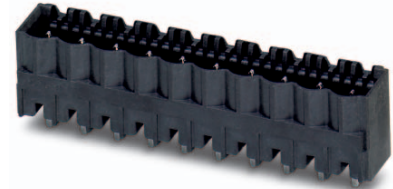


# Data sheet

Order No.: 1955853

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

Header, 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 <sup>2</sup> | • Nominal voltage      | 320 V               |
| • Color                 | black               | • Connection direction | 90 °                |
| • 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
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ 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.

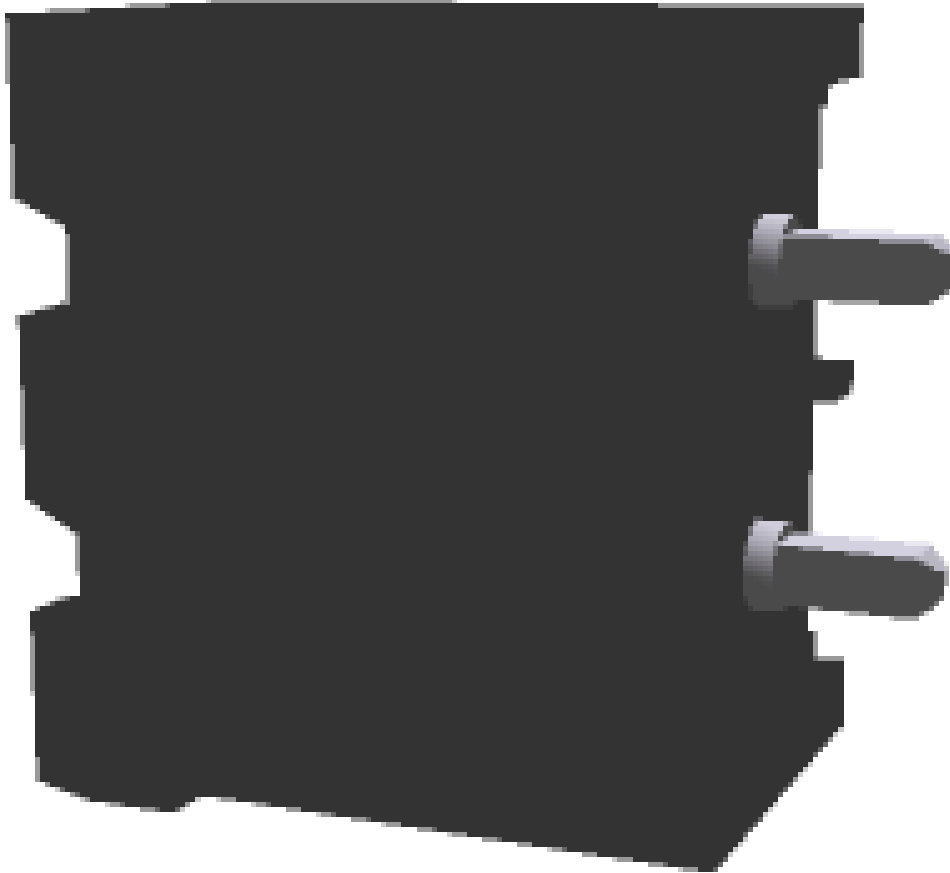
It can be downloaded at: [phoenixcontact.net/product/1955853](http://phoenixcontact.net/product/1955853)

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1955853 CCVA 2,5/ 2-G-5,08 P26THR

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



**1955853 CCVA 2,5/ 2-G-5,08 P26THR****5 item properties**

Order No.	1955853
Type	CCVA 2,5/ 2-G-5,08 P26THR
Type of contact	Male connector
Range of articles	CCVA 2,5/...G
Pitch	5.08 mm
Number of positions	2
Locking	without
Mounting type	THR soldering
Pin layout	Linear pinning
Product note	User information and design recommendations for through hole reflow technology can be found under "Downloads"

**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	Housing
Insulating material	LCP
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0
Color	black (9005)

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

Length	8.6 mm
Width	12.96 mm
Height (without solder pin)	12 mm
Total height	14.6 mm
Solder pin [P]	2.6 mm
Dimension a	5.08 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.6 mm
Pin dimensions	1,0 x 1,0

