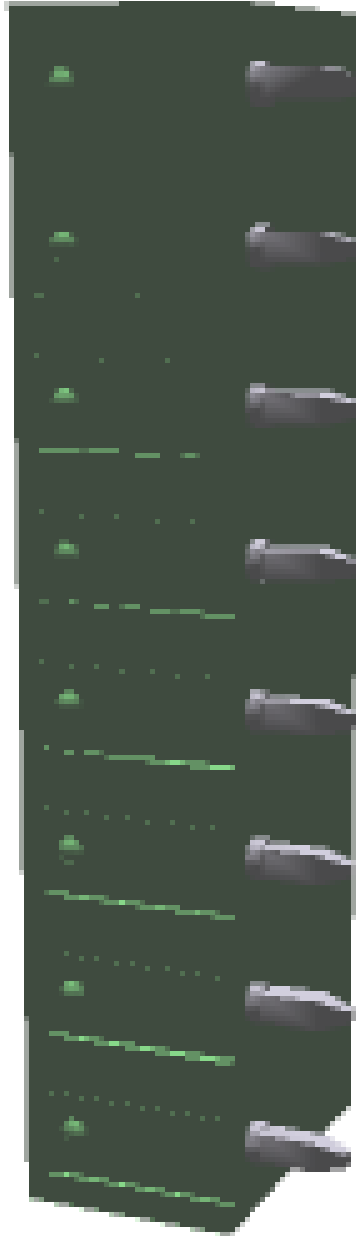
It can be downloaded at: phoenixcontact.net/product/1759075

1759075 MSTB 2,5/ 8-G-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 Material data | 4 |
| 6 | Dimensions..... | 4 |
| | 6.1 Dimensions for the product | 4 |
| | 6.2 Dimensions for PCB design..... | 4 |
| 7 | Series drawing..... | 5 |
| 8 | Packaging information | 5 |
| 9 | Application..... | 5 |
| | 9.1 Temperature limit values | 5 |
| 10 | Mechanical tests..... | 6 |
| 11 | Electrical tests | 7 |
| | 11.1 Electrical data..... | 7 |
| | 11.2 Air and creepage distances..... | 7 |
| 12 | Current carrying capacity/derating curves | 8 |
| 13 | Environmental and durability tests | 11 |
| | 13.1 Vibration test | 11 |
| 14 | Classification for connectors..... | 11 |
| 15 | Approvals | 11 |
| 16 | Commercial Data..... | 12 |
| 17 | corresponding plugs | 12 |
| 18 | Accessories..... | 12 |
| 19 | Combination tests..... | 13 |

1759075 MSTB 2,5/ 8-G-5,08

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



1759075 MSTB 2,5/ 8-G-5,08**5 item properties**

| | |
|---------------------|--------------------|
| Order No. | 1759075 |
| Type | MSTB 2,5/ 8-G-5,08 |
| Type of contact | Male connector |
| Range of articles | MSTB 2,5/...G |
| Pitch | 5.08 mm |
| Number of positions | 8 |
| Locking | without |
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |

5.1 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 |
| 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 |
| Insulating material data | |
| 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 | 12 mm |
| Width | 40.64 mm |
| Height (without solder pin) | 8.6 mm |
| Total height | 12.1 mm |
| Solder pin [P] | 3.5 mm |
| Dimension a | 35.56 mm |

6.2 Dimensions for PCB design

| | |
|----------------|----------|
| Hole diameter | 1.4 mm |
| Pin dimensions | 1 x 1 mm |

1759075 MSTB 2,5/ 8-G-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) |

1759075 MSTB 2,5/ 8-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. | 41 N |

1759075 MSTB 2,5/ 8-G-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 | 1.4 mΩ |
| Degree of pollution | 2 |

11.2 Air and creepage distances

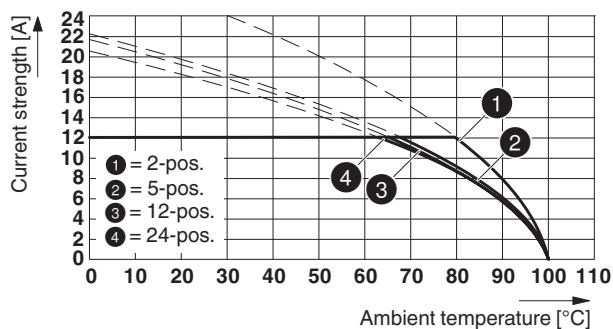
| | | | |
|---|---------------------|-------|-------|
| Component | Header | | |
| Specification | IEC 60664-1:2007-04 | | |
| Mains type | unearthed mains | | |
| Insulating material group | I | | |
| Comparative tracking index (IEC 60112:2003-01) | CTI 600 | | |
| Rated insulation voltage | 250 V | 320 V | 400 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 mm |

