

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

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: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCV 1,5/...-GF, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting method: Threaded flange, type of packaging: packed in cardboard

Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Well-known mounting principle allows worldwide use
- Screwable flange for superior mechanical stability
- Vertical connection enables multi-row arrangement on the PCB
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

Commercial data

Item number	1975985
Packing unit	50 pc
Minimum order quantity	1 pc
Product key	AABSBF
GTIN	4017918950217
Weight per piece (including packing)	2.1 g
Weight per piece (excluding packing)	1.754 g
Country of origin	DE

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Technical data

Product properties

Product type	PCB headers
Product family	MCV 1,5/...-GF
Product line	COMBICON Connectors S
Number of positions	3
Pitch	3.81 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Mounting flange	Threaded flange
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Contact resistance	1.7 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	Wave soldering
Pin layout	Linear pinning

Flange

Tightening torque	0.3 Nm
-------------------	--------

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	partially gold-plated
Metal surface contact area (top layer)	Gold (0.8 - 1.4 μm Au)
Metal surface contact area (middle layer)	Nickel (2 - 4 μm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 μm Sn)

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Metal surface soldering area (middle layer)	Nickel (2 - 4 µm Ni)
---	----------------------

Material data - housing

Color (Housing)	green (6021)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	21.82 mm
Height [h]	12.6 mm
Length [l]	7.25 mm
Installed height	9.2 mm
Solder pin length [P]	3.4 mm

PCB design

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

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

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Insertion and withdrawal forces

Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	4 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 225
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 - 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

Durability test

Specification	IEC 60512-9-1:2010-03
---------------	-----------------------

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	1.7 mΩ
Contact resistance R ₂	1.8 mΩ
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

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

Shocks

Specification	IEC 61373:2010-05
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

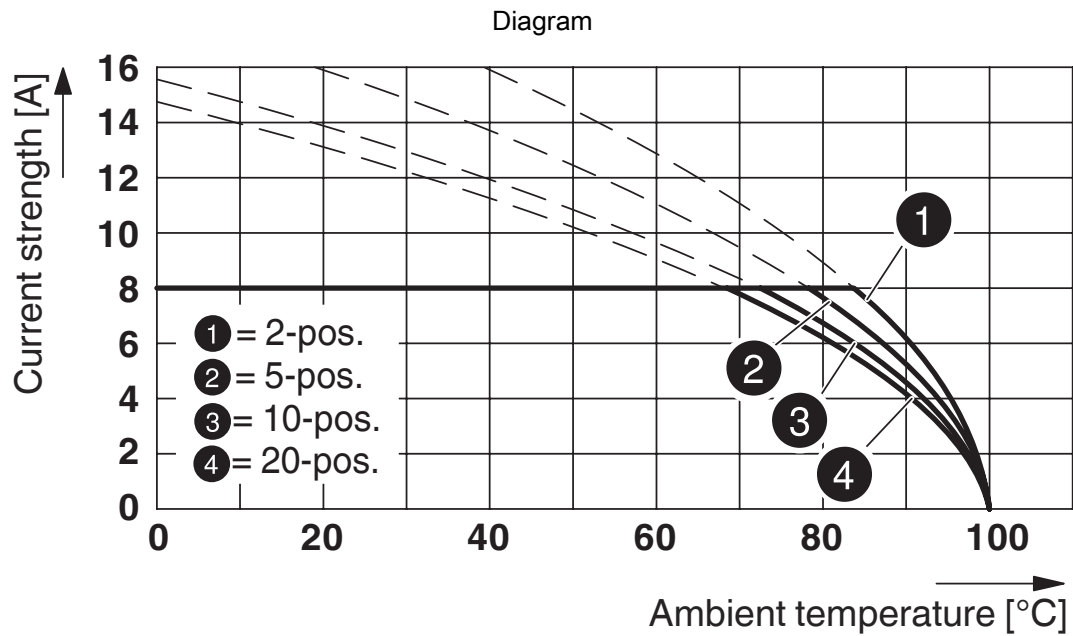
Ambient conditions

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
-------------------	---------------------

Drawings



Type: FRONT-MC 1,5/...-STF-3,81 AU with MCV 1,5/...-GF-3,81 AU

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1975985>

 CSA Approval ID: 13631				
	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	-	-

 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 approval of drawings Approval ID: 40011723				
--	--	--	--	--

 VDE approval of drawings Approval ID: 40011723				
--	--	--	--	--

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

Classifications

ECLASS

ECLASS-13.0	27460201
-------------	----------

ETIM

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

UNSPSC

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

MCV 1,5/ 3-GF-3,81 AU - PCB header



1975985

<https://www.phoenixcontact.com/us/products/1975985>

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%

Phoenix Contact 2025 © - 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