

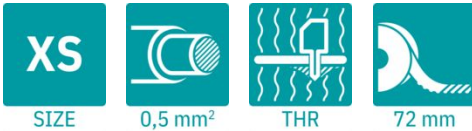
# DMC 0,5/12-G1-2,54 P20THR R72 - PCB header



1844824

<https://www.phoenixcontact.com/us/products/1844824>

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PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of potentials: 24, number of rows: 2, number of positions: 12, number of connections: 24, product range: DMC 0,5/..-G1-THR, pitch: 2.54 mm, mounting: THR soldering / wave soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON DFMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: 72 mm wide tape

## 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

## Commercial data

Item number	1844824
Packing unit	300 pc
Minimum order quantity	300 pc
Sales key	AA01
Product key	AAATDA
GTIN	4046356964173
Weight per piece (including packing)	5.13 g
Weight per piece (excluding packing)	5.13 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-THR
Product line	COMBICON Connectors XS
Type	Component suitable for through hole reflow
Number of positions	12
Pitch	2.54 mm
Number of connections	24
Number of rows	2
Number of potentials	24
Mounting type	without
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

#### Properties

Nominal current $I_N$	6 A
Nominal voltage $U_N$	160 V
Contact resistance	2.7 mΩ
Rated voltage (III/3)	32 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

### Mounting

Mounting type	THR soldering / wave soldering
Pin layout	Linear pinning

#### 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
Contact material	Cu alloy

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Surface characteristics	Completely gold-plated
Metal surface contact area (top layer)	Gold (min. 0.25 µm Au)
Metal surface contact area (middle layer)	Nickel (2 µm - 4 µm Ni)
Metal surface soldering area (top layer)	Gold (0.25 µm Au)
Metal surface soldering area (middle layer)	Nickel (2 µm - 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

## Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	31.78 mm
Height [h]	9.39 mm
Length [l]	9.64 mm
Installed height	7.39 mm
Solder pin length [P]	2 mm
Pin dimensions	0.64 x 0.64 mm

## PCB design

Pin spacing	2.54 mm
Hole diameter	1.2 mm

## 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
Result	Test passed

### Polarization and coding

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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

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	1 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	16

### 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)	32 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)	1.3 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

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV

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Contact resistance R <sub>1</sub>	2.7 mΩ
Contact resistance R <sub>2</sub>	2.9 mΩ
Contact resistance R <sub>2</sub> 2nd level	3.1 mΩ
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 MΩ

## Climatic test

Specification	DIN 50018:2013-05
Corrosive stress	1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

## Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 500 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 500 Hz)
Test duration per axis	2 h
Test directions	X-, Y- and Z-axis

## Ambient conditions

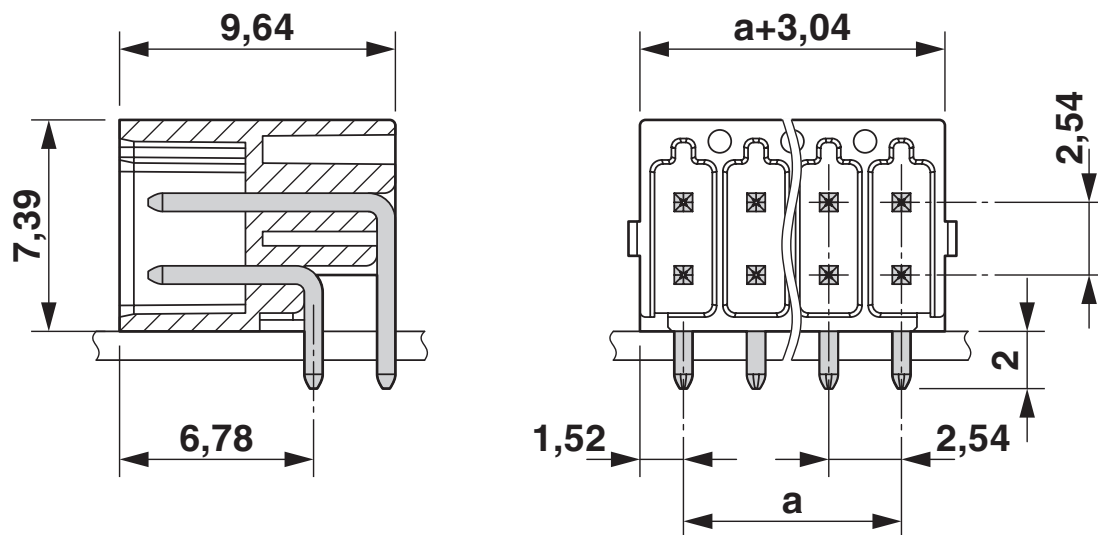
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