1759075 MSTB 2,5/ 8-G-5,08

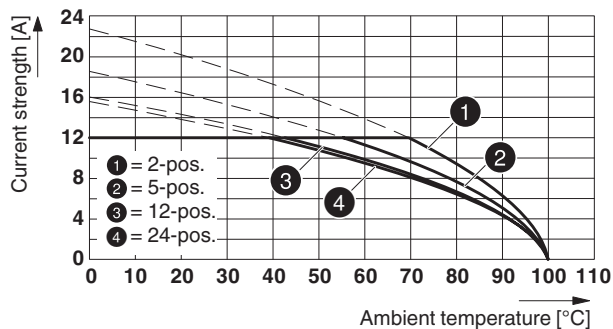
12 Current carrying capacity/derating curves

| | |
|-------------------------|---|
| 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 ² |
| Note | |

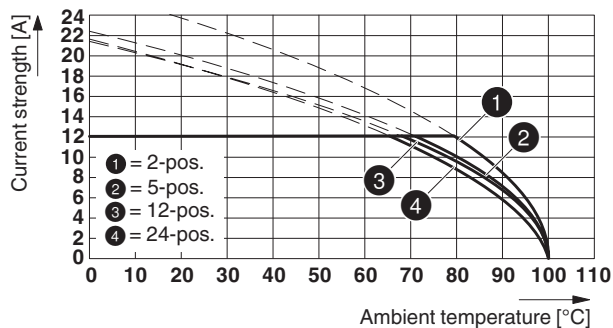
Type: MSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08



Type: MSTBU 2,5/...-STD-5,08 with MSTB 2,5/...-G-5,08

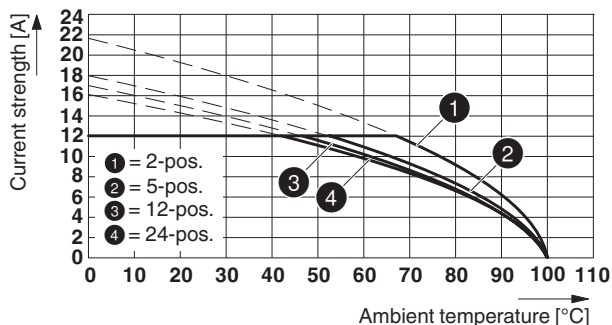


Type: MSTBP 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08

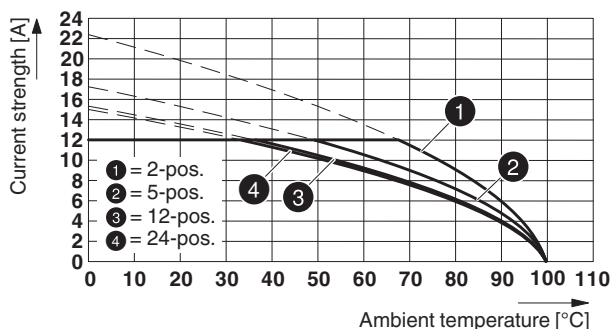


1759075 MSTB 2,5/ 8-G-5,08

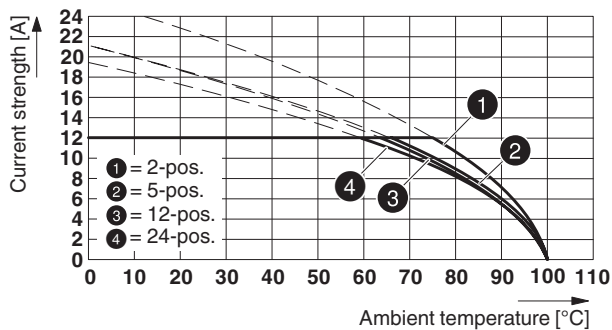
Type: SMSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08



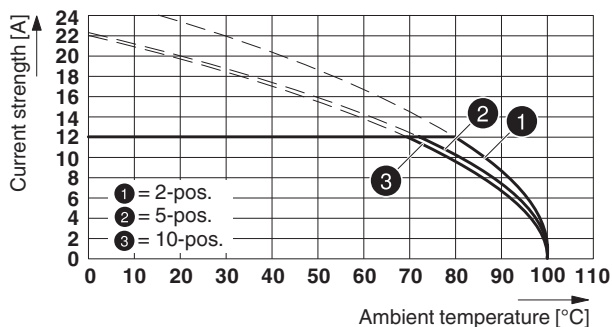
Type: MVSTB(R/W) 2,5/...-ST with MDSTBVA 2,5/...-G-5,08



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



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



2017-09-29

Product version 04

Document revision 0

1759075 MSTB 2,5/ 8-G-5,08

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

86006_1000_en


1759075 MSTB 2,5/ 8-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 ² /AWG/kcmil | | | | |
| Voltage | 300 V | 300 V | | |
| Current | 10 A | 10 A | | |

