2018-12-14
Product version 00
Document revision 00

Data sheet

Order No.: 1027612

Type: DMCC 0,5/10-ST-2,54

PCB connector, Crimp connection



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

1 Main features



- No. of pos. 10
- Conductor cross section 0.75 mm²
- Color black (9005)
- Pitch 2.54 mm
- Connection method Crimp connection
- Nominal current 6 A
- Nominal voltage 160 V
- Connection direction 0 °
- Type of packaging packed in cardboard

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/1027612

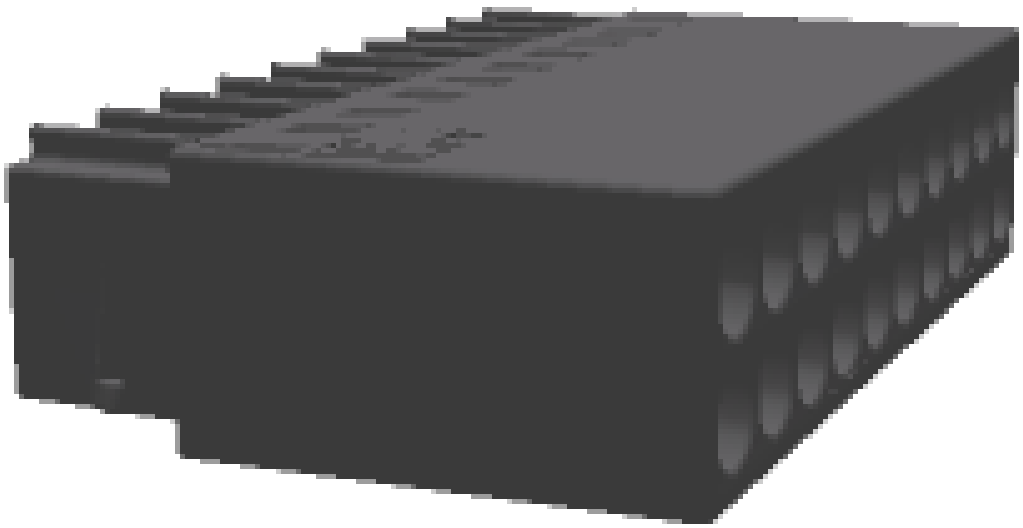
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4 3D model in PDF can be activated (Acrobat Reader only)



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5 item properties

Order No.	1027612
Type	DMCC 0,5/10-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	10
Number of levels	2
Number of connections	20
Number of potentials	20
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 mm² ... 0.75 mm² (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

Material of metal parts	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Selective coating

Insulating material data	Housing
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