**1955853 CCVA 2,5/ 2-G-5,08 P26THR****7 Series drawing****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

**9 Application****9.1 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
---------------------------------	---

**9.2 Processing notes**

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

**9.3 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)

**1955853 CCVA 2,5/ 2-G-5,08 P26THR****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.	20 N

**1955853 CCVA 2,5/ 2-G-5,08 P26THR****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	1.3 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

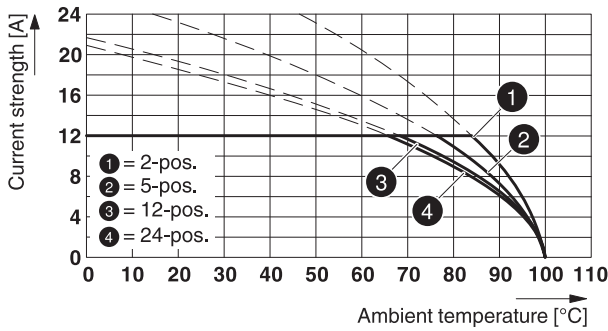
Component	Header		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 175		
Rated insulation voltage	250 V	320 V	400 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	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

1955853 CCVA 2,5/ 2-G-5,08 P26THR

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	

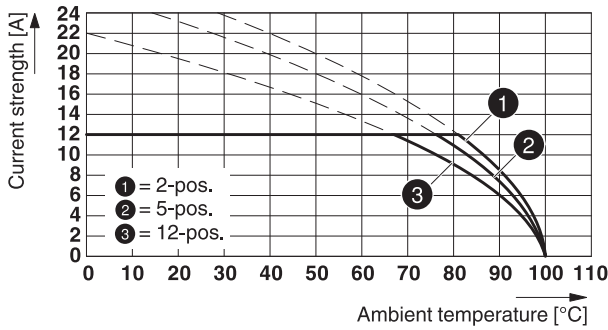
Type: MSTB 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



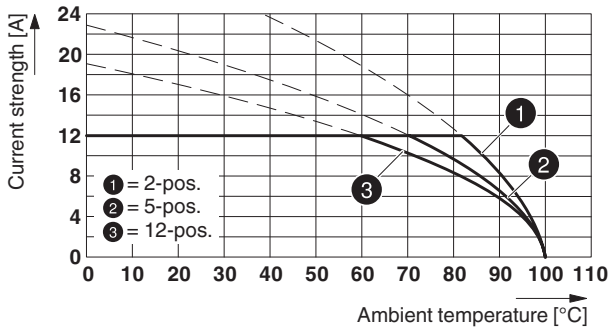
Type: MSTBP 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR

89007\_1000\_en

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



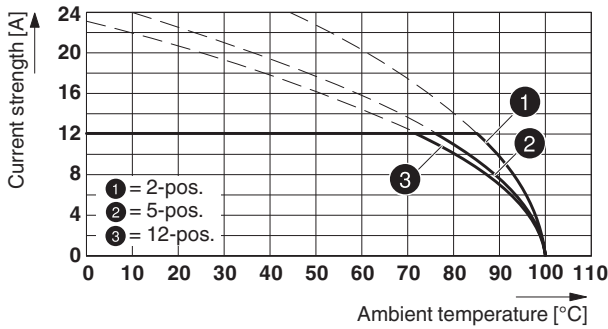
Type: FRONT-MSTB 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



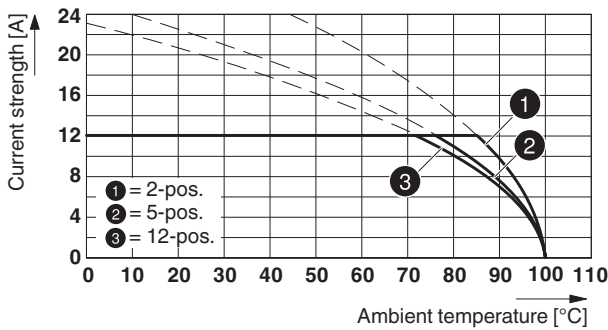


**1955853 CCVA 2,5/ 2-G-5,08 P26THR**

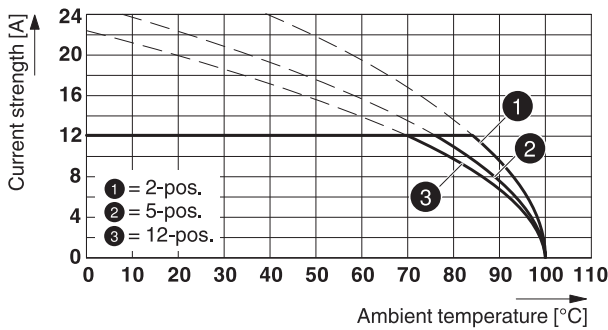
Type: FK2 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



