

# SMC 1,5/16-G-3,81 - PCB header

1827415

<https://www.phoenixcontact.com/us/products/1827415>

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 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 16, number of rows: 1, number of positions: 16, number of connections: 16, product range: SMC 1,5/..-G, 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: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Well-known mounting principle allows worldwide use
- Angled 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	1827415
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABSSA
GTIN	4017918114534
Weight per piece (including packing)	4.76 g
Weight per piece (excluding packing)	4.179 g
Customs tariff number	85366930
Country of origin	DE

# SMC 1,5/16-G-3,81 - PCB header



1827415

<https://www.phoenixcontact.com/us/products/1827415>

## Technical data

### Product properties

Product type	PCB headers
Product family	SMC 1,5/..-G
Product line	COMBICON Connectors S
Type	Standard
Number of positions	16
Pitch	3.81 mm
Number of connections	16
Number of rows	1
Number of potentials	16
Mounting type	without
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 m $\Omega$
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)	320 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

### 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
Metal surface contact area (top layer)	Tin (5 $\mu$ m - 7 $\mu$ m Sn)
Metal surface contact area (middle layer)	Nickel (2 $\mu$ m - 3 $\mu$ m Ni)
Metal surface soldering area (top layer)	Tin (5 $\mu$ m - 7 $\mu$ m Sn)
Metal surface soldering area (middle layer)	Nickel (2 $\mu$ m - 3 $\mu$ m Ni)

# SMC 1,5/16-G-3,81 - PCB header

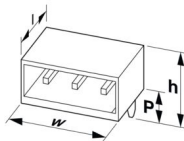
1827415

<https://www.phoenixcontact.com/us/products/1827415>

## Material data - housing

Color (Housing)	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

## Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	62.35 mm
Height [h]	14.4 mm
Length [l]	13.1 mm
Installed height	11 mm
Solder pin length [P]	3.4 mm
Pin dimensions	0.8 x 0.8 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

# SMC 1,5/16-G-3,81 - PCB header



1827415

<https://www.phoenixcontact.com/us/products/1827415>

## 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	25
Insertion strength per pos. approx.	7 N
Withdraw strength per pos. approx.	4 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 |

Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
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)	1.5 mm
Rated insulation voltage (II/2)	320 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 mm

## Environmental and real-life conditions

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R <sub>1</sub>	1.7 mΩ
Contact resistance R <sub>2</sub>	1.8 mΩ
Insertion/withdrawal cycles	25

# SMC 1,5/16-G-3,81 - PCB header



1827415

<https://www.phoenixcontact.com/us/products/1827415>

## 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

## 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)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis (pos. and neg.)

