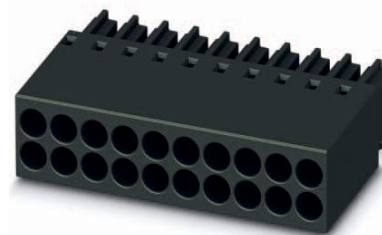


# Data sheet

Order No.: 1027614

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

PCB connector, Crimp connection



The figure shows a 10-pos. version with 20 contacts

## 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 (9005)         | • 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
- ✓ Contacts arranged in a double row enable high packing density in a compact area
- ✓ Tools for manual and automatic crimping available as an option



Make sure you always use the latest documentation.

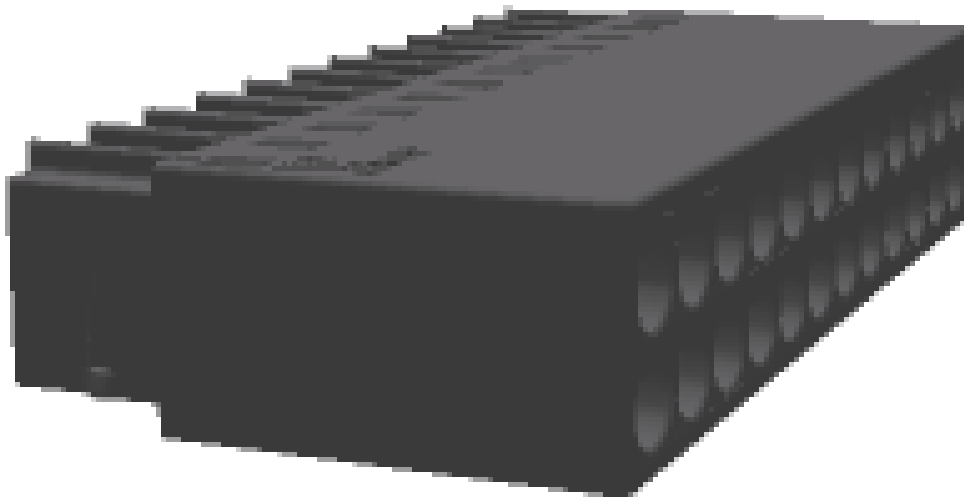
It can be downloaded at: [phoenixcontact.net/product/1027614](https://phoenixcontact.net/product/1027614)

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1027614 DMCC 0,5/12-ST-2,54

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



**1027614 DMCC 0,5/12-ST-2,54****5 item properties**

Order No.	1027614
Type	DMCC 0,5/12-ST-2,54
Plug-in system	MICRO COMBICON - DFMC 0,5
Product type	PCB connector
Type of contact	Female connector
Range of articles	DMCC 0,5/...-ST
Pitch	2.54 mm
Range of positions	2...16
Number of positions	12
Number of levels	2
Number of connections	24
Number of potentials	24
Connection method	Crimp connection
Type of locking	without
	without
Connection direction of the connector to the PCB	
Solder pins per potential	1
Type	Standard

**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

**5.2 Connection capacity AWG**

Conductor cross section AWG	26 ... 18 (Maximum external diameter of the insulation 1.9 mm)
-----------------------------	--

**5.3 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 characteristics	Selective coating
<b>Insulating material data</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

