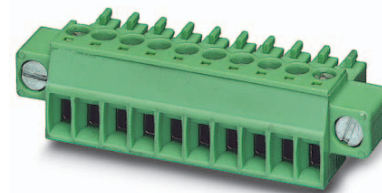


Data sheet

Order No.: 1827842

Type: MC 1,5/16-STF-3,81

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



• No. of pos.	16	• Nominal current	8 A
• Conductor cross section	1.5 mm ²	• Nominal voltage	160 V
• Color	green	• Connection direction	0 °
• Pitch	3.81 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.

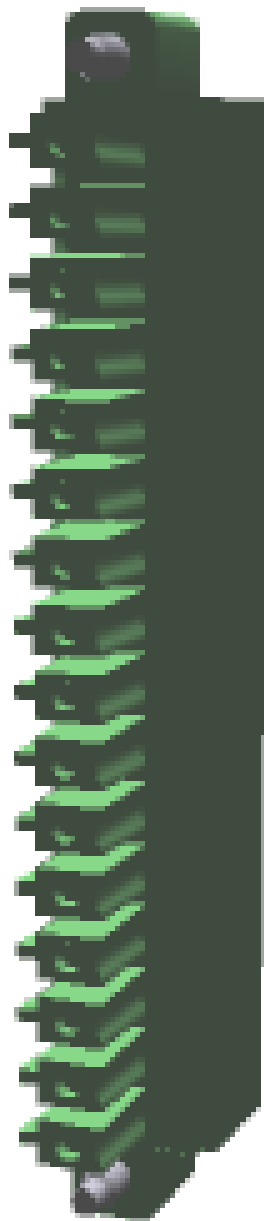
It can be downloaded at: phoenixcontact.net/product/1827842

1827842 MC 1,5/16-STF-3,81**3 Table of contents**

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1827842 MC 1,5/16-STF-3,81

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



1827842 MC 1,5/16-STF-3,81**5 item properties**

Order No.	1827842
Type	MC 1,5/16-STF-3,81
Type of contact	Female connector
Range of articles	MC 1,5/..-STF
Pitch	3.81 mm
Number of positions	16
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M2
Tightening torque	0.22 Nm ... 0.25 Nm
Locking	Screw flange

5.1 Connection capacity

Conductor cross section, solid	0.14 mm ² to 1.5 mm ²
Conductor cross section, flexible	0.14 mm ² to 1.5 mm ²
Conductor cross section AWG/kcmil	28 to 16
2 conductors with same cross section, solid	0.08 mm ² to 0.5 mm ²
2 conductors with same cross section, stranded	0.08 mm ² to 0.75 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² to 1.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² to 0.5 mm ²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm ² to 0.34 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² to 0.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 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	hot-dip 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

