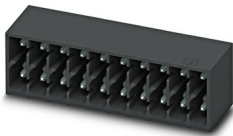


# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



1786837  
<https://www.phoenixcontact.com/us/products/1786837>

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PCB headers, nominal cross section: 1.5 mm<sup>2</sup>, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 4, number of rows: 2, number of positions: 2, number of connections: 4, product range: DMC 1,5/..-G1-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON DFMC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

## Your advantages

- Designed for integration into the SMT soldering process
- Conductor connection on several levels enables higher contact density
- Small component size for applications where space is at a premium

## Commercial data

Item number	1786837
Packing unit	1 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABTJB
Catalog page	Page 186 (C-1-2013)
GTIN	4046356594950
Weight per piece (including packing)	1.28 g
Weight per piece (excluding packing)	1.245 g
Customs tariff number	85366930
Country of origin	CN

# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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## Technical data

### Product properties

Type	Headers
Product line	COMBICON Connectors S
Product type	PCB headers
Product family	DMC 1,5/...-G1-THR
Number of positions	2
Pitch	3.5 mm
Number of connections	4
Number of rows	2
Mounting flange	without
Number of potentials	4
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	8 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	2 mΩ
Rated voltage (III/3)	160 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)	250 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	THR 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
Surface characteristics	Tin-plated

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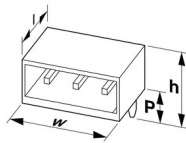
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Metal surface contact area (top layer)	Tin (3 - 5 µm Sn)
Metal surface contact area (middle layer)	Nickel (1 - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1 - 3 µm Ni)

## 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	3.5 mm
Width [w]	7.8 mm
Height [h]	12.8 mm
Length [l]	11.6 mm
Installed height	10.8 mm
Solder pin length [P]	2 mm
Pin dimensions	0.8 x 0.8 mm

## PCB design

Pin spacing	2.50 mm
Hole diameter	1.4 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

Specification	IEC 60512-13-5:2006-02
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# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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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	25
Insertion strength per pos. approx.	3 N
Withdraw strength per pos. approx.	2 N

## Electrical tests

Thermal test   Test group C	
Specification	IEC 60512-5-1:2002-02
Tested number of positions	20

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)	160 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)	2.5 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)	250 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)	2.5 mm

## Environmental and real-life conditions

Vibration test	
Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)

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Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R <sub>1</sub>	2 mΩ
Contact resistance R <sub>2</sub>	2.3 mΩ
Insertion/withdrawal cycles	25