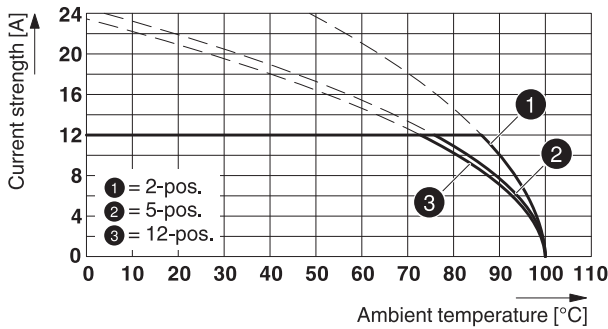
Type: FKCS 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR



Type: FKCT 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P...THR



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



**1955853 CCVA 2,5/ 2-G-5,08 P26THR****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**

VDE Gutachten mit Fertigungsüberwachung 

mm<sup>2</sup>/AWG/kcmil


Voltage	400 V			
Current	12 A			

IECEE CB Scheme 

cULus Recognized 

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

EAC 

IECEE CB Scheme 

mm<sup>2</sup>/AWG/kcmil

Voltage	400 V			
Current	12 A			

**1955853 CCVA 2,5/ 2-G-5,08 P26THR****16 Commercial Data**

Order No.	1955853
Type	CCVA 2,5/ 2-G-5,08 P26THR
Pieces per package	50
Net weight	1.07 g
GTIN	4017918926618
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding plugs**





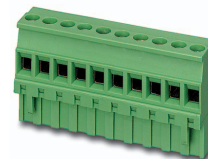
Order No.	Type
1719008	TVMSTB 2,5/ 2-ST-5,08
1754568	FKCN 2,5/ 2-ST-5,08
1757019	MSTB 2,5/ 2-ST-5,08
1769010	MSTBP 2,5/ 2-ST-5,08
1777280	FRONT-MSTB 2,5/ 2-ST-5,08
1779987	MSTBT 2,5/ 2-ST-5,08
1792249	MVSTBR 2,5/ 2-ST-5,08
1792757	MVSTBW 2,5/ 2-ST-5,08
1808816	MSTBC 2,5/ 2-ST-5,08
1809501	MSTBC 2,5/ 2-STZ-5,08
1824120	MSTBU 2,5/ 2-STD-5,08
1824353	MSTBU 2,5/ 2-ST-5,08-FL
1826283	SMSTB 2,5/ 2-ST-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

**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
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
	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

## 1955853 CCVA 2,5/ 2-G-5,08 P26THR

## 19 Combination tests

					
	<b>CCVA 2,5/..-G</b>	<b>MSTB 2,5/..-ST</b>	<b>MSTBP 2,5/..-ST</b>	<b>MSTBT 2,5/..-ST</b>	<b>MVSTBR 2,5/..-ST</b>
Specification		IEC 61984	IEC 61984	IEC 61984	IEC 61984
<b>Mechanical tests (A)</b>					
Insertion/withdrawal force per position		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	
Contact holder in insert Requirements >20 N		Test passed	Test passed	Test passed	
<b>Durability tests (B)</b>					
Contact resistance R <sub>1</sub>		1.3 mΩ	1.3 mΩ	1.2 mΩ	
Insertion/withdrawal cycles		25	25	25	
Contact resistance R <sub>2</sub>		1.4 mΩ	1.4 mΩ	1.3 mΩ	
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)		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	
Insulation resistance Requirements > 5 MΩ		> 7.0 TΩ	> 3.6 TΩ	> 2 TΩ	
<b>Thermal tests (C)</b>					
Tested number of positions		24	12	12	
Tested conductor cross section		2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	
Test current		12 A DC	12 A DC	12 A DC	
Upper limiting temperature Requirements < 100°C		Test passed	Test passed	Test passed	
<b>Climatic tests (D)</b>					
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 <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	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 ≥ (1.2/50 μs)		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	
<b>Environmental and endurance tests (E)</b>					
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	