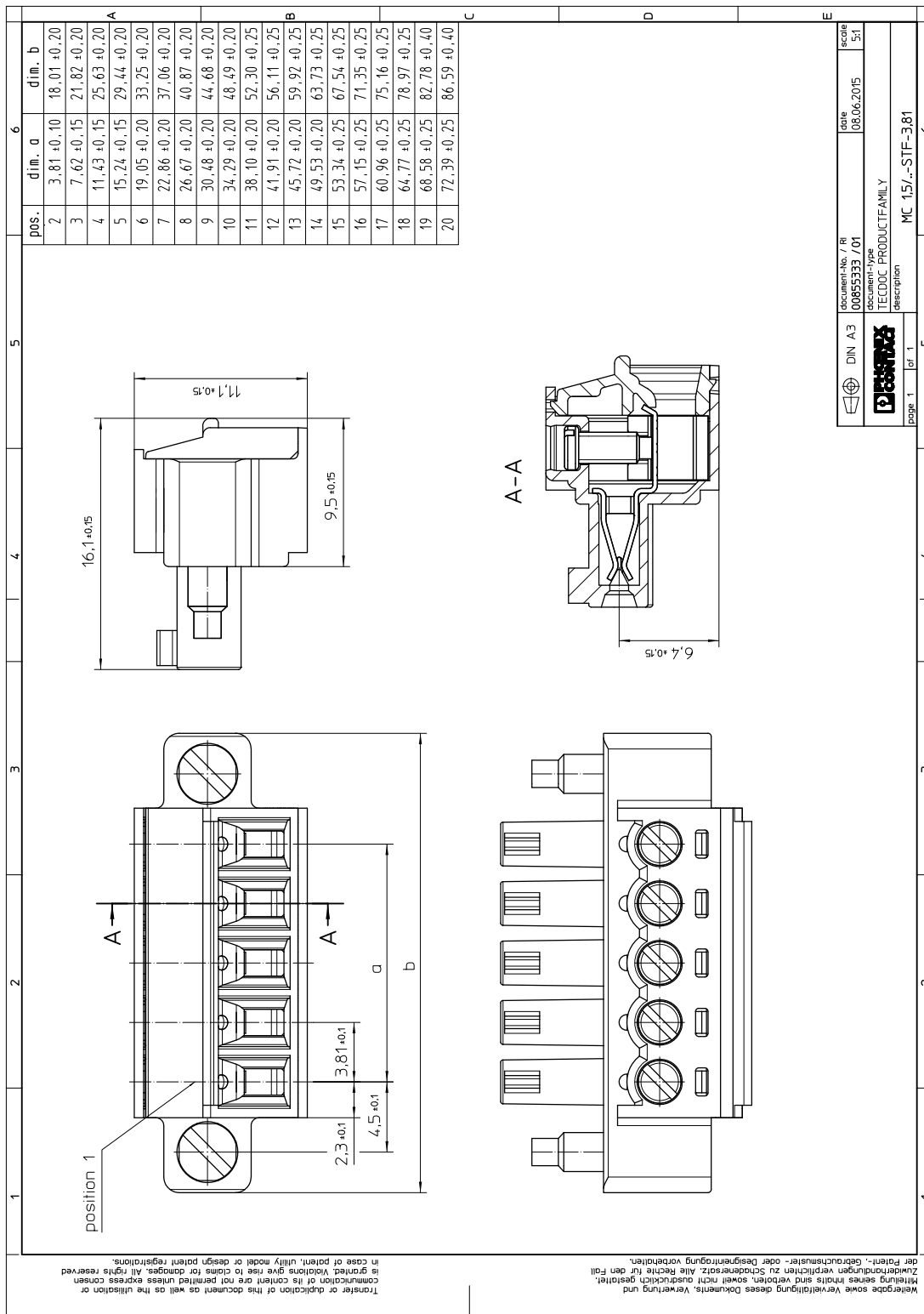
1827842 MC 1,5/16-STF-3,81

6.1 Dimensions for the product

Length	16.1 mm
Width	71.35 mm
Total height	11.1 mm
Dimension a	57.15 mm

1827842 MC 1,5/16-STF-3,81

7 Series drawing



1827842 MC 1,5/16-STF-3,81**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)

1827842 MC 1,5/16-STF-3,81**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.	6 N
Withdraw strength per pos. approx.	4 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.	21 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 / > 7 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / stranded / > 7 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / stranded / > 40 N

1827842 MC 1,5/16-STF-3,81**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm ²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.3 mΩ
Degree of pollution	2

11.2 Air and creepage distances

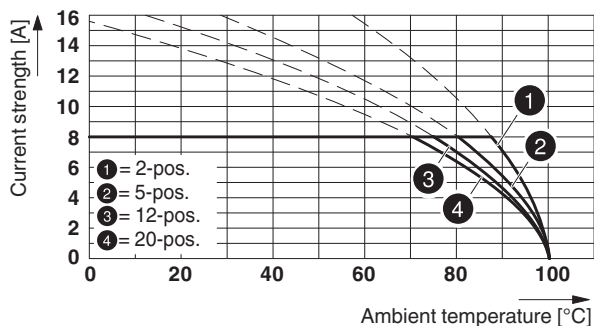
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2 mm	1.5 mm	1.6 mm
Note on connection cross section	With connected conductor 1.5 mm ² (solid).		

1827842 MC 1,5/16-STF-3,81

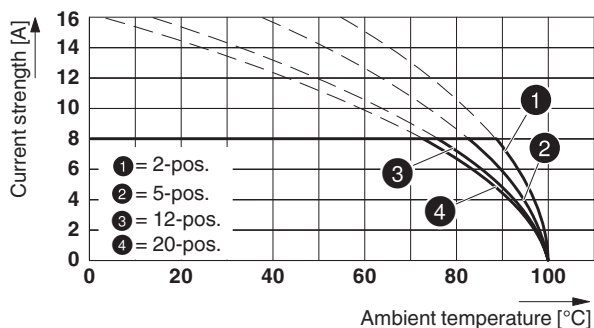
12 Current carrying capacity/derating curves

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	1.5 mm ²

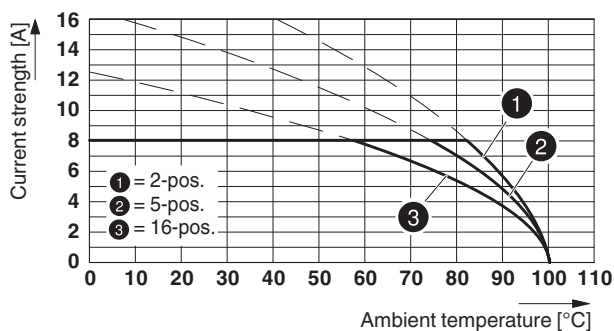
Type: MC 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81