**1027614 DMCC 0,5/12-ST-2,54**

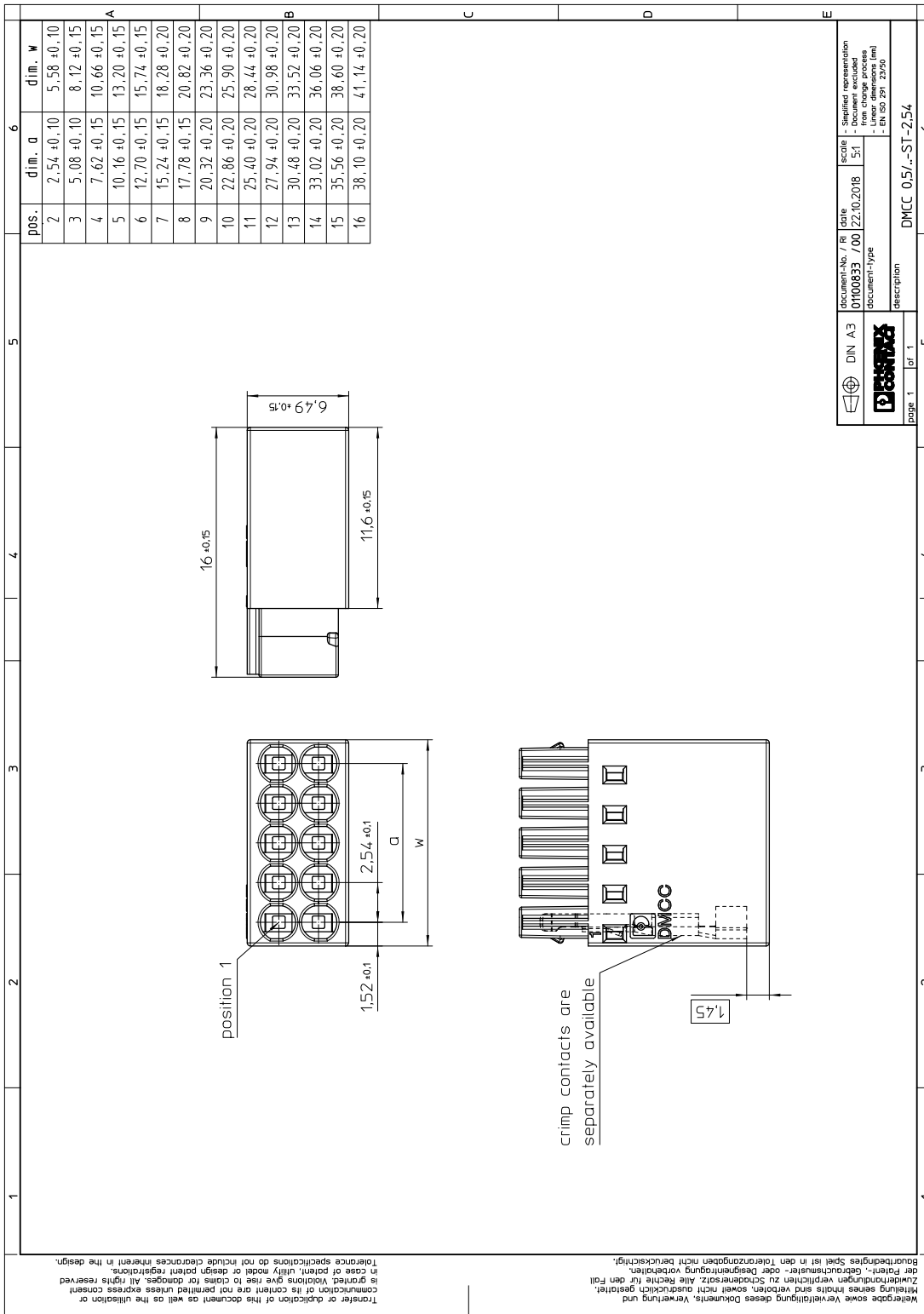
## 6 Dimensions

### 6.1 Dimensions for the product

Length	16 mm
Width	30.98 mm
Total height	6.49 mm
Dimension a	27.94 mm

1027614 DMCC 0,5/12-ST-2,54

7 Series drawing



**1027614 DMCC 0,5/12-ST-2,54****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)	-55 °C (dependent on the derating curve)

**1027614 DMCC 0,5/12-ST-2,54****10 General tests****10.1 Specification**

Specification	IEC 61984
Specification	IEC 60352-2

**11 Mechanical tests****11.1 Tensile strength of crimped connections**

Result	Test passed
Specification	IEC 60512-16-4:2008-06
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm <sup>2</sup> / flexible / > 18 N 0.75 mm <sup>2</sup> / flexible / > 85 N

**11.2 Insulating grip effectiveness (crimped connections)**

Result	Test passed
Specification	IEC 60512-16-8:2008-05

**11.3 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.	2 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



**1027614 DMCC 0,5/12-ST-2,54****12 Electrical tests****12.1 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	
Degree of pollution	2

**12.2 Air and creepage distances**

Component	PCB connector		
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	1.5 mm	1.6 mm

**1027614 DMCC 0,5/12-ST-2,54****13 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	0.75 mm <sup>2</sup>

**Type: DMCC 0.5/...-ST-2.54 with DMC 0.5/...-G1-2.54 P...THR R...**

**1027614 DMCC 0,5/12-ST-2,54****14 Environmental and durability tests****14.1 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	50 m/s <sup>2</sup> (60.1 - 150 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.

**14.2 Railway application, vibration test**

Specification	IEC 61373:2010-05
Result	Test passed
Testing	Vibration, broadband noise
Frequency	5 - 150 Hz
Test directions	X-, Y- and Z-axis (pos. and neg.)
Spectrum	Service life test category 1, class B, body mounted

**15 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
Connection method	Cannot be reconnected
Protection against electric shock	not encapsulated - back of hand safety when plugged in
Protective conductor	without PE
Lock	no
Connection method	Crimp connections

**16 Approvals**

**1027614 DMCC 0,5/12-ST-2,54****17 Commercial Data**

Order No.	1027614
Type	DMCC 0,5/12-ST-2,54
Pieces per package	50
Net weight	1.97 g
GTIN	4055626522753
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**18 corresponding headers**

Order No.	Type
1844824	DMC 0,5/12-G1-2,54 P20THR R72
1845124	DMC 0,5/12-G1-2,54 SMD R72
1844976	DMCV 0,5/12-G1-2,54 P20THR R72
1845276	DMCV 0,5/12-G1-2,54 SMD R72

**19 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

## 1027614 DMCC 0,5/12-ST-2,54

## 20 Combination tests



DMCC 0,5/12-ST



DMC 0,5/12-G1-THR

IEC 61984

IEC 61984

## Mechanical tests (A)

Insertion/withdrawal force per position

approx. 2 N / 2 N

Polarization when inserted  
Requirement >20 N

Test passed

Contact holder in insert  
Requirements >20 N

Test passed

## Durability tests (B)

Contact resistance R<sub>1</sub> 1st level

2.2 mΩ

Contact resistance R<sub>1</sub> 2nd level

2.4 mΩ

Insertion/withdrawal cycles

100

Rated impulse voltage at sea level  
Voltage waveform ≥ (1.2/50 μs)

2.95 kV

Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)

1.39 kV

## Thermal tests (C)

Tested number of positions

16

Tested conductor cross section

0.75 mm<sup>2</sup>

Test current

6 A

Upper limiting temperature  
Requirements < 100°C

Test passed

## Climatic tests (D)

Test sequence 1: low temperature storage

-55 °C/2 h

Test sequence 2: heat storage

105 °C/168 h

Test sequence 3: noxious gas storage  
(ISO 6988)1.0 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 ≥ (1.2/50 μs)

2.95 kV

Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)

1.39 kV

## Environmental and endurance tests (E)

Specification

IEC 61984:2008-10

Degree of protection

Back of hand safety with  
IP10 access probe