

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: MC 1,5/..-G-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 MC 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
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

Commercial data

Item number	1788822
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABTAB
GTIN	4046356612029
Weight per piece (including packing)	1.92 g
Weight per piece (excluding packing)	1.784 g
Customs tariff number	85366930
Country of origin	CN

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Technical data

Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors S
Product type	PCB headers
Product family	MC 1,5/...-G-THR
Number of positions	7
Pitch	3.5 mm
Number of connections	7
Number of rows	1
Mounting flange	without
Number of potentials	7
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	1.3 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

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

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]	25.89 mm
Height [h]	8.9 mm
Length [l]	9.2 mm
Installed height	6.9 mm
Solder pin length [P]	2 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

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
Result	Test passed

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

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.	8 N
Withdraw strength per pos. approx.	5 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)
Sweep speed	5g (60.1 Hz ... 150 Hz)

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

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 ₁	1.3 mΩ
Contact resistance R ₂	1.3 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /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
-------------------	---------------------

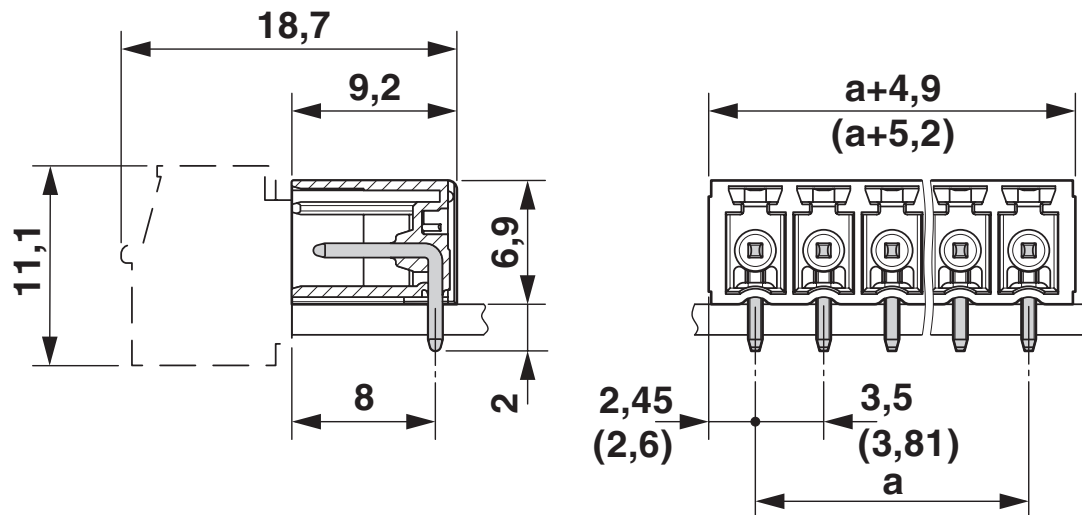
MC 1,5/ 7-G-3,5 P20 THR - PCB header

1788822

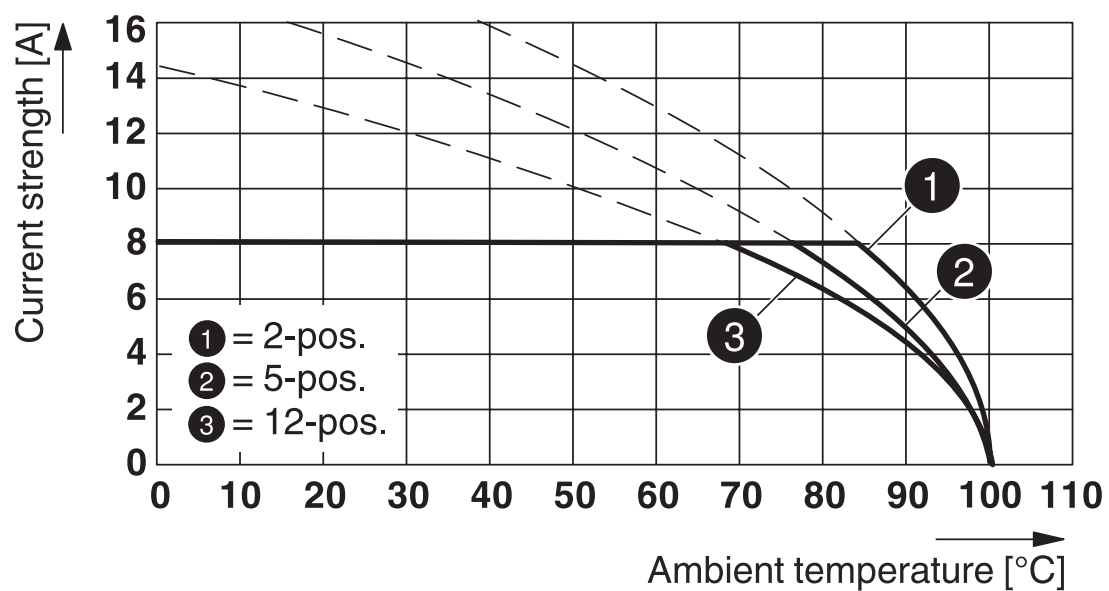
<https://www.phoenixcontact.com/us/products/1788822>