Type: MC 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81

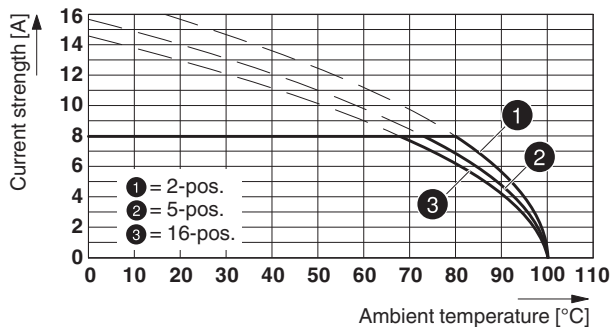


Type: MC 1,5/...-STF-3,81 with MCD 1,5/...-G1F-3,81

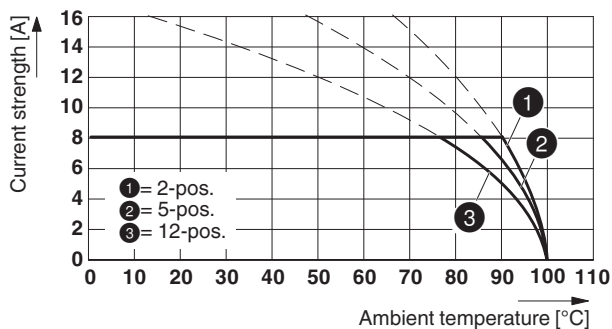


1827842 MC 1,5/16-STF-3,81

Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with flat plug)



Type: MC 1,5/...-STF-3,81 with MCV 1,5/...-GF-3,81 P26 THR



Type: MC 1,5/...-STF-3,81 with IMC 1,5/...-STGF-3,81

88305_1000_en

Type: MC 1,5/...-STF-3,81 with MC 1,5/...-GF-3,81 P26THR




1827842 MC 1,5/16-STF-3,81**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	28-16	28-16		
Voltage	300 V	300 V		
Current	8 A	8 A		
VDE Gutachten mit Fertigungsüberwachung 				
mm ² /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			
IECEE CB Scheme 				
mm ² /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			
CCA				
mm ² /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			

2017-12-19

Product version 06

Document revision 0

1827842 MC 1,5/16-STF-3,81cULus Recognized 

Use group	B	D		
mm ² /AWG/kcmil	30-14	30-14		
Voltage	300 V	300 V		
Current	8 A	8 A		

EAC 

1827842 MC 1,5/16-STF-3,81**16 Commercial Data**

Order No.	1827842
Type	MC 1,5/16-STF-3,81
Pieces per package	50
Net weight	11.801 g
GTIN	4017918050306
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding headers

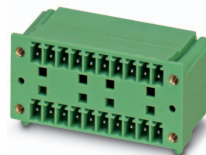
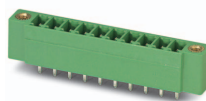
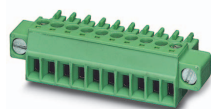
Order No.	Type
1827567	SMC 1,5/16-GF-3,81
1828003	MC 1,5/16-GF-3,81
1830240	MCD 1,5/16-GF-3,81
1830392	MCDV 1,5/16-GF-3,81
1830732	MCV 1,5/16-GF-3,81
1842908	MCDV 1,5/16-G1F-3,81
1843062	MCD 1,5/16-G1F-3,81
1879421	EMCV 1,5/16-GF-3,81
1897089	EMC 1,5/16-GF-3,81

18 Accessories

Description	Order No.	Type
	0804109	SK 3,81/2,8:FORTL.ZAHLEN
Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip	1205037	SZS 0,4X2,5 VDE
	1834482	KGG-MC 1,5/16
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT
	0805399	SK 3,81/2,8:UNBEDRUCKT
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733495	EBPL 2-3,81
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733505	EBPL 3-3,81
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733518	EBPL 4-3,81

1827842 MC 1,5/16-STF-3,81

19 Combination tests



MC 1,5/..-STF	MC 1,5/..-GF	MCV 1,5/..-GF	MCD 1,5/..-G1F	DFK-MC 1,5/..-GF
Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 6 N / 4 N	approx. 7 N / 5 N	approx. 8 N / 5 N	approx. 7 N / 4 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	1.3 mΩ	1.2 mΩ		2.2 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	1.5 mΩ	1.2 mΩ		2.2 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 kV	1.39 kV
Insulation resistance Requirements > 5 MΩ	15 TΩ	> 10 TΩ	> 2 TΩ	31 TΩ
Thermal tests (C)				
Tested number of positions	20	20	16	16
Tested conductor cross section	1.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²
Test current	8 A DC	8 A DC	8 A	8 A DC
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)	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 kV	1.39 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

1827842 MC 1,5/16-STF-3,81



MC 1,5/..-STF

MCV 1,5/..-GF-THR

IMC 1,5/..-STGF

MC 1,5/..-GF-THR

Specification	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)			
Insertion/withdrawal force per position	approx. 8 N / 6 N	approx. 6 N / 3 N	approx. 9 N / 5 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 R ₁	1.1 mΩ	1.8 mΩ	1.3 mΩ
Insertion/withdrawal cycles	25	25	25
Contact resistance R ₂	1.2 mΩ	2.2 mΩ	1.3 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 kV
Insulation resistance Requirements > 5 MΩ	> 89 TΩ	> 0.2 TΩ	> 0.2 TΩ
Thermal tests (C)			
Tested number of positions	12	16	20
Tested conductor cross section	1.5 mm ²	1.5 mm ²	1.5 mm ²
Test current	8 A		8 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 ≥ (1.2/50 μs)	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 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



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