## Packaging specifications

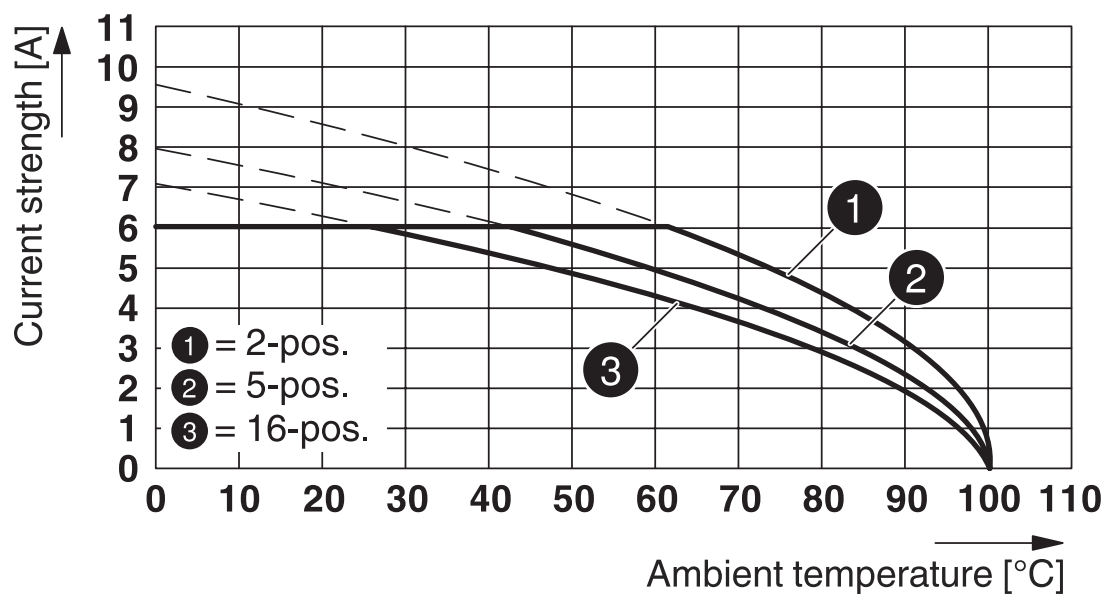
Dimensional drawing	
Type of packaging	72 mm wide tape
[W] tape width	72 mm
[W2] coil overall dimension	≤ 78.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