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

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

| cULus Recognized  | | | | |
|--|-------|-------|--|--|
| Use group | B | D | | |
| mm ² /AWG/kcmil | | | | |
| Voltage | 300 V | 150 V | | |
| Current | 15 A | 15 A | | |

| EAC  | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

1759075 MSTB 2,5/ 8-G-5,08**16 Commercial Data**

| | |
|--------------------|--|
| Order No. | 1759075 |
| Type | MSTB 2,5/ 8-G-5,08 |
| Pieces per package | 100 |
| Net weight | 2.906 g |
| GTIN | 4017918030544 |
| | Information that applies locally, see link on page 1 |
| Country of origin | Information that applies locally, see link on page 1 |

17 corresponding plugs

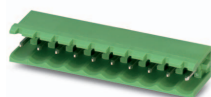
| Order No. | Type |
|-----------|---------------------------|
| 1719066 | TVMSTB 2,5/ 8-ST-5,08 |
| 1754623 | FKCN 2,5/ 8-ST-5,08 |
| 1757077 | MSTB 2,5/ 8-ST-5,08 |
| 1764235 | MSTB 2,5/ 8-STZ-5,08 |
| 1769078 | MSTBP 2,5/ 8-ST-5,08 |
| 1777345 | FRONT-MSTB 2,5/ 8-ST-5,08 |
| 1781043 | MSTBT 2,5/ 8-ST-5,08 |
| 1792304 | MVSTBR 2,5/ 8-ST-5,08 |
| 1792812 | MVSTBW 2,5/ 8-ST-5,08 |
| 1808874 | MSTBC 2,5/ 8-ST-5,08 |
| 1809569 | MSTBC 2,5/ 8-STZ-5,08 |
| 1824188 | MSTBU 2,5/ 8-STD-5,08 |
| 1824418 | MSTBU 2,5/ 8-ST-5,08-FL |
| 1826348 | SMSTB 2,5/ 8-ST-5,08 |
| 1831375 | MSTBVK 2,5/ 8-ST-5,08 |
| 1833878 | UMSTBVK 2,5/ 8-ST-5,08 |
| 1853078 | TMSTBP 2,5/ 8-ST-5,08 |
| 1873113 | FKC 2,5/ 8-ST-5,08 |
| 1873715 | FKCVW 2,5/ 8-ST-5,08 |
| 1874015 | FKCVR 2,5/ 8-ST-5,08 |
| 1883310 | QC 1/ 8-ST-5,08 |
| 1902178 | FKCT 2,5/ 8-ST-5,08 |
| 1962668 | TFKC 2,5/ 8-ST-5,08 |
| 1975134 | FKCS 2,5/ 8-ST-5,08 |

18 Accessories

| Description | Order No. | Type |
|---|-----------|--------------------------|
| Coding section, inserted into the recess in the header or the inverted plug, red insulating material | 1734401 | CR-MSTB |
| Mounting flange, for fixing both ends of the header onto the PCB, green insulating material, with M 2 x 14 screws and nuts. | 1759981 | MSTB-BF |
| Keying cap, for forming sections, plugs onto header pin, green insulating material | 1755477 | MSTB-BL |
| | 0804293 | SK 5,08/3,8:FORTL.ZAHLEN |
| | 0805085 | SK 5,08/3,8:SO |
| | 0805412 | SK 5,08/3,8:UNBEDRUCKT |
| Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm | 1051993 | B-STIFT |

1759075 MSTB 2,5/ 8-G-5,08

19 Combination tests



| | MSTB 2,5/..-G | MSTB 2,5/..-ST | MSTBU 2,5/..-STD | MSTBP 2,5/..-ST | SMSTB 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 | 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 | | 1.4 mΩ | 2.5 mΩ | 1.3 mΩ | 2.4 mΩ |
| Insertion/withdrawal cycles | | 25 | 25 | 25 | 25 |
| Contact resistance R ₂ | | 1.4 mΩ | 2.5 mΩ | 1.4 mΩ | 2.4 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 | > 0.5 TΩ | > 50 GΩ | > 0.1 TΩ |
| Thermal tests (C) | | | | | |
| Tested number of positions | | 24 | 24 | 24 | 24 |
| 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 | 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 |

1759075 MSTB 2,5/ 8-G-5,08



MSTB 2,5/..-G



MVSTBW 2,5/..-ST



FRONT-MSTB 2,5/..-ST



TMSTBP 2,5/..-ST



TVMSTB 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 | 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 | 2.6 mΩ | 1.6 mΩ | 1.1 mΩ | 1.1 mΩ |
| Insertion/withdrawal cycles | 25 | 25 | 25 | 25 |
| Contact resistance R ₂ | 2.6 mΩ | 1.6 mΩ | 1.1 mΩ | 1.2 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 | > 0.4 TΩ | > 0.5 TΩ |
| Thermal tests (C) | | | | |
| Tested number of positions | 24 | 24 | 10 | 10 |
| 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 | 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 |



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