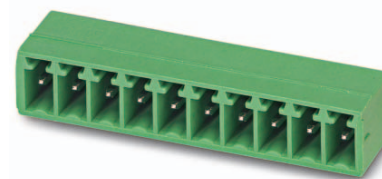


Order No.: 1844223

Type: MC 1,5/ 3-G-3,5

Header



The figure shows a 10-position version of the product

## 1 Main features



- |                         |                     |                        |                     |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos.           | 3                   | • Nominal current      | 8 A                 |
| • Nominal cross section | 1.5 mm <sup>2</sup> | • Nominal voltage      | 160 V               |
| • Color                 | green               | • Connection direction | 0 °                 |
| • Pitch                 | 3.5 mm              | • Type of packaging    | packed in cardboard |
| • Mounting type         | Wave soldering      |                        |                     |

## 2 Your advantages

- ✓ Well-known mounting principle allows worldwide use
- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



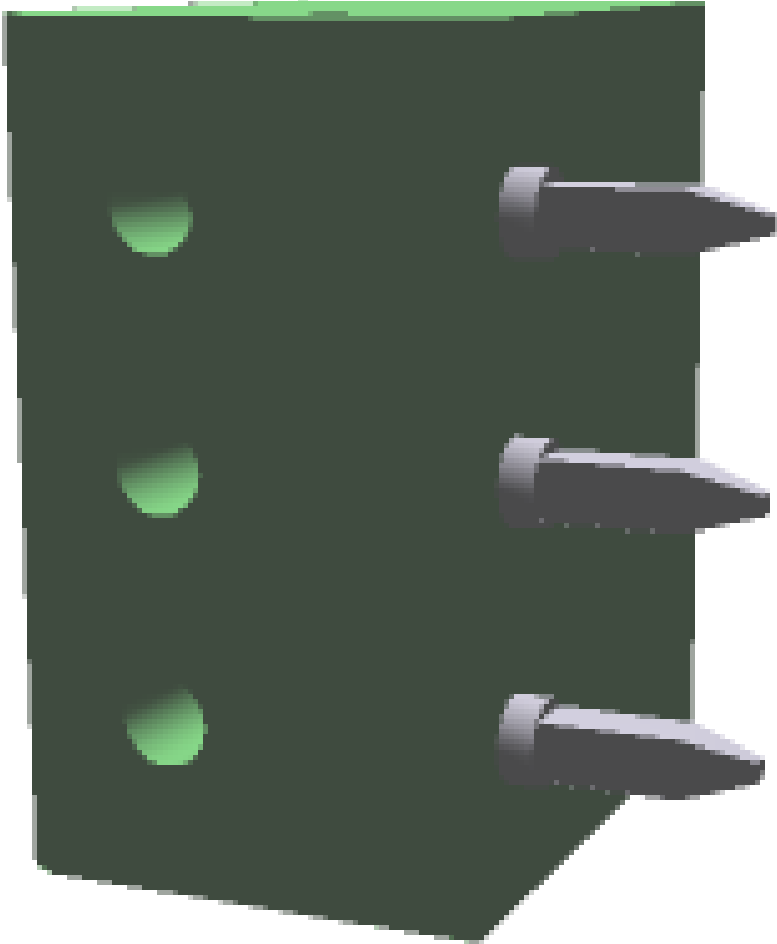
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1844223](https://phoenixcontact.net/product/1844223)

### 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 .....	6
9	Application.....	6
	9.1 Temperature limit values .....	6
10	Mechanical tests.....	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 .....	11
	13.1 Vibration test .....	11
14	Classification for connectors.....	11
15	Approvals .....	11
16	Commercial Data.....	13
17	corresponding plugs .....	13
18	Accessories.....	13
19	Combination tests.....	14

1844223 MC 1,5/ 3-G-3,5

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



**1844223 MC 1,5/ 3-G-3,5****5 item properties**

Order No.	1844223
Type	MC 1,5/ 3-G-3,5
Type of contact	Male connector
Range of articles	MC 1,5/..-G
Pitch	3.5 mm
Number of positions	3
Drive form screw head	Slotted
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>	<b>Housing</b>	<b>Housing</b>
Insulating material	PBT	
CTI according to IEC 60112	225	
Flammability rating according to UL 94	V0	
Color	green (6021)	