## 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

Type of packaging	packed in cardboard
-------------------	---------------------

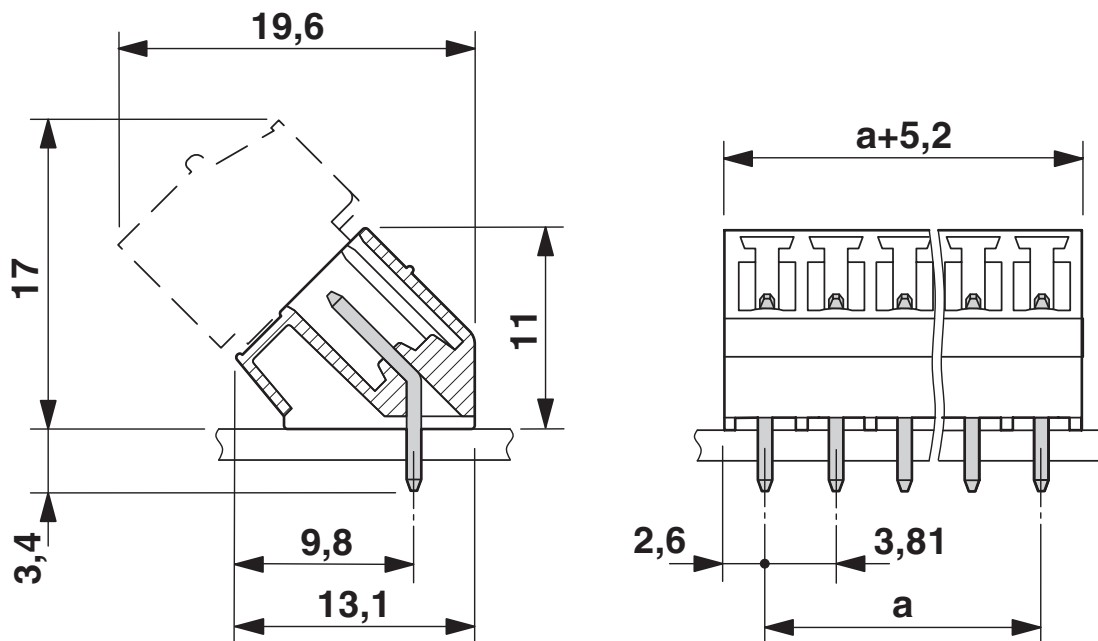
# SMC 1,5/16-G-3,81 - PCB header

1827415

<https://www.phoenixcontact.com/us/products/1827415>

## Drawings

Dimensional drawing



Diagram



Type: FRONT-MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

1827415

<https://www.phoenixcontact.com/us/products/1827415>



Type: FK-MCP 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81



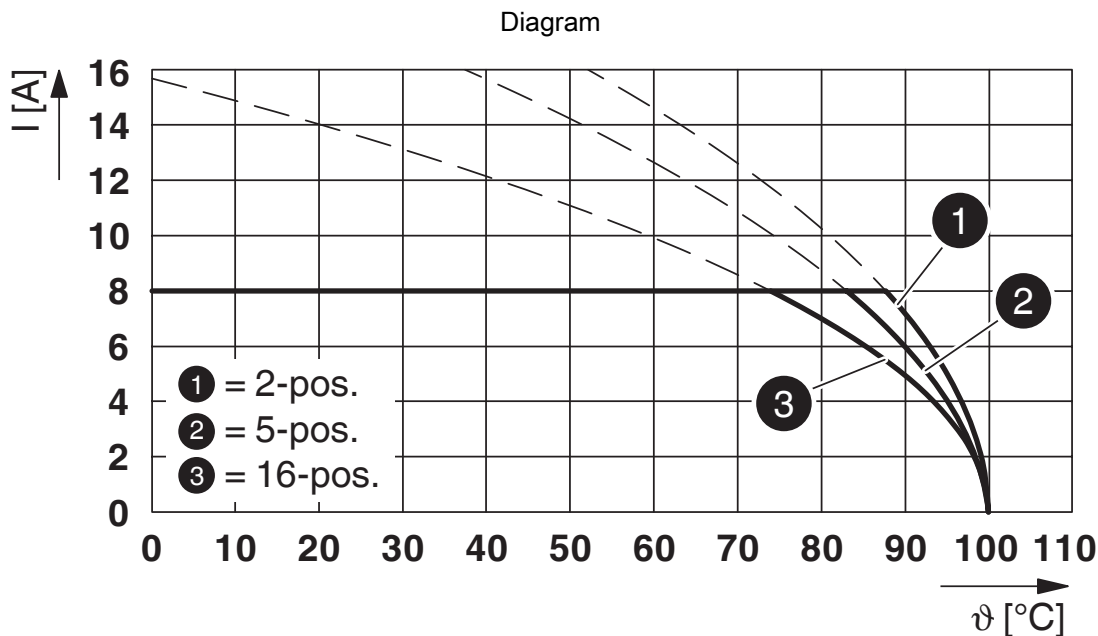
Type: FMC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

