

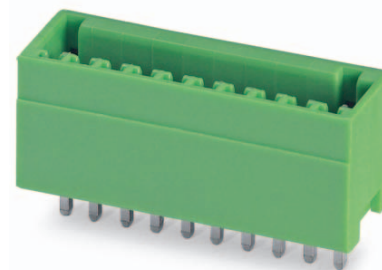
Data sheet

2018-03-26
Product version 00
Document revision 0

Order No.: 1881574

Type: MCV 0,5/ 4-G-2,5

Header



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos. | 4 | • Nominal current | 4 A |
| • Nominal cross section | 0.5 mm ² | • Nominal voltage | 160 V |
| • Color | green | • Connection direction | 90 ° |
| • Pitch | 2.5 mm | • Type of packaging | packed in cardboard |
| • Mounting type | Wave soldering | | |

2 Your advantages

- ✓ Well-known mounting principle allows worldwide use
- ✓ Vertical connection enables multi-row arrangement on the PCB



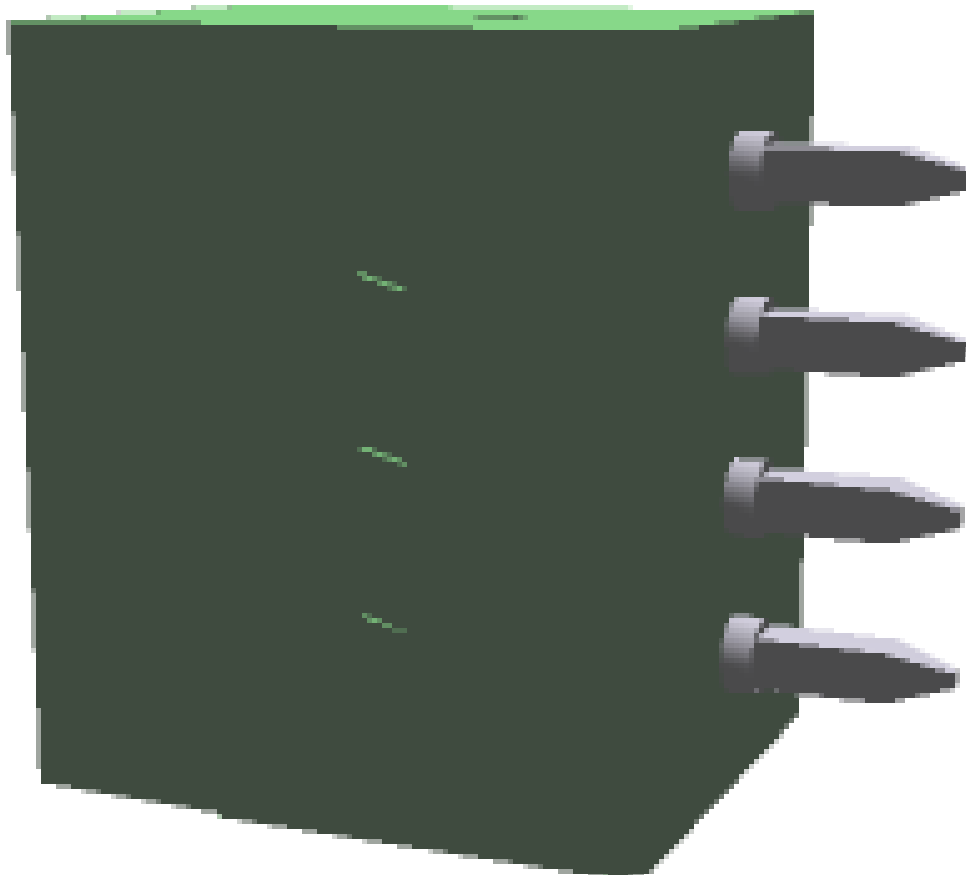
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1881574

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	10
13.1	Vibration test	10
14	Classification for connectors	10
15	Approvals	10
16	Commercial Data	11
17	corresponding plugs	11
18	Accessories	11
19	Combination tests	12

1881574 MCV 0,5/ 4-G-2,5

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



1881574 MCV 0,5/ 4-G-2,5**5 item properties**

Order No.	1881574
Type	MCV 0,5/ 4-G-2,5
Type of contact	Male connector
Range of articles	MCV 0,5/...-G
Pitch	2.5 mm
Number of positions	4
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	Housing	Housing
Insulating material	PA	
CTI according to IEC 60112	600	
Flammability rating according to UL 94	V0	
Color	green (6021)	

