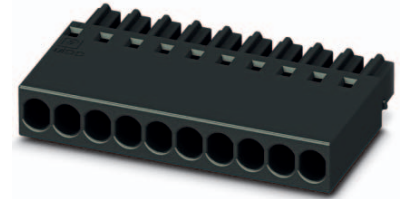


# Data sheet

Order No.: 1012277

Type: MCC 0,5/12-ST-2,54

PCB connector, Crimp connection



The figure shows a 10-position version of the product

## 1 Main features



- |                           |                      |                        |                     |
|---------------------------|----------------------|------------------------|---------------------|
| • No. of pos.             | 12                   | • Nominal current      | 6 A                 |
| • Conductor cross section | 0.75 mm <sup>2</sup> | • Nominal voltage      | 160 V               |
| • Color                   | black                | • Connection direction | 0 °                 |
| • Pitch                   | 2.54 mm              | • Type of packaging    | packed in cardboard |
| • Connection method       | Crimp connection     |                        |                     |

## 2 Your advantages

- ✓ Cost-effective connection of crimped conductors in large quantities
- ✓ Gold-plated contacts ensure transfer quality remains stable over the long term
- ✓ Small component size for applications where space is at a premium
- ✓ Tools for manual and automatic crimping available as an option



Make sure you always use the latest documentation.

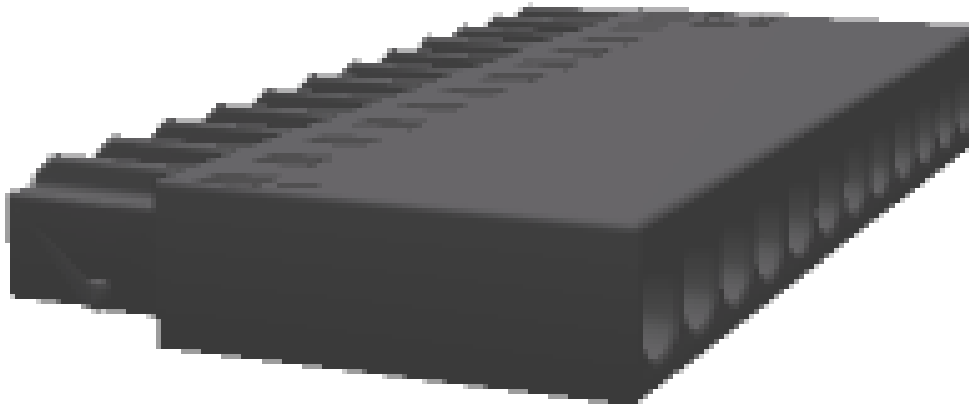
It can be downloaded at: [phoenixcontact.net/product/1012277](https://phoenixcontact.net/product/1012277)

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1012277 MCC 0,5/12-ST-2,54

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



**1012277 MCC 0,5/12-ST-2,54****5 item properties**

Order No.	1012277
Type	MCC 0,5/12-ST-2,54
Plug-in system	MICRO COMBICON - FMC 0,5
Product type	PCB connector
Type of contact	Female connector
Range of articles	MCC 0,5/...-ST
Pitch	2.54 mm
Number of positions	12
Connection method	Crimp connection
Type of locking	without
	without
Number of levels	1
Number of contacts / solder pins per potential	1

**5.1 Connection capacity**

Conductor cross section, flexible	0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> (Maximum external diameter of the insulation 1.9 mm)
Stripping length	4.1 mm ... 4.5 mm
Tightening torque	

**5.2 Connection capacity AWG**

Conductor cross section AWG	26 ... 18 (Maximum external diameter of the insulation 1.9 mm)
<b>Insulating material data</b>	<b>Housing</b>
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	black (9005)
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