## 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	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

## Ambient conditions

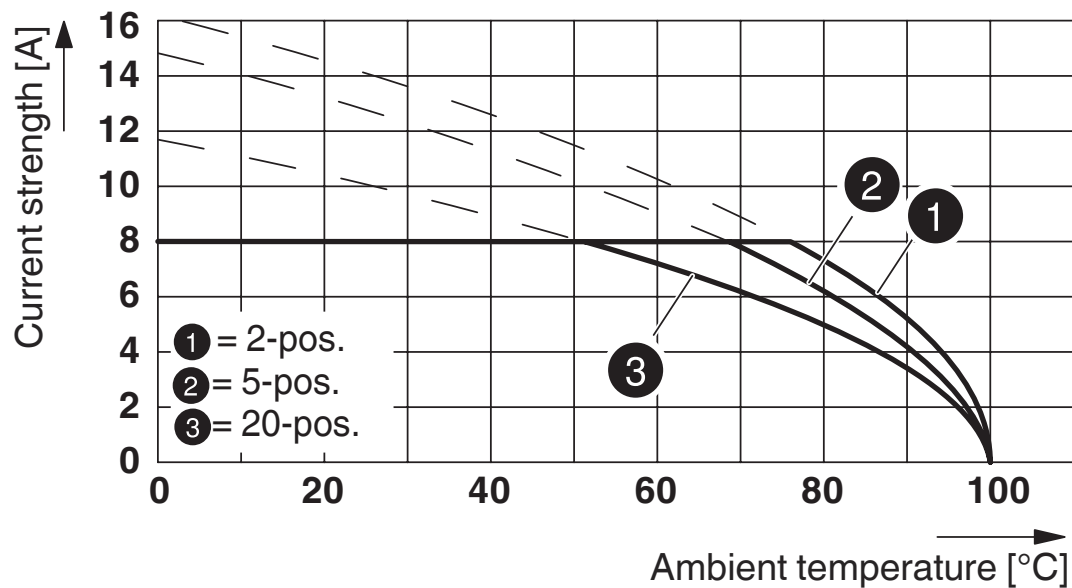
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Type of packaging	packed in cardboard
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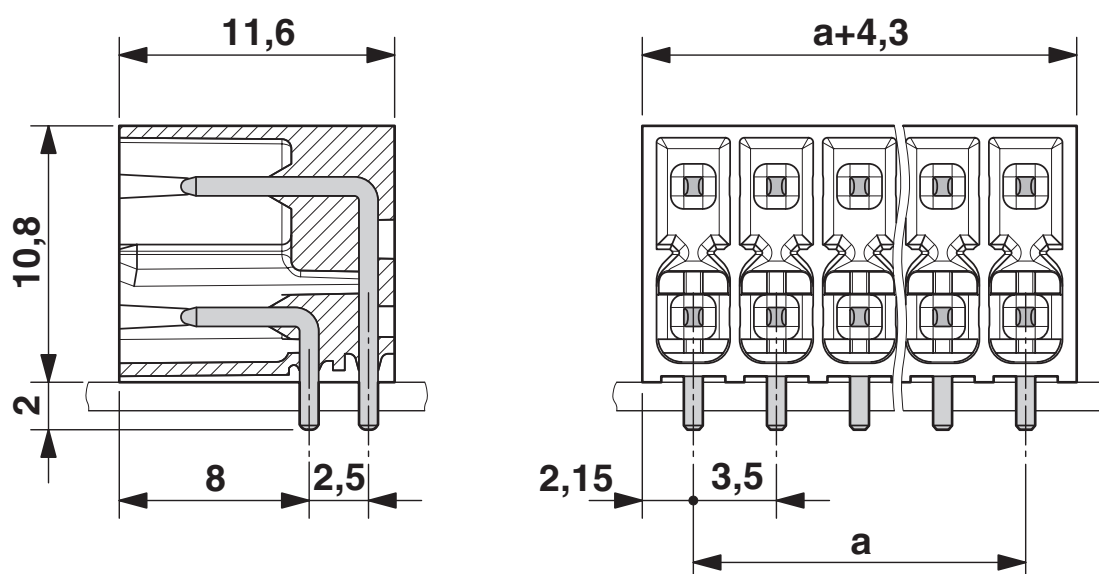
## Drawings