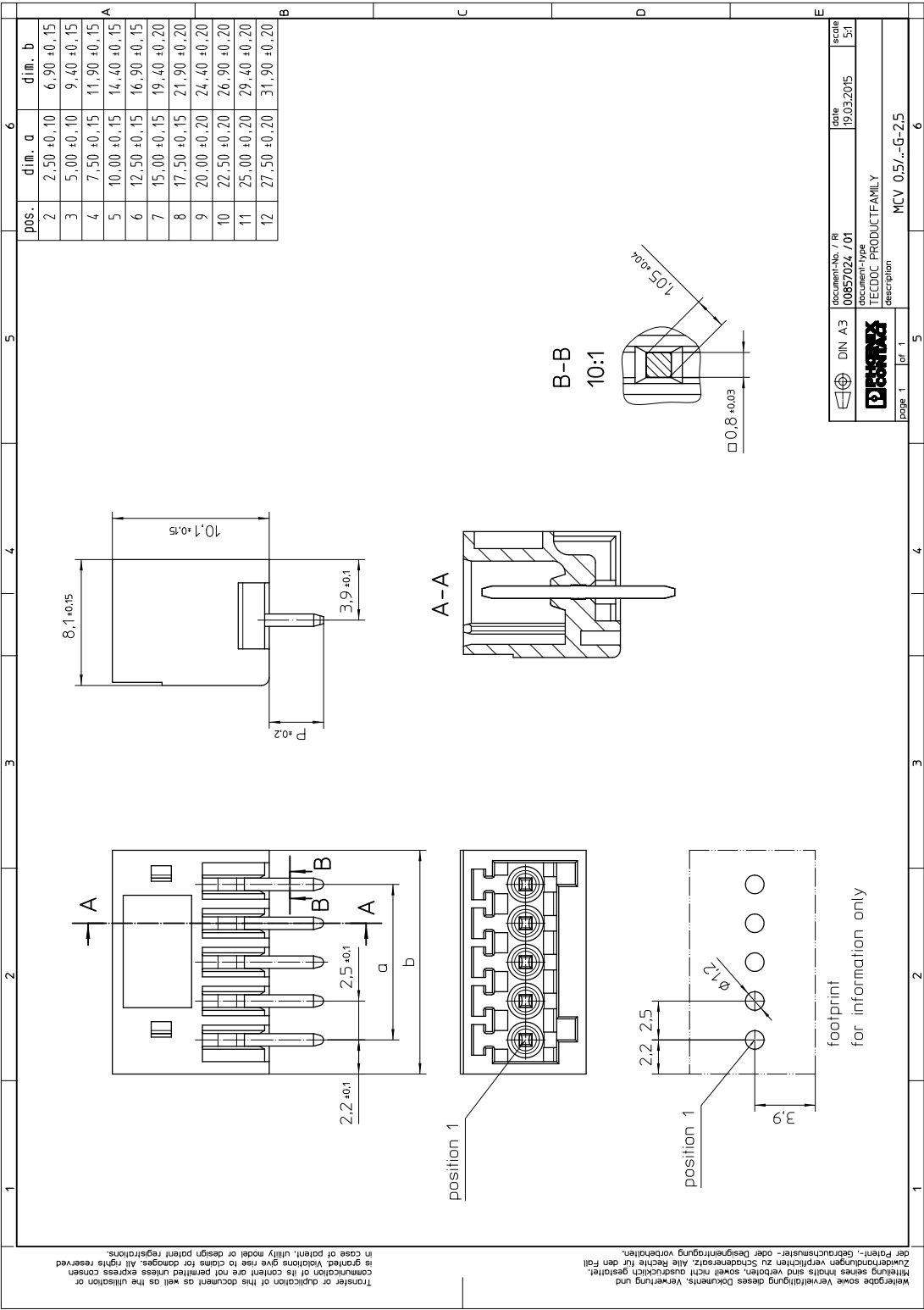
6 Dimensions**6.1 Dimensions for the product**

Length	8.1 mm
Width	12.2 mm
Height (without solder pin)	10.1 mm
Total height	13.6 mm
Solder pin [P]	3.5 mm
Dimension a	7.5 mm

6.2 Dimensions for PCB design

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

7 Series drawing



1881574 MCV 0,5/ 4-G-2,5**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)

1881574 MCV 0,5/ 4-G-2,5**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.	7 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.	26 N

1881574 MCV 0,5/ 4-G-2,5**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	4 A / 0.5 mm ²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2 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	80 V	160 V	320 V
Rated surge voltage	1.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	0.8 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	1.7 mm	0.8 mm	1.6 mm

1881574 MCV 0,5/ 4-G-2,5**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

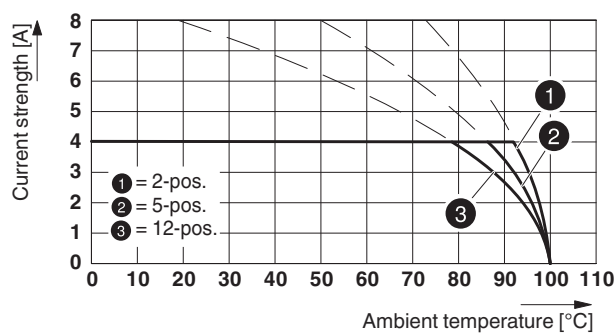
Number of positions

See diagram

Conductor cross section

0.5 mm²

Note

Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5

1881574 MCV 0,5/ 4-G-2,5**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**VDE Gutachten mit Fertigungsüberwachung** mm²/AWG/kcmil

Voltage	80 V			
Current	4 A			

IECEE CB Scheme mm²/AWG/kcmil

Voltage	80 V			
Current	4 A			

CCAmm²/AWG/kcmil

Voltage	80 V			
Current	4 A			

EAC **cULus Recognized**

Use group	B			
mm ² /AWG/kcmil				
Voltage	125 V			
Current	4 A			

1881574 MCV 0,5/ 4-G-2,5**16 Commercial Data**

Order No.	1881574
Type	MCV 0,5/ 4-G-2,5
Pieces per package	50
Net weight	0.839 g
GTIN	4017918156817
	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
1881341	FK-MC 0,5/ 4-ST-2,5

18 Accessories

Description	Order No.	Type
Coding profile, is inserted into the groove in the header, red insulating material	1881435	CP-MC 0,5
	0804853	SK 2,54/2,8:FORTL.ZAHLEN

1881574 MCV 0,5/ 4-G-2,5**19 Combination tests****MCV 0,5/..-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 Ω **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

**FK-MC 0,5/..-ST**

IEC 61984

approx. 7 N / 6 N

Test passed

Test passed

2 m Ω

25

2.2 m Ω

2.95 kV

1.39 kV

0.1 T Ω

12

0.5 mm²

4 A DC

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

2.95 kV

1.39 kV

IEC 61984:2008-10

Finger safety with IP20
test finger