

Data sheet

Item No.: 1954919

Type: CCA 2,5/ 2-G-5,08 P26THR

PCB headers, Reflow/wave soldering



The figure shows a 10-position version of the product

1 Main features



• No. of pos.	2	• Nominal current	12 A
• Nominal cross section	2.5 mm ²	• Nominal voltage	320 V
• Color	black (RAL 9005)	• Connection direction	0 °
• Pitch	5.08 mm	• Type of packaging	packed in cardboard
• Mounting type	THR soldering		

2 Your advantages

- ✓ Designed for integration into the SMT soldering process
- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Closed contour for optimum stability of the plug-in connection



Make sure you always use the latest documentation.

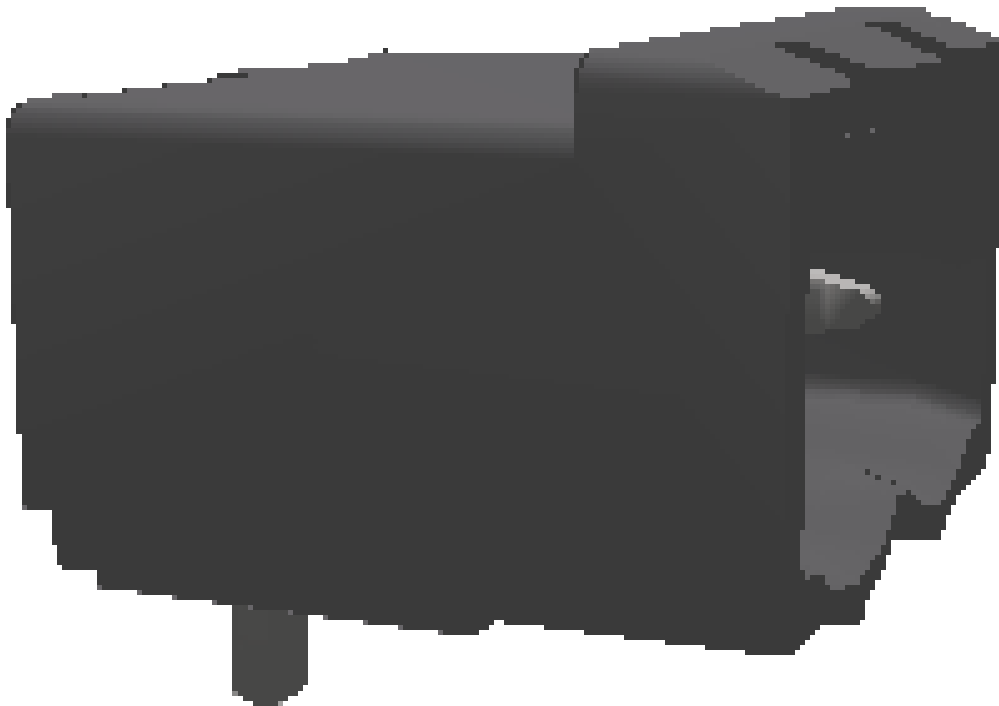
It can be downloaded at: phoenixcontact.com/product/1954919

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



1954919 CCA 2,5/ 2-G-5,08 P26THR**5 General Technical Data****5.1 item properties**

Item no.	1954919
Type	CCA 2,5/ 2-G-5,08 P26THR
Product line	COMBICON Connectors M
Connector system	COMBICON MSTB 2,5
Product type	PCB headers
Contact connection type	Pin
Range of articles	CCA 2,5/..-G
Pitch	5.08 mm
Number of positions	2
Number of rows	1
Number of connections	2
Number of potentials	2
Connection direction of the connector to the PCB	0 °
Pin layout	Linear pinning
Solder pins per potential	1
Product note	For user information and design recommendations for through-hole reflow technology, go to: Downloads
Type	Component suitable for through hole reflow