Diagram



Type: DFMC 1,5/...-ST-3,5 with DMC 1,5/...-G1-3,5 P20 THR

Dimensional drawing



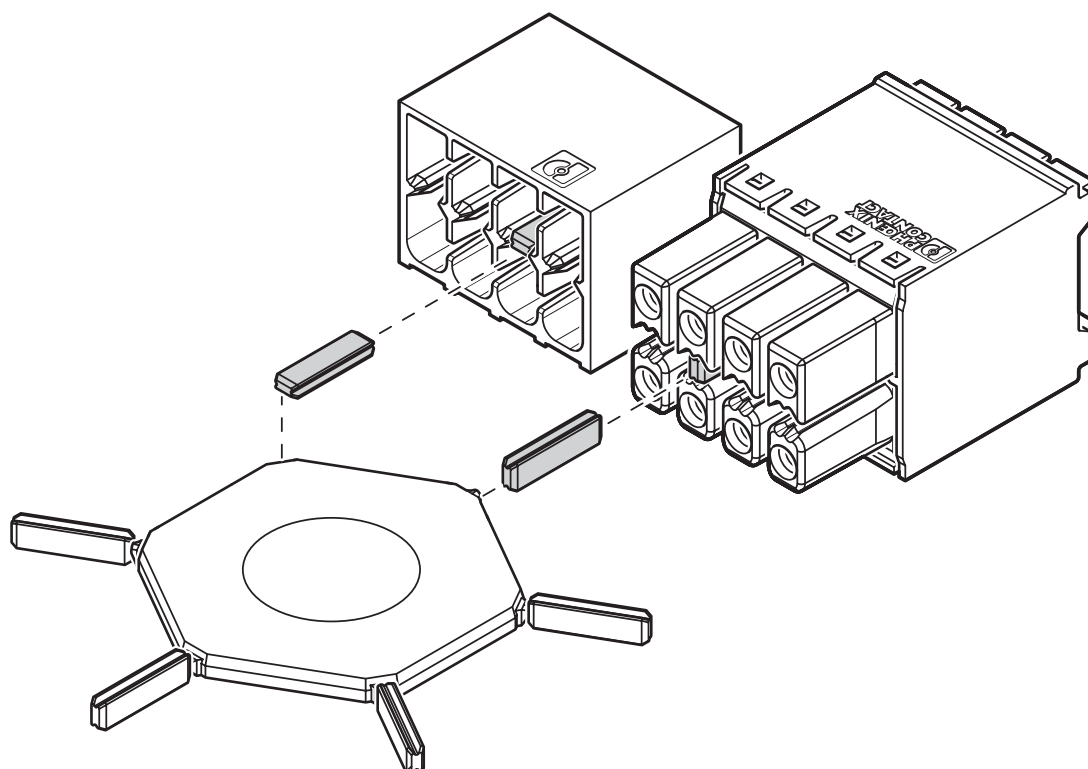
# DMC 1,5/ 2-G1-3,5 P20THR - PCB header

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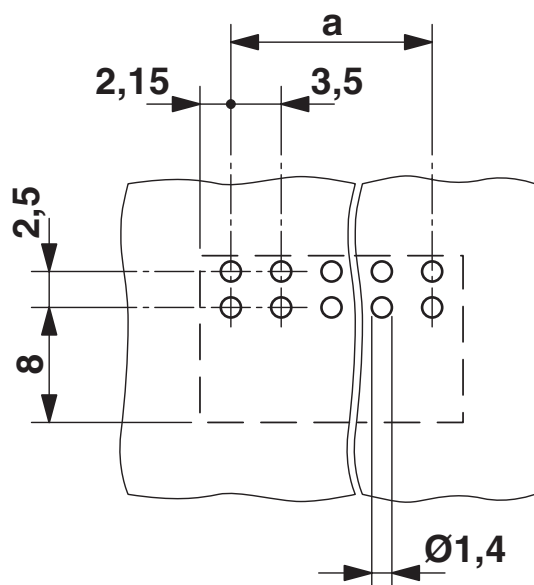


Schematic diagram



Use of the CP-DMC... coding profile

Drilling plan/solder pad geometry



# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1786837>



**EAC**

Approval ID: B.01687



**cULus Recognized**

Approval ID: E60425-20110128

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	150 V	8 A	-	-
Use group C				
	50 V	8 A	-	-
Use group D				
	300 V	8 A	-	-



**VDE Gutachten mit Fertigungsüberwachung**

Approval ID: 40038423

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	160 V	8 A	-	-



# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 8.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# DMC 1,5/ 2-G1-3,5 P20THR - PCB header



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## Accessories

### CP-DMC 1,5 NAT - Coding profile

1790647

<https://www.phoenixcontact.com/us/products/1790647>

Coding profile, for insertion between the coding ribs of the connector and the header following the reflow soldering process, insulating material, color: natural



### DFMC 1,5/ 2-ST-3,5 - PCB connector

1790108

<https://www.phoenixcontact.com/us/products/1790108>



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 2, number of positions: 2, number of connections: 4, product range: DFMC 1,5/...-ST, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON DFMC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)