**6 Dimensions****6.1 Dimensions for the product**

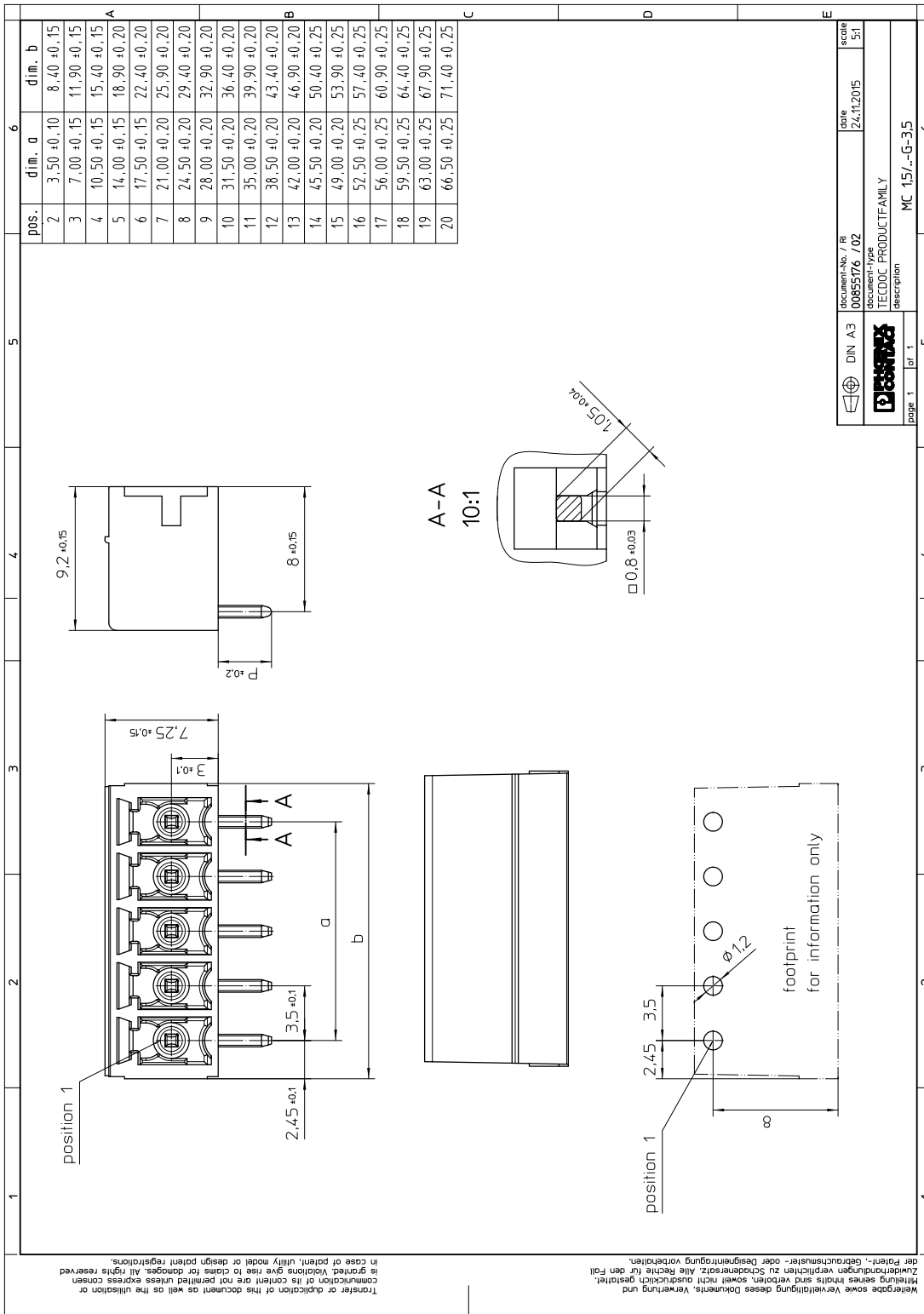
Length	9.2 mm
Width	11.9 mm
Height (without solder pin)	7.25 mm
Total height	10.65 mm
Solder pin [P]	3.4 mm
Dimension a	7 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.2 mm
Pin dimensions	0,8 x 0,8