1954919 CCA 2,5/ 2-G-5,08 P26THR**6 Mounting****6.1 Flange mounting**

Type of locking	without
Mounting flange	without

7 Material properties**7.1 Material of metal parts**

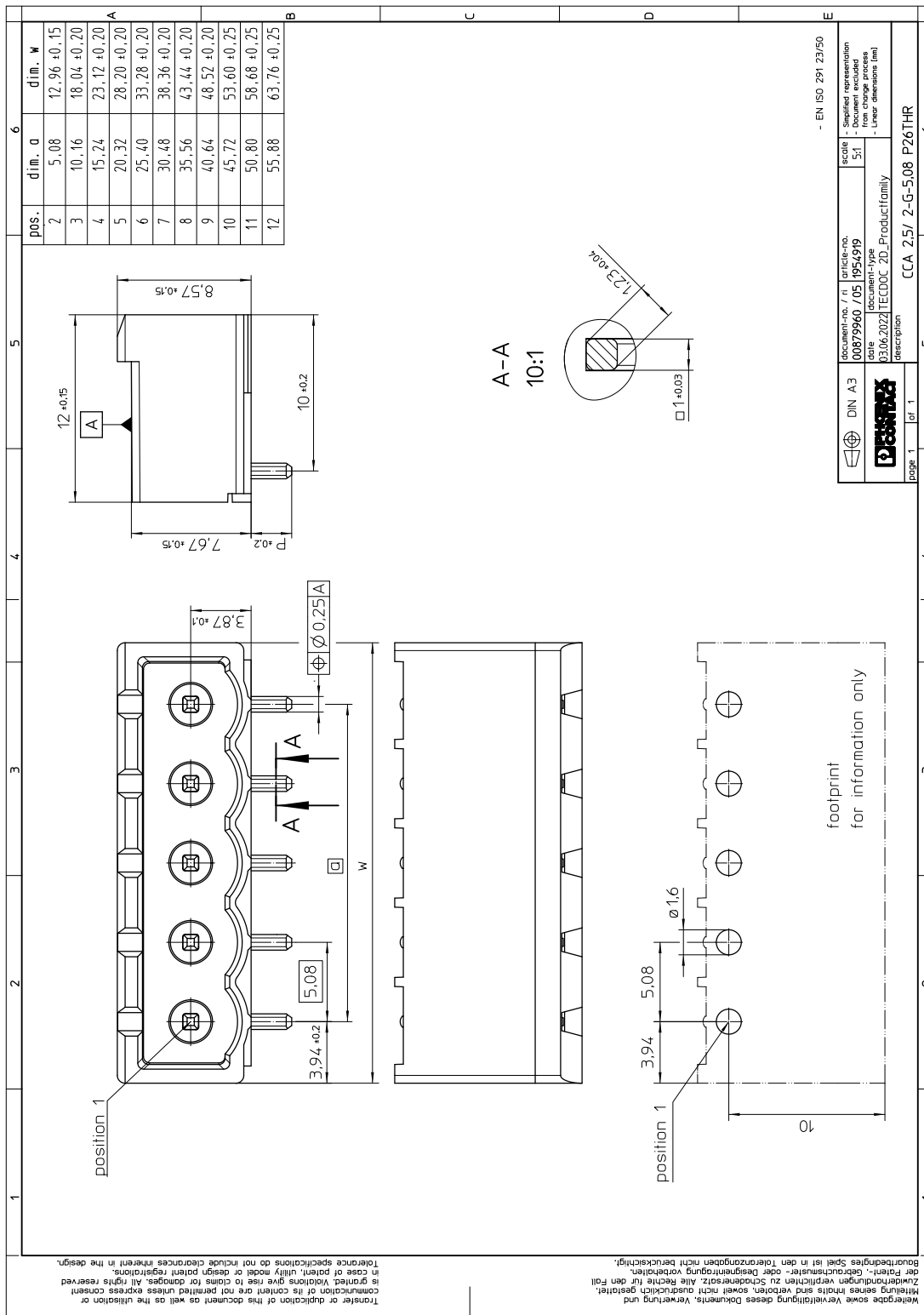
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface contact area	Nickel (1.3 - 3 µm Ni) , Tin (3 - 5 µm Sn)
Soldering area surface	Nickel (1.3 - 3 µm Ni) , Tin (3 - 5 µm Sn)
Surface characteristics	Tin-plated
Insulating material data	Housing
Color	black (RAL 9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