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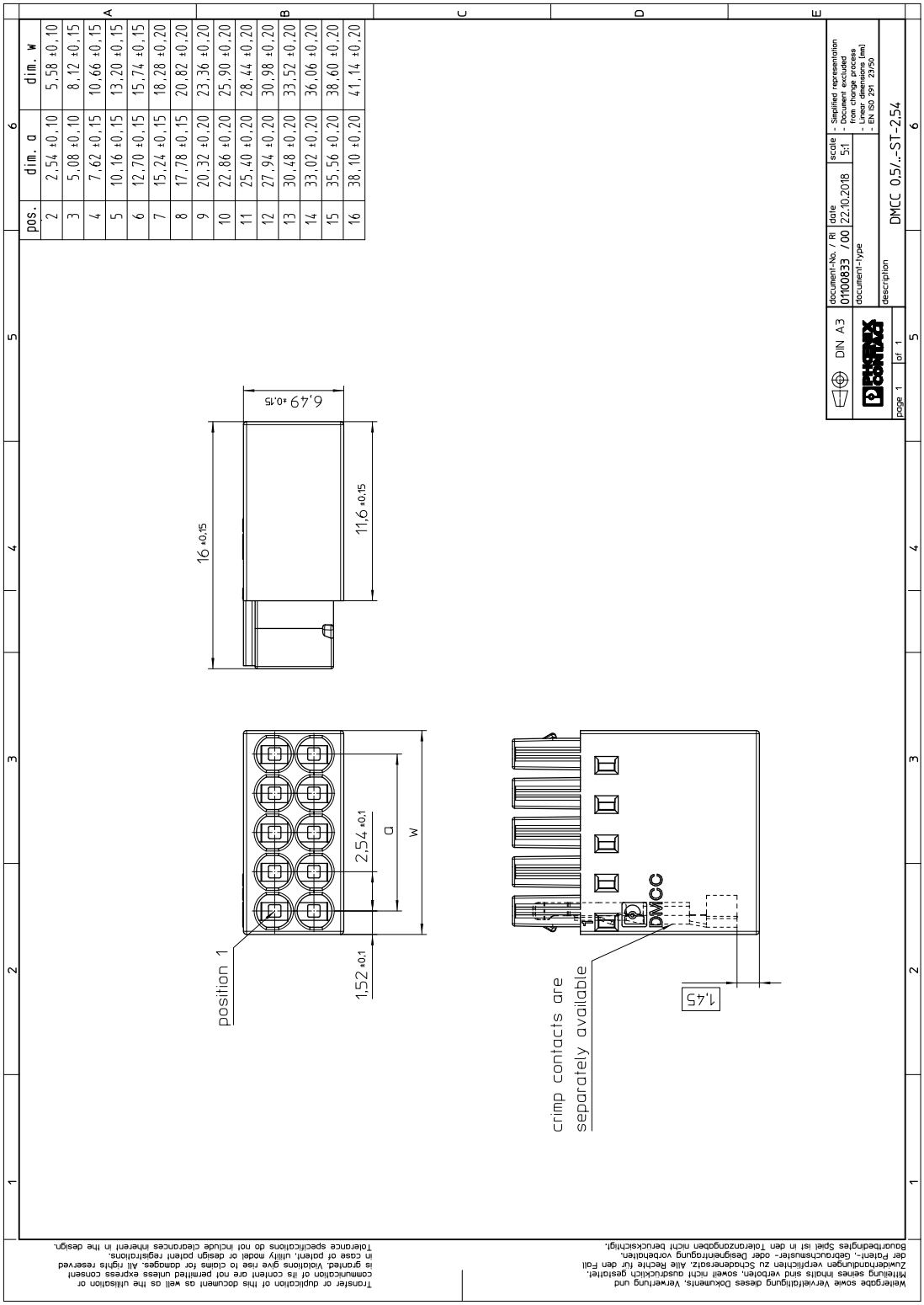
6 Dimensions

6.1 Dimensions for the product

Length	16 mm
Width	25.9 mm
Total height	6.49 mm
Dimension a	22.86 mm

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7 Series drawing



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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)

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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^2 / flexible / > 18 N 0.75 mm^2 / 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

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12 Electrical tests

12.1 Electrical data

Rated current / conductor cross section	6 A / 0.75 mm²
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

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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^2

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

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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^2 (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

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17 Commercial Data

Order No.	1027612
Type	DMCC 0,5/10-ST-2,54
Pieces per package	50
Net weight	1.65 g
GTIN	4055626522739
	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
1844808	DMC 0,5/10-G1-2,54 P20THR R44
1845108	DMC 0,5/10-G1-2,54 SMD R44
1844950	DMCV 0,5/10-G1-2,54 P20THR R44
1845250	DMCV 0,5/10-G1-2,54 SMD R44

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^2. Unlockable pressure lock, precise parallel crimping, front entry, B crimp, incl. 2 positioning aids	1064998	CRIMPFOX-P CC 0.75 L

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20 Combination tests



DMCC 0,5/..-ST



DMC 0,5/..-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_1 1st level	2.2 mΩ			
Contact resistance R_1 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^2			
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^3 SO_2 on 300 dm^3/ 40 °C/1 cycle			
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			
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10			
Degree of protection	Back of hand safety with IP10 access probe			

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