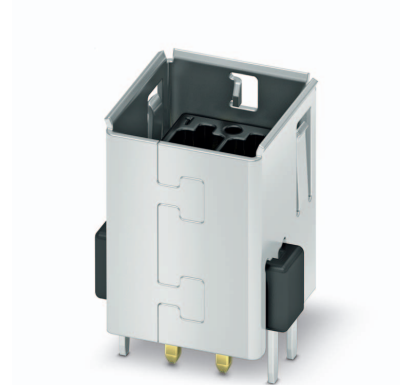


# Data sheet

Order No.: 1145419

Type: DMCV 0,5/ 4-G1SHL-2,54P20THR24

PCB headers, Reflow/wave soldering



The figure shows a 2-pos. version with 4 contacts

## 1 Main features



- |                         |                      |                        |                 |
|-------------------------|----------------------|------------------------|-----------------|
| • No. of pos.           | 4                    | • Nominal current      | 6 A             |
| • Nominal cross section | 0.34 mm <sup>2</sup> | • Nominal voltage      | 160 V           |
| • Color                 | black (9005)         | • Connection direction |                 |
| • Pitch                 | 2.54 mm              | • Type of packaging    | 24 mm wide tape |
| • Mounting type         |                      |                        |                 |

## 2 Your advantages

- ✓ Gold-plated contacts ensure transfer quality remains stable over the long term
- ✓ Designed for integration into the SMT process
- ✓ Conductor connection on several levels enables higher contact density with the same surface area
- ✓ Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting



Make sure you always use the latest documentation.

It can be downloaded at: [phoenixcontact.net/product/1145419](https://phoenixcontact.net/product/1145419)

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****3 Table of contents**

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1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

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



**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****5 General Technical Data****5.1 item properties**

Order No.	1145419
Type	DMCV 0,5/ 4-G1SHL-2,54P20THR24
Plug-in system	MICRO COMBICON - DFMC 0,5 lock & shielded
Product type	PCB headers
Range of articles	DMCV 0,5/...-G1SHL-THR
Pitch	
Range of positions	...
Number of positions	4

**5.2 Mounting**

Type of locking	shielded connection
	Lock & Shield

**6 Material properties****6.1 Material of metal parts**

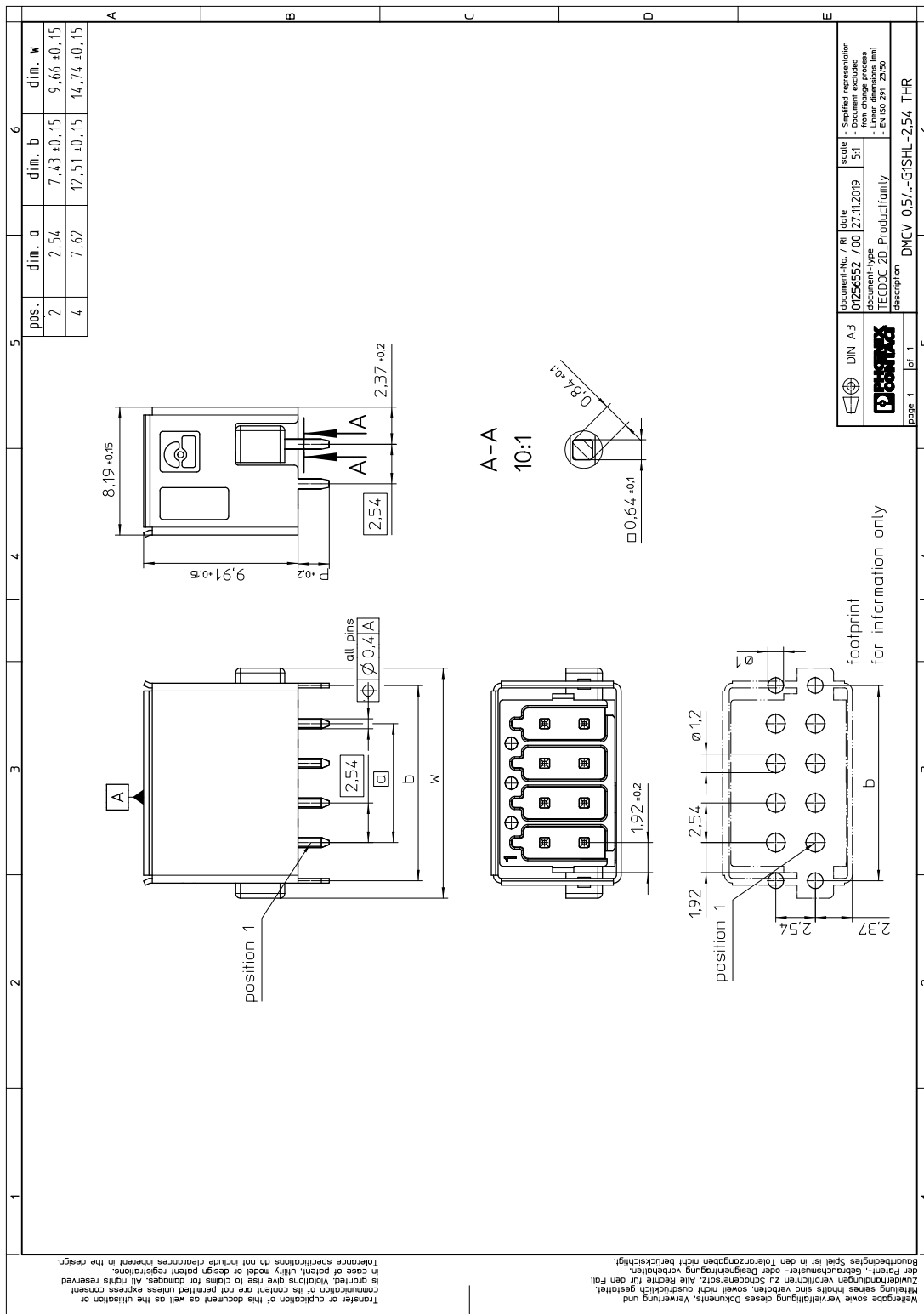
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface contact area	Nickel (2 - 4 µm Ni) , Gold (0.25 Au)
Soldering area surface	Nickel (2 - 4 µm Ni) , Gold (0.25 Au)
Surface characteristics	Completely gold-plated
<b>Insulating material data</b>	<b>Housing</b>
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0
Color	black (9005)