1954919 CCA 2,5/ 2-G-5,08 P26THR**8 Dimensions****8.1 Dimensions for the product**

Length	12 mm
Width	12.96 mm
Height (without solder pin)	8.57 mm
Total height	11.17 mm
Solder pin [P]	2.6 mm

1954919 CCA 2,5/ 2-G-5,08 P26THR

9 Series drawing



1954919 CCA 2,5/ 2-G-5,08 P26THR**10 Product notes****10.1 General information**

Details for soldering processes	Processing using reflow processes in compliance with IEC 60068-2-58 or DIN EN 61760-1 (latest version) Moisture Sensitive Level (MSL) = 1 according to IPC/JEDEC J-STD-020-C
Notes on operation	In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.
Details for soldering processes	Processing using reflow processes in compliance with IEC 60068-2-58 or DIN EN 61760-1 (latest version) Moisture Sensitive Level (MSL) = 1 according to IPC/JEDEC J-STD-020-C

11 Application**12 Packaging specifications**

Type of packaging	packed in cardboard
Packing unit	50

12.1 Processing notes

Process	Reflow/wave soldering
Specification	IPC/JEDEC J-STD-020D.1:2008-03 (following)
Specification	IEC 61760-1:2006-04 (following)
Specification	IEC 60068-2-58:2005-02 (following)
Moisture Sensitive Level	MSL 1
Classification temperature T_c	max. 260 °C
Solder cycles in the reflow	3
swash circumference	see dimensional drawing

12.2 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

1954919 CCA 2,5/ 2-G-5,08 P26THR**13 Mechanical tests****13.1 Visual examination**

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

13.2 Dimensional test

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

13.3 Resistance of marking

Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12

13.4 Polarization and coding

Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N

13.5 Contact retention in insert

Contact holder in insert Requirements >20 N	Test passed
Specification	IEC 60512-15-1:2008-05

1954919 CCA 2,5/ 2-G-5,08 P26THR**14 Insertion and withdrawal forces**

Insertion and withdrawal force	
Specification	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

1954919 CCA 2,5/ 2-G-5,08 P26THR**15 Electrical tests**

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	1.3 mΩ
Degree of pollution	2

1954919 CCA 2,5/ 2-G-5,08 P26THR**16 Air and creepage distances**

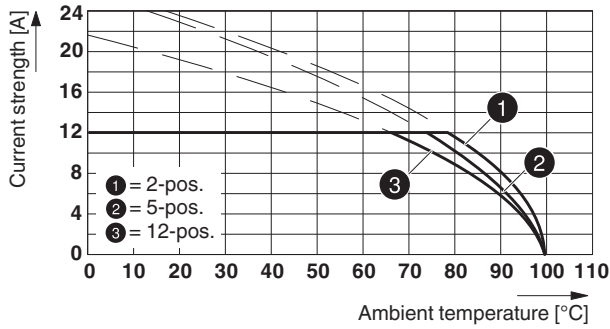
Component	PCB headers		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112)	CTI 175		
Rated insulation voltage	250 V	320 V	400 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	4 mm	3.2 mm	4 mm

1954919 CCA 2,5/ 2-G-5,08 P26THR

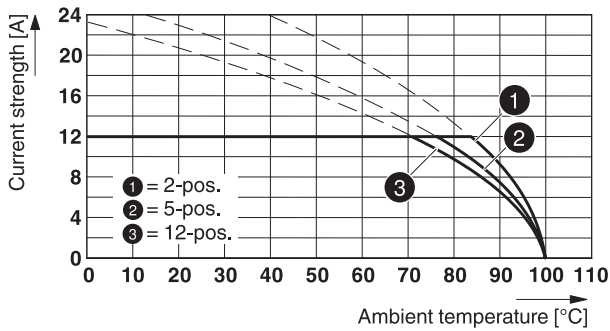
17 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Note	For number of positions, see diagram
Reduction factor	0.8
Conductor cross section	2.5 mm ²