1844223 MC 1,5/ 3-G-3,5

7 Series drawing



**1844223 MC 1,5/ 3-G-3,5****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	250

**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)

**1844223 MC 1,5/ 3-G-3,5****10 Mechanical tests**

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual examination	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.	24.5 N

**1844223 MC 1,5/ 3-G-3,5****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm <sup>2</sup>
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**

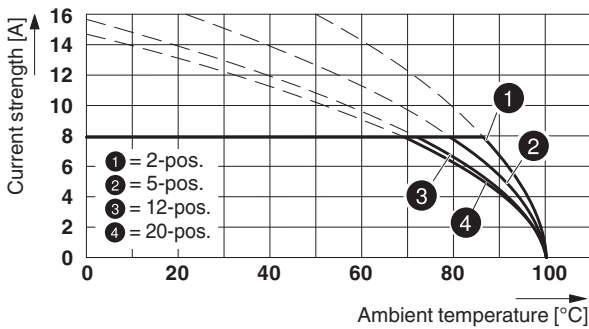
Component	Header		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 225		
Rated insulation voltage	160 V	160 V	250 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	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	2.5 mm	1.6 mm	2.5 mm

1844223 MC 1,5/ 3-G-3,5

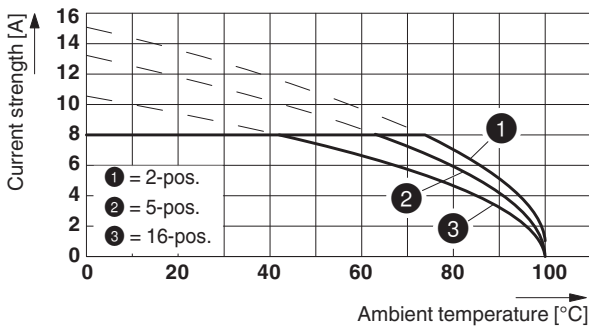
12 Current carrying capacity/derating curves

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 <sup>2</sup>
Note	

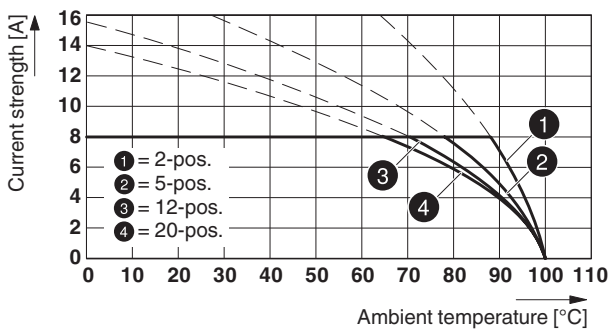
Type: MC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5



Type: MCVW 1,5/...-ST-3,5 with MC 1,5/...-G-3,5

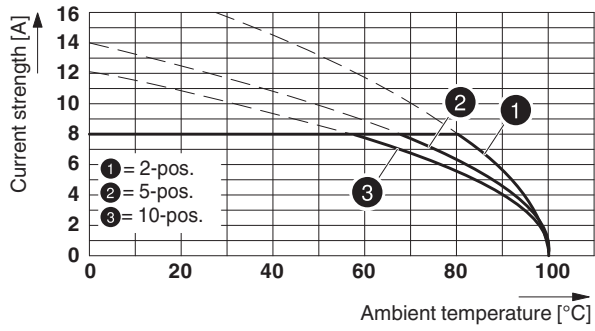


Type: FK-MCP 1,5/...-ST-3,5 with MC 1,5/...-G-3,5



1844223 MC 1,5/ 3-G-3,5

Type: TFMC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5




**1844223 MC 1,5/ 3-G-3,5****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	8 A	8 A		

VDE Gutachten mit Fertigungsüberwachung 				
mm <sup>2</sup> /AWG/kcmil				
Voltage	160 V			
Current	8 A			

IECEE CB Scheme 				
mm <sup>2</sup> /AWG/kcmil				
Voltage	160 V			
Current	8 A			

CCA				
mm <sup>2</sup> /AWG/kcmil				
Voltage	160 V			
Current	8 A			

**1844223 MC 1,5/ 3-G-3,5**

cULus Recognized 

Use group	B	D		
mm <sup>2</sup> /AWG/kcmil				
Voltage	300 V	300 V		
Current	8 A	8 A		