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****7 Dimensions****7.1 Dimensions for the product**

Length	8.19 mm
Width	14.74 mm
Height (without solder pin)	9.91 mm
Total height	11.91 mm
Solder pin [P]	2 mm
Dimension a	7.62 mm

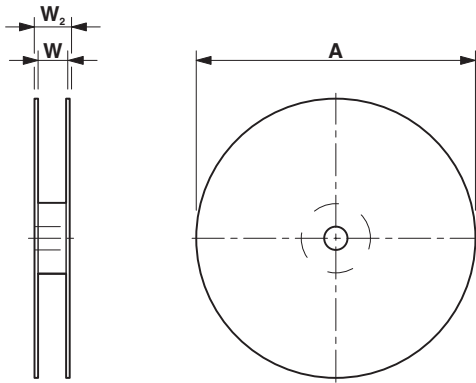
1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

8 Series drawing



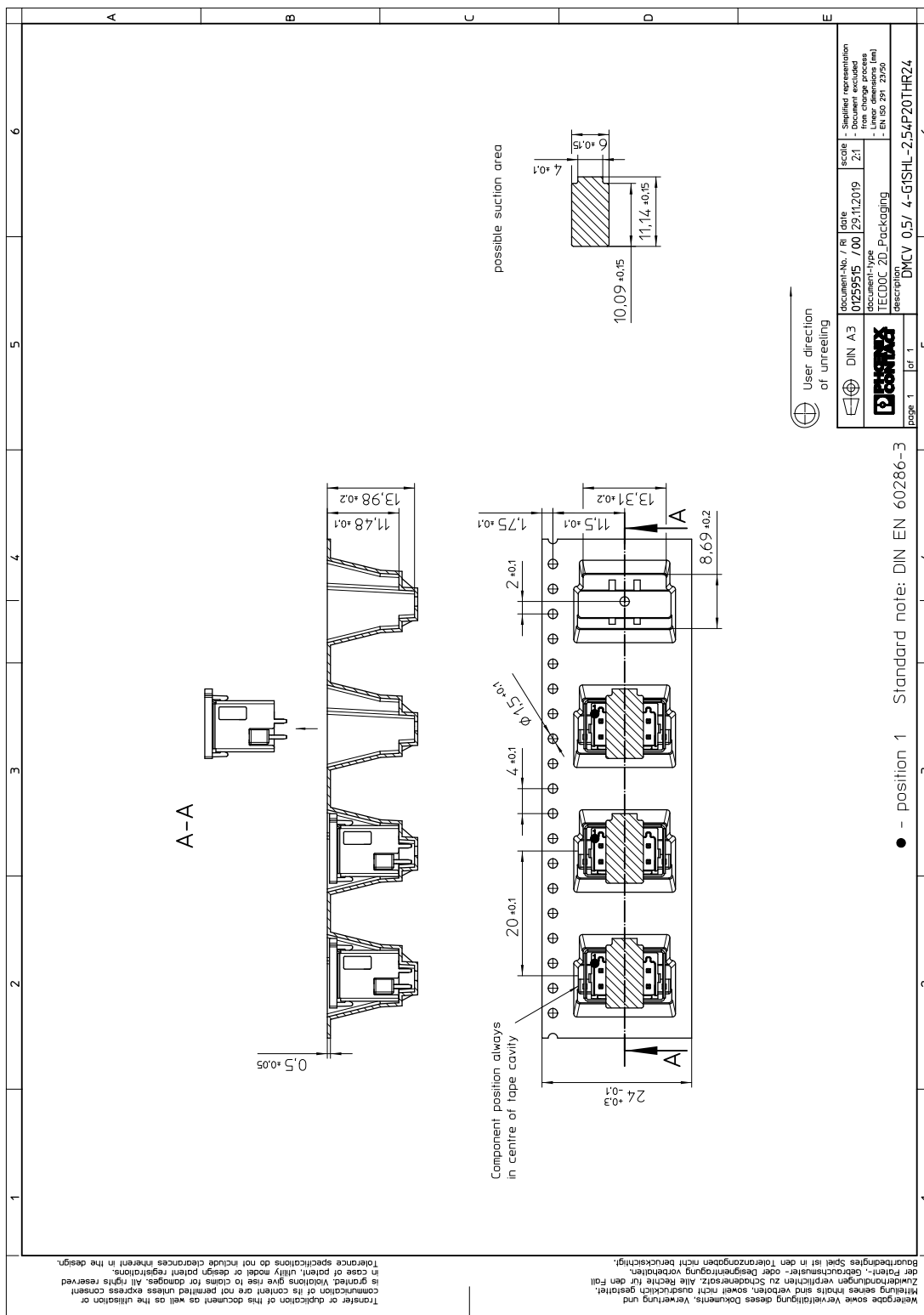
**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****9 Application****10 Packaging information**

Type of packaging	24 mm wide tape
Pieces per package	300
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07
[W] tape width	24 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	3.4 mm
Number of products per coil	300



# 1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

## 11 Blister drawing





**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****11.1 Processing notes**

Process	Reflow/wave soldering
Specification	Following IPC/JEDEC J-STD-020E:2014-12
Specification	Following IEC 61760-1:2006-04
Specification	Following IEC 60068-2-58:2015-03
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	max. 260 °C
Solder cycles in the reflow	3
swash circumference	see dimensional drawing

**11.2 Temperature limit values**

Ambient temperature (storage/transport)	-20 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 80 °C
Ambient temperature (installation)	-40 °C ... 80 °C (dependent on the derating curve)
Ambient temperature (mobile installation)	-20 °C 80 °C dependent on the derating curve

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****12 Mechanical tests****12.1 Visual examination**

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

**12.2 Dimensional test**

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

**12.3 Resistance of marking**

Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12

**12.4 Polarization and coding**

Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N

**12.5 Contact retention in insert**

Contact retention in insert	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	20 N

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****13 Insertion and withdrawal forces**

Insertion and withdrawal force	
Specification	Test passed
No. of cycles	100
Insertion strength per pos. approx.	3 N
Withdraw strength per pos. approx.	3 N

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****14 Electrical tests****14.1 Electrical data**

Rated current / conductor cross section	6 A / 0.34 mm <sup>2</sup>
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	5 mΩ
Degree of pollution	2

**14.2 Air and creepage distances**

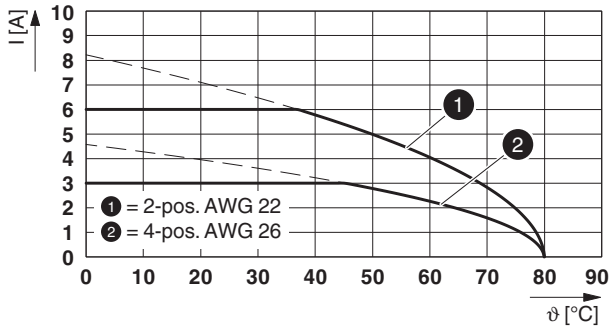
Component	PCB headers		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 175		
Rated insulation voltage	50 V	160 V	160 V
Rated surge voltage	0.8 kV	2.5 kV	1.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	0.8 mm	1.5 mm	0.5 mm
Minimum value of the creepage path requirement in acc. with table	1.25 mm	1.6 mm	1.6 mm

## 1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

## 15 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Note	For number of positions, see diagram
Reduction factor	0.8
Conductor cross section	0.34 mm <sup>2</sup>

Type: DMCC 0,5/...-ST-SHL 7,0-2,54 with DMCV 0,5/...-G1SHL-2,54P20THR...



## 15.1 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	2.5 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.

1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

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## 16 Approvals / Certificates

**1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24****17 Commercial Data**

Order No.	1145419
Type	DMCV 0,5/ 4-G1SHL-2,54P20THR24
Pieces per package	300
Net weight	0 g
GTIN	4063151136031
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

## 1145419 DMCV 0,5/ 4-G1SHL-2,54P20THR24

## 18 Combination tests



## DMCV 0,5/...-G1SHL-THR

IEC 61984	IEC 61984			
<b>Mechanical tests (A)</b>				
Insertion/withdrawal force per position	approx. 3 N / 3 N			
Polarization when inserted Requirement >20 N	Test passed			
Contact holder in insert Requirements >20 N	Test passed			
<b>Durability tests (B)</b>				
Contact resistance R <sub>1</sub>	5 mΩ			
Insertion/withdrawal cycles	100			
Contact resistance R <sub>2</sub>	4.6 mΩ			
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			
<b>Thermal tests (C)</b>				
Tested number of positions	2			
Tested conductor cross section	0.34 mm <sup>2</sup>			
Test current	6 A			
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	80 °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 ≥ (1.2/50 μs)	2.95 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV			
<b>Environmental and endurance tests (E)</b>				
Specification	IEC 61984:2008-10			
Degree of protection	Finger safety with IP20 test finger			



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