## 1955853 CCVA 2,5/ 2-G-5,08 P26THR



CCVA 2,5/...-G



SMSTB 2,5/...-ST

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

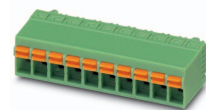
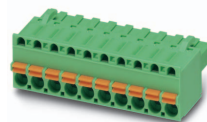
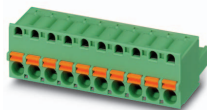
TMSTBP 2,5/...-ST



TVMSTB 2,5/...-ST

Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
<b>Mechanical tests (A)</b>				
Insertion/withdrawal force per position		approx. 8 N / 6 N		
Polarization when inserted Requirement >20 N		Test passed		
Contact holder in insert Requirements >20 N		Test passed		
<b>Durability tests (B)</b>				
Insertion/withdrawal cycles		25		
Rated impulse voltage at sea level Voltage waveform $\geq$ (1.2/50 $\mu$ s)		4.8 kV		
Power-frequency withstand voltage Voltage waveform $\geq$ (50/60 Hz)		2.21 kV		
Insulation resistance Requirements > 5 M $\Omega$		> 12 T $\Omega$		
<b>Thermal tests (C)</b>				
Tested number of positions		12		
Tested conductor cross section		2.5 mm <sup>2</sup>		
Test current		12 A DC		
Upper limiting temperature Requirements < 100°C		Test passed		
<b>Climatic tests (D)</b>				
Test sequence 1: low temperature storage		-40 °C/2 h		
Test sequence 2: heat storage		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		
Rated impulse voltage at sea level Voltage waveform $\geq$ (1.2/50 $\mu$ s)		4.8 kV		
Power-frequency withstand voltage Voltage waveform $\geq$ (50/60 Hz)		2.21 kV		
<b>Environmental and endurance tests (E)</b>				
Specification		IEC 61984:2008-10		
Degree of protection		Finger safety with IP20 test finger		

## 1955853 CCVA 2,5/ 2-G-5,08 P26THR

**CCVA 2,5/..-G****FKC 2,5/..-ST****FKCS 2,5/..-ST****FKCT 2,5/..-ST****FKCN 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. 10 N / 9 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  $R_1$ 1.1 m $\Omega$ 1.1 m $\Omega$ 1.2 m $\Omega$ 1.1 m $\Omega$ 

Insertion/withdrawal cycles

25

25

25

25

Contact resistance  $R_2$ 1.3 m $\Omega$ 1.3 m $\Omega$ 1.3 m $\Omega$ 1.1 m $\Omega$ Rated impulse voltage at sea level  
Voltage waveform  $\geq$  (1.2/50  $\mu$ s)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

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

2.21 kV

2.21 kV

2.21 kV

2.21 kV

Insulation resistance  
Requirements > 5 M $\Omega$ > 0.7 T $\Omega$ > 0.7 T $\Omega$ > 3 T $\Omega$ > 50 G $\Omega$ **Thermal tests (C)**

Tested number of positions

12

12

12

12

Tested conductor cross section

2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>

Test current

12 A DC

12 A DC

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<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycleRated impulse voltage at sea level  
Voltage waveform  $\geq$  (1.2/50  $\mu$ s)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

Power-frequency withstand voltage  
Voltage waveform  $\geq$  (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

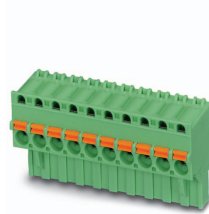
Degree of protection

Finger safety with IP20  
test fingerFinger safety with IP20  
test fingerFinger safety with IP20  
test fingerFinger safety with IP20  
test finger

**1955853 CCVA 2,5/ 2-G-5,08 P26THR**



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



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

Specification

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

Polarization when inserted  
Requirement >20 N

Contact holder in insert  
Requirements >20 N

**Durability tests (B)**

Insertion/withdrawal cycles

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