EAC 

**1844223 MC 1,5/ 3-G-3,5****16 Commercial Data**

Order No.	1844223
Type	MC 1,5/ 3-G-3,5
Pieces per package	250
Net weight	0.753 g
GTIN	4017918113261
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding plugs**

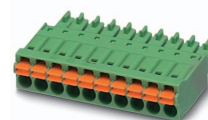
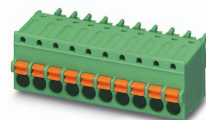
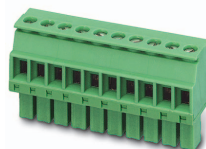
Order No.	Type
1769061	MC 1,5/ 3-ST-3,5 GY7035
1772621	TFMC 1,5/ 3-ST-3,5
1840379	MC 1,5/ 3-ST-3,5
1862865	MCVW 1,5/ 3-ST-3,5
1863165	MCVR 1,5/ 3-ST-3,5
1939921	FK-MCP 1,5/ 3-ST-3,5
1952270	FMC 1,5/ 3-ST-3,5

**18 Accessories**

Description	Order No.	Type
	0804073	SK 3,5/2,8:FORTL.ZAHLEN
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
MINI-COMBICON optical fibers, pitch 3.5 mm, 10-position, divisible, are snapped into the back of the MC header, color: transparent, dimension a: 1.5 mm	1841161	MC 1,5/10-LWL 1,5-3,5
MINI-COMBICON optical fibers, pitch 3.5 mm, 10-position, divisible, are snapped into the back of the MC header, color: transparent, dimension a: 2.3 mm	1841187	MC 1,5/10-LWL 2,3-3,5
MINI-COMBICON optical fibers, pitch 3.5 mm, 10-position, divisible, are snapped into the back of the MC header, color: transparent, dimension a: 4.0 mm	1841200	MC 1,5/10-LWL 4-3,5

## 1844223 MC 1,5/ 3-G-3,5

## 19 Combination tests

**MC 1,5/..-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

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

**MC 1,5/..-ST**

IEC 61984

**MCVW 1,5/..-ST**

IEC 61984

**FK-MCP 1,5/..-ST**

IEC 61984

**FMC 1,5/..-ST**

IEC 61984

approx. 6 N / 4 N

Test passed

Test passed

1.3 m $\Omega$ 

25

1.4 m $\Omega$ 

2.95 kV

1.39 kV

> 1.6 T $\Omega$ 

20

1.5 mm<sup>2</sup>

8 A DC

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

2.95 kV

1.39 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

approx. 7 N / 4 N

Test passed

Test passed

3.5 m $\Omega$ 

25

3.6 m $\Omega$ 

2.95 kV

1.39 kV

51 G $\Omega$ 

16

1.5 mm<sup>2</sup>

8 A

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

2.95 kV

1.39 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

approx. 7 N / 5 N

Test passed

Test passed

2 m $\Omega$ 

25

2.2 m $\Omega$ 

2.95 kV

1.39 kV

> 10 T $\Omega$ 

20

1.5 mm<sup>2</sup>

8 A

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

2.95 kV

1.39 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

**1844223 MC 1,5/ 3-G-3,5****MC 1,5/..-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<sub>1</sub>

Insertion/withdrawal cycles

Contact resistance R<sub>2</sub>Rated impulse voltage at sea level  
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)Insulation resistance  
Requirements > 5 MΩ**Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature  
Requirements < 100°C**Climatic tests (D)**

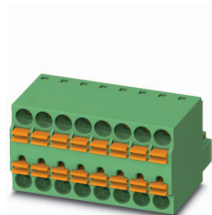
Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage  
(ISO 6988)Rated impulse voltage at sea level  
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)**Environmental and endurance tests (E)**

Specification

Degree of protection

**TFMC 1,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

3.3 mΩ

25

3.4 mΩ

2.95 kV

1.39 kV

31 TΩ

10

1.5 mm<sup>2</sup>

8 A DC

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

2.95 kV

1.39 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger