

# DMC 0,5/ 2-G1SH-2,54P20THR24 - PCB header



1097546

<https://www.phoenixcontact.com/us/products/1097546>

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PCB headers, color: black, nominal current: 5 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of positions: 2, product range: DMC 0,5/..-G1-SH-THR, pitch: 2.54 mm, mounting: THR soldering / wave soldering, solder pin [P]: 2 mm, plug-in system: COMBICON DFMC 0,5 shielded, Electrical properties: shielded, Pin connector pattern alignment: Standard, locking: shielded connection, mounting method: without, type of packaging: 24 mm wide tape, Suitable for CAT5

## Your advantages

- Satisfies CAT5 requirements in accordance with EN 50173 and ISO/IEC 11801

## Commercial data

Item number	1097546
Packing unit	300 pc
Minimum order quantity	300 pc
Sales key	AA01
Product key	AAAJAA
GTIN	4055626938936
Weight per piece (including packing)	2.639 g
Weight per piece (excluding packing)	2.22 g
Customs tariff number	85366930
Country of origin	PL

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## Technical data

### Product properties

Product type	PCB headers
Product family	DMC 0,5/...-G1-SH-THR
Product line	COMBICON Connectors XS
Number of positions	2
Pitch	2.54 mm
Electrical characteristic	shielded

### Electrical properties

#### Properties

Nominal current $I_N$	5 A
Nominal voltage $U_N$	160 V
Contact resistance	4.8 mΩ
Rated voltage (III/3)	50 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	160 V
Rated surge voltage (II/2)	2.5 kV
Electrical characteristic	shielded

#### Data transmission

Signal type	EtherCAT®
Frequency range	to 100 MHz
Transmission medium	Copper
Transmission characteristics (category)	CAT5 (IEC 11801)
Data transmission rate	100 Mbps
Power transmission	PoE+

### Mounting

Mounting type	THR soldering / wave soldering
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#### Processing notes

Process	Reflow/wave soldering
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	260 °C
Solder cycles in the reflow	3

### Material specifications

#### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
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Contact material	Cu alloy
Surface characteristics	Completely gold-plated
Metal surface contact area (top layer)	Gold (0.25 Au)
Metal surface contact area (middle layer)	Nickel (2 - 4 µm Ni)
Metal surface soldering area (top layer)	Gold (0.25 Au)
Metal surface soldering area (middle layer)	Nickel (2 - 4 µm Ni)

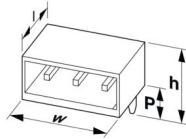
## Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

## Notes

Note on application	The item is qualified for CAT5 Ethernet applications. For this reason, it is suited for use in IoT devices.
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## Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	9.66 mm
Height [h]	10.29 mm
Length [l]	11.54 mm
Installed height	8.29 mm
Solder pin length [P]	2 mm

## PCB design

Hole diameter	1.2 mm
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## Mechanical tests

### Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

### Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

### Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
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Result	Test passed
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## Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

## Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

## Insertion and withdrawal forces

Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	3 N
Withdraw strength per pos. approx.	3 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	2

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	50 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	1.9 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm
minimum creepage distance (III/2)	1.6 mm
Rated insulation voltage (II/2)	160 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	1.6 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
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Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R <sub>1</sub>	4.8 mΩ
Contact resistance R <sub>2</sub>	4.9 mΩ
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 MΩ

## Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	80 °C/168 h
Power-frequency withstand voltage	1.39 kV

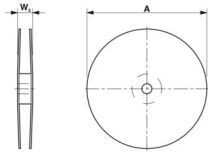
## Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	350 m/s <sup>2</sup>
Shock duration	11 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

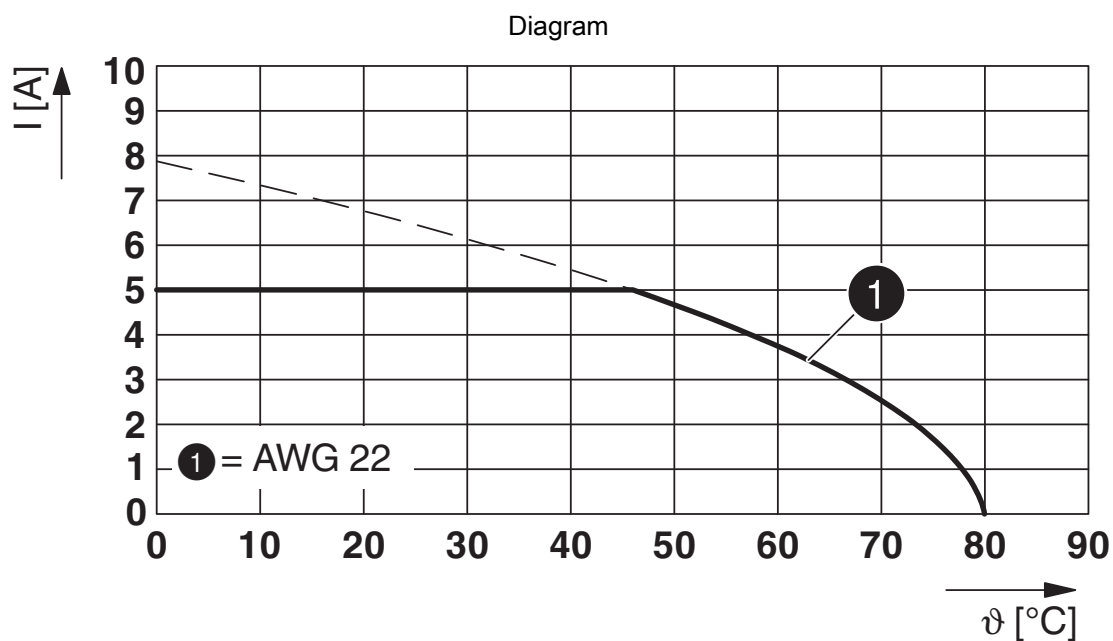
## Ambient conditions

Ambient temperature (operation)	-55 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	≤ 30.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

## Drawings



Type: DMCC 0,5/...-ST-SH-2,54 with DMC 0,5/...-G1-SH-2,54P...THRR...

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1097546>

 <b>cULus Recognized</b> Approval ID: E60425-19920306				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	150 V	6 A	-	-
C	50 V	6 A	-	-

 <b>VDE report with production monitoring</b> Approval ID: 40042389				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	160 V	6 A	-	-

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## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 9.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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