**1012277 MCC 0,5/12-ST-2,54**

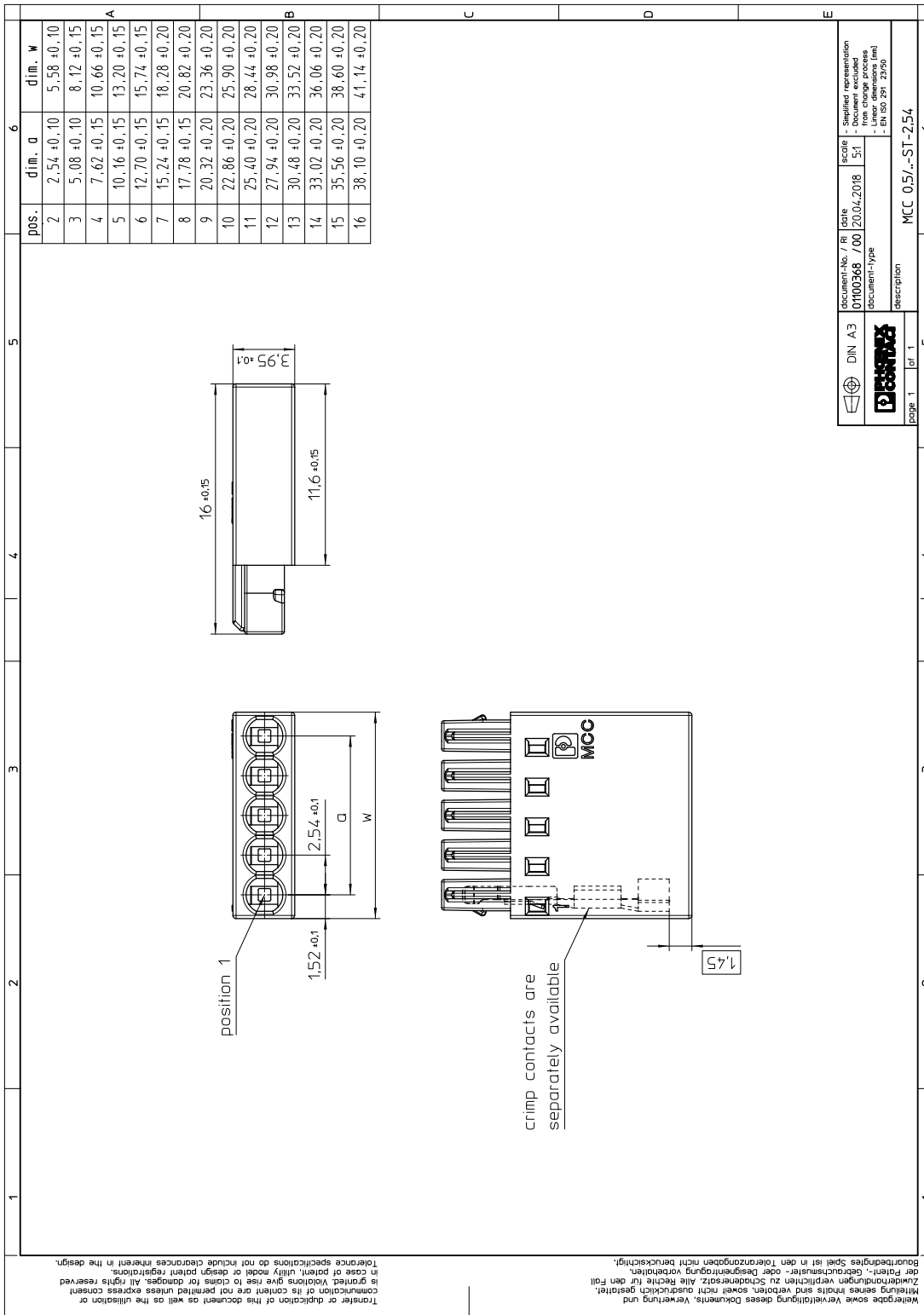
## 6 Dimensions

### 6.1 Dimensions for the product

Length	16 mm
Width	30.98 mm
Total height	3.95 mm
Dimension a	27.94 mm
Coplanarity	