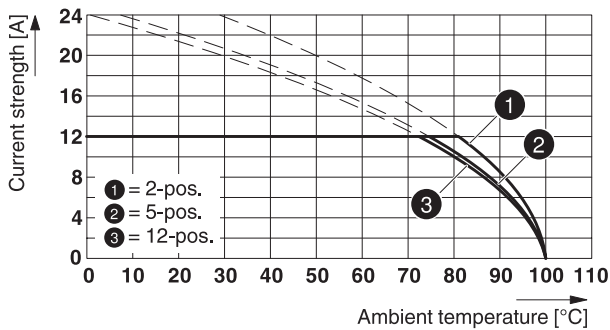
Type: MSTBT 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26 THR



Type: FKCN 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR

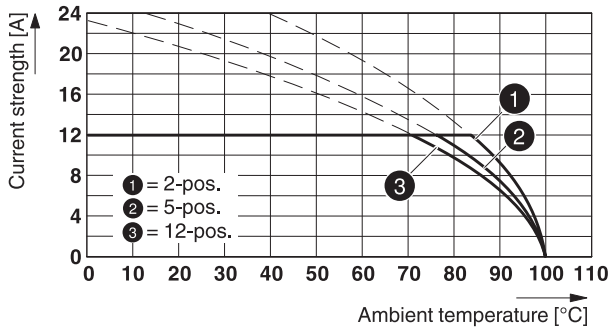


Type: FKCN 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR

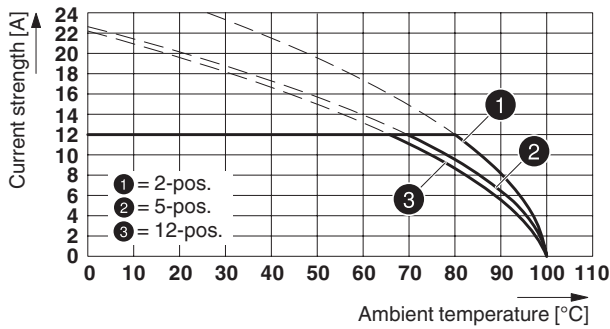


1954919 CCA 2,5/ 2-G-5,08 P26THR

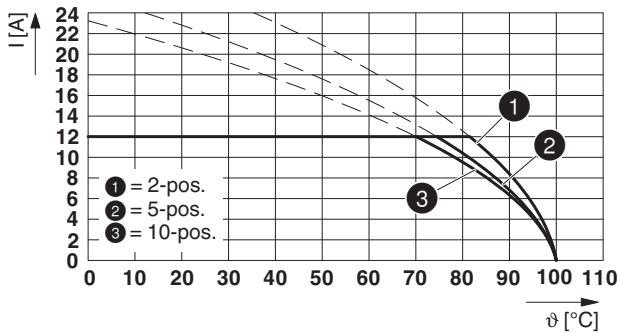
Type: FKCS 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR



Type: MSTBP 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR

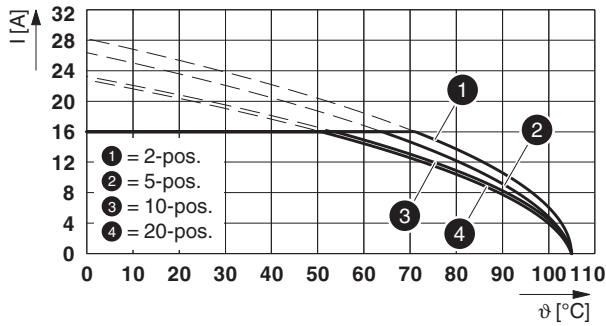


Type: TFKC 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P...THR

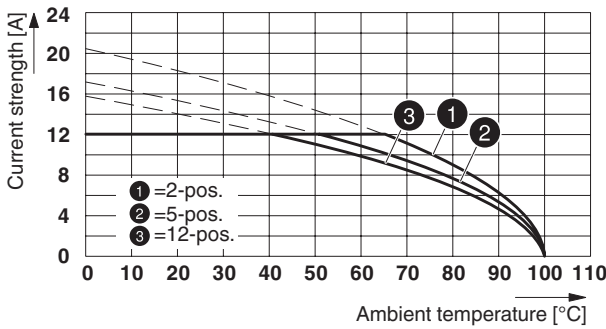


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Type: LPC 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P...THR



Type: MVSTBW 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR



1954919 CCA 2,5/ 2-G-5,08 P26THR**18 Environmental and durability tests****18.1 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 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	The connecting cables must be strain relieved.