Drawings

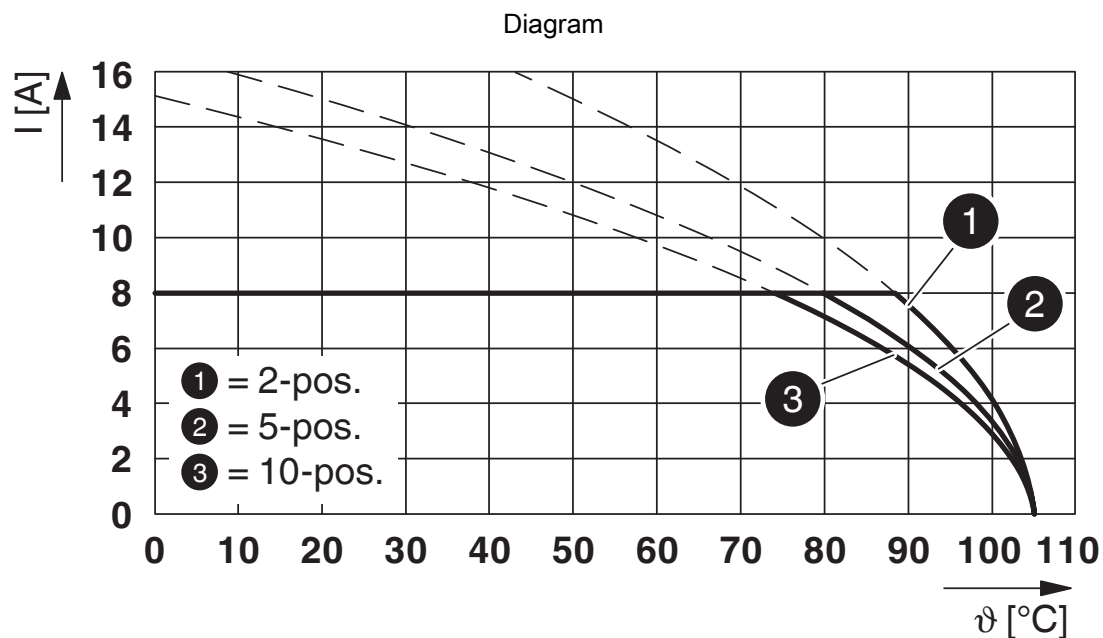
Dimensional drawing



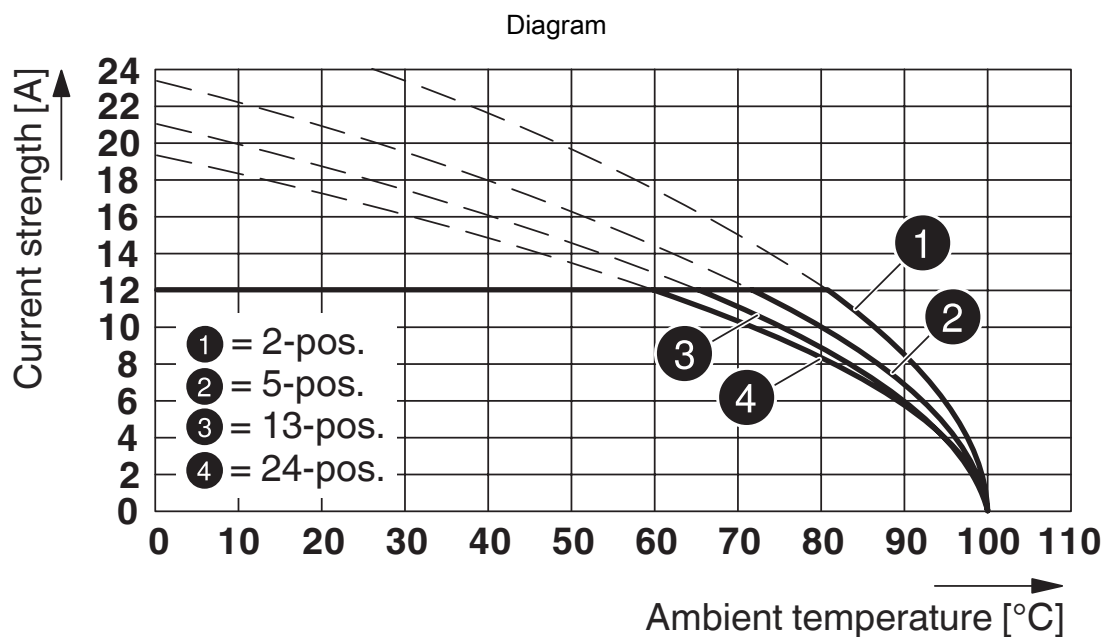
Diagram



Type: FMC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P... THR

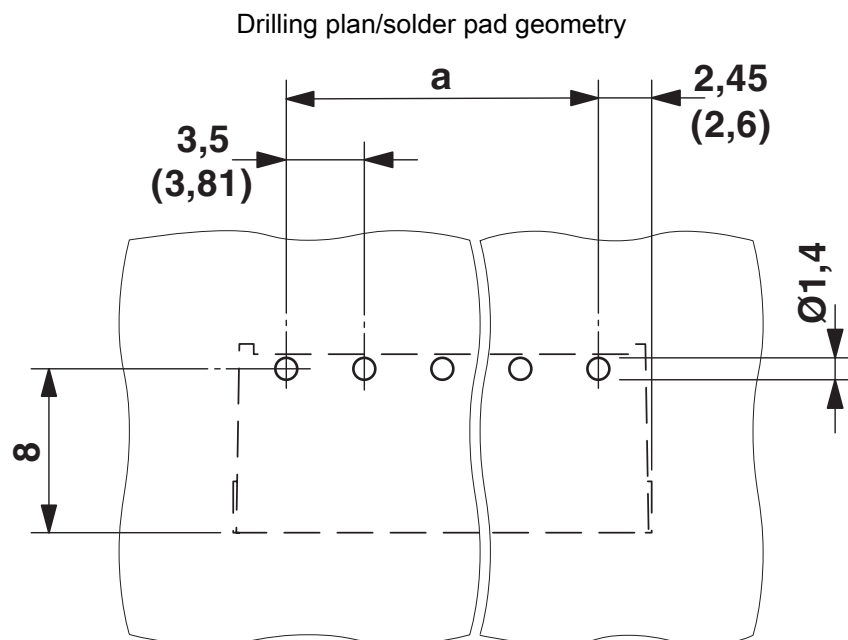


Type: TFMC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P... THR

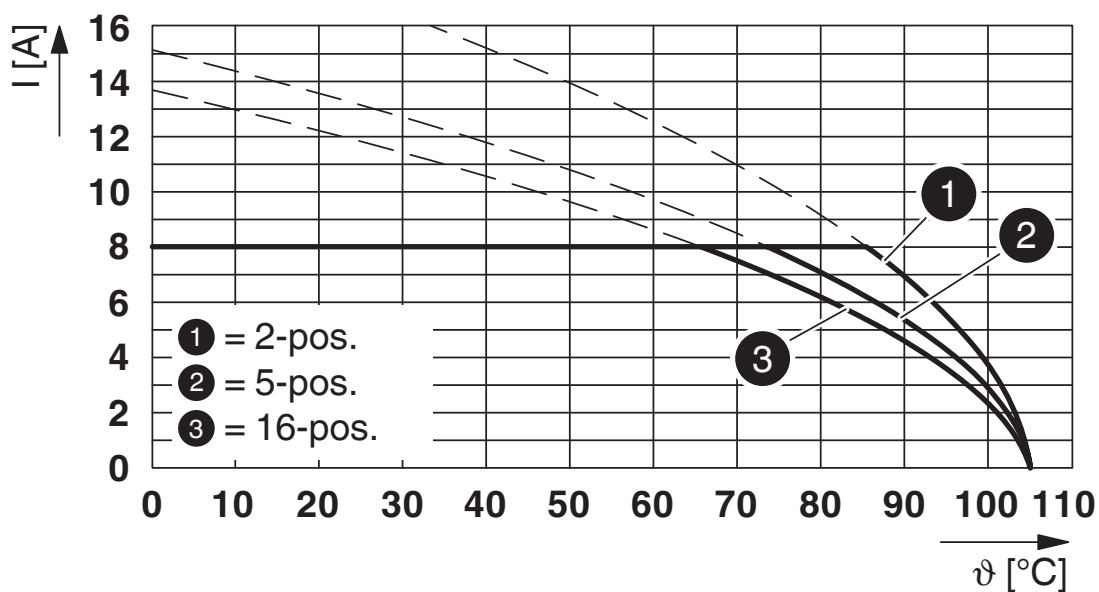


Type: MC 1,5/...-ST(F)-3,5 with MC 1,5/...-G(F)-3,5 P... THR

1788822

<https://www.phoenixcontact.com/us/products/1788822>

Diagram



Type: XPC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P... THR

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1788822>

 cULus Recognized Approval ID: E60425-20110128				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B	300 V	8 A	-	-
Use group D	300 V	8 A	-	-

 VDE Zeichengenehmigung Approval ID: 40011723				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	160 V	8 A	-	-