1012277 MCC 0,5/12-ST-2,54

7 Series drawing



DIN A3	document-No. / Ri	date	scale	Simplified representation
	01100368 / 00	20.04.2018	1:1	- according to the drawing
	document-type			- Linear dimensions (mm)
				- EN ISO 291: 2950
page 1	of 1			
				MCC 0,5/12-ST-2,54

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crimp contacts are separately available

**1012277 MCC 0,5/12-ST-2,54**

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**8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	100

**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)

**1012277 MCC 0,5/12-ST-2,54****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	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	3 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

**10.1 Termination and connection method**



**1012277 MCC 0,5/12-ST-2,54****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	6 A / 0.75 mm <sup>2</sup>
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2.1 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

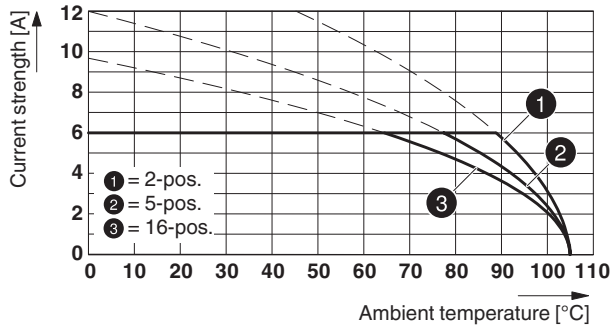
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage 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	0.8 mm	1.6 mm

1012277 MCC 0,5/12-ST-2,54

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	

Type: MCC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R...




Insulation resistance	
Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 12 TΩ

**1012277 MCC 0,5/12-ST-2,54****13 Environmental and durability tests****13.1 Vibration test**

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 500 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5g (60.1 - 500 Hz)
Test duration per axis	2 h
Test directions	X-, Y- and Z-axis
Note	The connected conductor loops were guided to the test sample at a distance of approx. 10 cm.

**14 Approvals**

cULus Recognized 				
Use group	B	D		
mm <sup>2</sup> /AWG/kcmil	26-18	26-18		
Voltage	150 V	150 V		
Current	6 A	6 A		

**1012277 MCC 0,5/12-ST-2,54****15 Commercial Data**

Order No.	1012277
Type	MCC 0,5/12-ST-2,54
Pieces per package	100
Net weight	2.22 g
GTIN	4055626489407
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**16 corresponding headers**

Order No.	Type
1821342	MC 0,5/12-G-2,54 P20 THR R56
1821494	MCV 0,5/12-G-2,54 P20 THR R56
1821795	MC 0,5/12-G-2,54 SMD R56
1821643	MCV 0,5/12-G-2,54 SMD R56

**17 Accessories**

Description	Order No.	Type
	1013425	MCC 0,5-MP AU 0,14-0,5
	1013420	MCC 0,5-MP AU 0,14-0,5 R
	1013419	MCC 0,5-MP AU 0,34-0,75
	1013418	MCC 0,5-MP AU 0,34-0,75 R
Crimping pliers, for COMBICON crimp connectors with cross section: 0.14 ... 0.75 mm <sup>2</sup> . Unlockable pressure lock, precise parallel crimping, front entry, B crimp, incl. 2 positioning aids	1064998	CRIMPFOX-P CC 0.75 L

## 1012277 MCC 0,5/12-ST-2,54

## 18 Combination tests

**MCC 0,5/..-ST**

IEC 61984

**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  $\geq (1.2/50 \mu\text{s})$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ **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  $\geq (1.2/50 \mu\text{s})$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

**MC 0,5/..-G-THR**

IEC 61984

approx. 2 N / 3 N

Test passed

Test passed

2.1 m $\Omega$ 

100

2.1 m $\Omega$ 

2.95 kV

1.39 kV

16

0.75 mm<sup>2</sup>

6 A

Test passed

-55 °C/2 h

105 °C/168 h

1.0 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

Back of hand safety with  
IP10 access probe