Drawings

Dimensional drawing

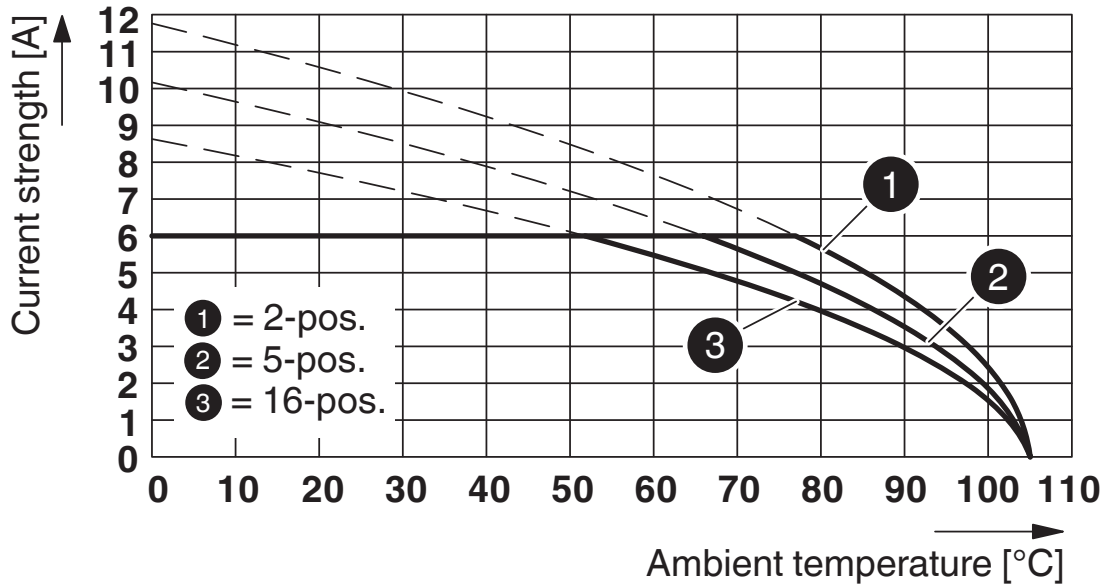


Diagram



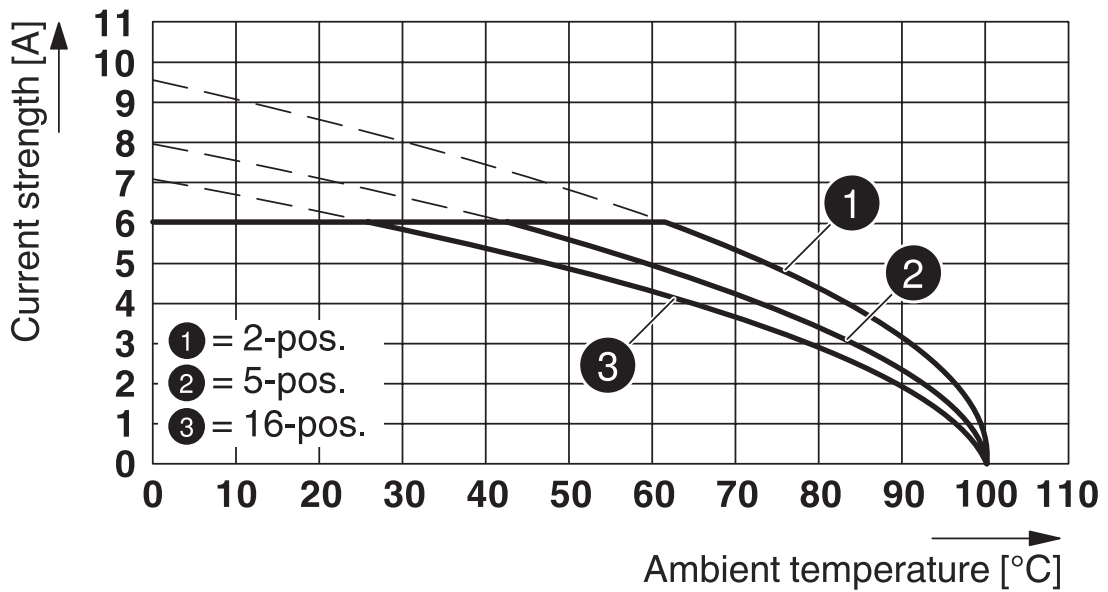
Type: DFMC 0,5/...-ST-2,54 with DMC 0,5/...-G1-2,54 P...THR R...

Diagram



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

Diagram



Type: DFMC 0,5/...-ST-2,54-RF with DMC 1,5/...-G1-2,54 P...THR R...

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Drilling plan/solder pad geometry




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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1844824>

 <b>cULus Recognized</b> Approval ID: E60425-19920306				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
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 $mm^2$
keine	160 V	6 A	-	-

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## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 10.0	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
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### 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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### EF3.1 Climate Change

CO2e kg	0.372 kg CO2e
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