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC002637
----------	----------

UNSPSC

UNSPSC 21.0	39121400
-------------	----------

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Environmental product compliance

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

MC 1,5/ 7-G-3,5 P20 THR - PCB header



1788822

<https://www.phoenixcontact.com/us/products/1788822>

Accessories

MC 1,5/10-LWL 1,5-3,5 - Fiber optic

1841161

<https://www.phoenixcontact.com/us/products/1841161>

MINI COMBICON fiber optics, 3.5 mm pitch, 10-pos., separable for other numbers of positions (minimum: 2-pos.), inserts into the back of the MC header, color: transparent, dimension a: 1.5 mm



MC 1,5/10-LWL 2,3-3,5 - Fiber optic

1841187

<https://www.phoenixcontact.com/us/products/1841187>

MINI COMBICON fiber optics, 3.5 mm pitch, 10-pos., separable for other numbers of positions (minimum: 2-pos.), inserts into the back of the MC header, color: transparent, dimension a: 2.3 mm



MC 1,5/ 7-G-3,5 P20 THR - PCB header

1788822

<https://www.phoenixcontact.com/us/products/1788822>



MC 1,5/10-LWL 4-3,5 - Fiber optic

1841200

<https://www.phoenixcontact.com/us/products/1841200>

MINI COMBICON fiber optics, 3.5 mm pitch, 10-pos., separable for other numbers of positions (minimum: 2-pos.), inserts into the back of the MC header, color: transparent, dimension a: 4 mm



XPC 1,5/ 7-ST-3,5 BK - PCB connector

1464110

<https://www.phoenixcontact.com/us/products/1464110>



PCB connector, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of rows: 1, number of positions: 7, product range: XPC 1,5/..-ST, pitch: 3.5 mm, connection method: Push-X-connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

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