18.2 Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 5 MΩ

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19 Data transmission

1954919 CCA 2,5/ 2-G-5,08 P26THR**20 Approvals / Certificates**

cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
Standard	300 V	16 A	-	-
Usegroup D				
Standard	300 V	10 A	-	-
Alternative 1	150 V	15 A	-	-
VDE Gutachten mit Fertigungsüberwachung 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	400 V	12 A	-	-

1954919 CCA 2,5/ 2-G-5,08 P26THR**21 Commercial Data**

Item no.	1954919
Type	CCA 2,5/ 2-G-5,08 P26THR
Packing unit	50
Net weight	1.042 g
GTIN	4017918925734
	Information that applies locally, see link on page 1

22 corresponding plugs

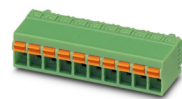
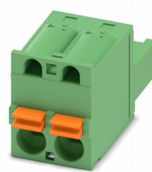
Item no.	Type
1757019	MSTB 2,5/ 2-ST-5,08
1110581	LPC 2,5/ 2-ST-5,08
1719008	TVMSTB 2,5/ 2-ST-5,08
1754568	FKCN 2,5/ 2-ST-5,08
1777280	FRONT-MSTB 2,5/ 2-ST-5,08
1779987	MSTBT 2,5/ 2-ST-5,08
1792249	MVSTBR 2,5/ 2-ST-5,08
1792757	MVSTBW 2,5/ 2-ST-5,08
1808816	MSTBC 2,5/ 2-ST-5,08
1809501	MSTBC 2,5/ 2-STZ-5,08
1824120	MSTBU 2,5/ 2-STD-5,08
1853010	TMSTBP 2,5/ 2-ST-5,08
1873058	FKC 2,5/ 2-ST-5,08
1873650	FKCVW 2,5/ 2-ST-5,08
1873951	FKCVR 2,5/ 2-ST-5,08
1883255	QC 1/ 2-ST-5,08
1902110	FKCT 2,5/ 2-ST-5,08
1962600	TFKC 2,5/ 2-ST-5,08
1975079	FKCS 2,5/ 2-ST-5,08

23 Accessories

Description	Item No.	Type
Coding section, inserted into the recess in the header or the inverted plug, red insulating material	1734401	CR-MSTB
HT coding section, prior to the reflow soldering process it is inserted into the recess on the header, made from high-temperature-resistant beige insulation material	1954362	CR-MSTB NAT HT
	0804293	SK 5,08/3,8:FORTL.ZAHLEN
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT

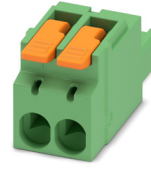
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24 Combination tests



CCA 2,5/..-G	MSTBT 2,5/..-ST	FKC 2,5/..-ST	FKCN 2,5/..-ST	FKCS 2,5/..-ST
IEC 61984	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. 10 N / 9 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 1st level	1.3 mΩ	1.1 mΩ	1.2 mΩ	1.1 mΩ
Contact resistance R ₁ 2nd level				
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	1.3 mΩ	1.2 mΩ	1.3 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	> 5 MΩ	> 5 MΩ	> 5 MΩ	> 5 MΩ
Thermal tests (C)				
Tested number of positions	12	24	12	12
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	12 A DC	12 A DC	12 A	12 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
Upper limiting temperature Requirements < 100°C	Test passed	Test passed	Test passed	Test passed
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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CCA 2,5/-G	MSTBP 2,5/..-ST	TFKC 2,5/..-ST	LPC 2,5/..-ST	MVSTBW 2,5/..-ST
IEC 61984	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. 7 N / 6 N	approx. 10 N / 8 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 1st level	1.3 mΩ	1.1 mΩ	1 mΩ	2.5 mΩ
Contact resistance R ₁ 2nd level				
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	1.3 mΩ	1.1 mΩ	1.2 mΩ	2.5 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	> 5 MΩ	> 5 MΩ	> 5 MΩ	> 5 MΩ
Thermal tests (C)				
Tested number of positions	12	10	20	12
Tested conductor cross section	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
Test current	12 A DC	12 A	16 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	105 °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