# SMC 1,5/16-G-3,81 - PCB header

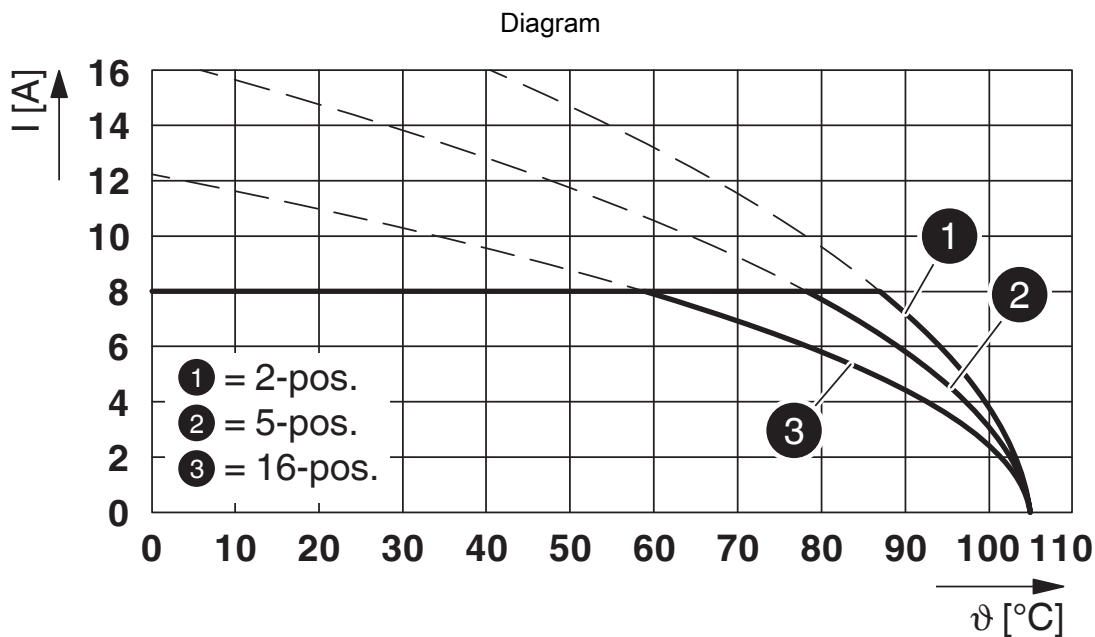


1827415

<https://www.phoenixcontact.com/us/products/1827415>



Type: MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

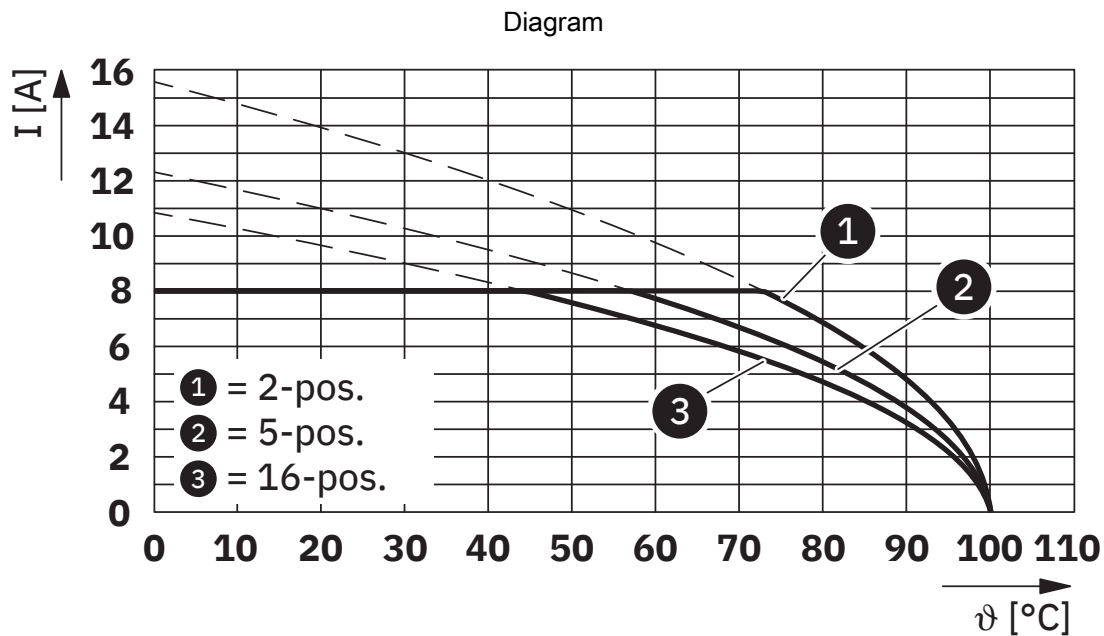


Type: IMC 1,5/...-G-3,81 with SMC 1,5/...-G-3,81

# SMC 1,5/16-G-3,81 - PCB header

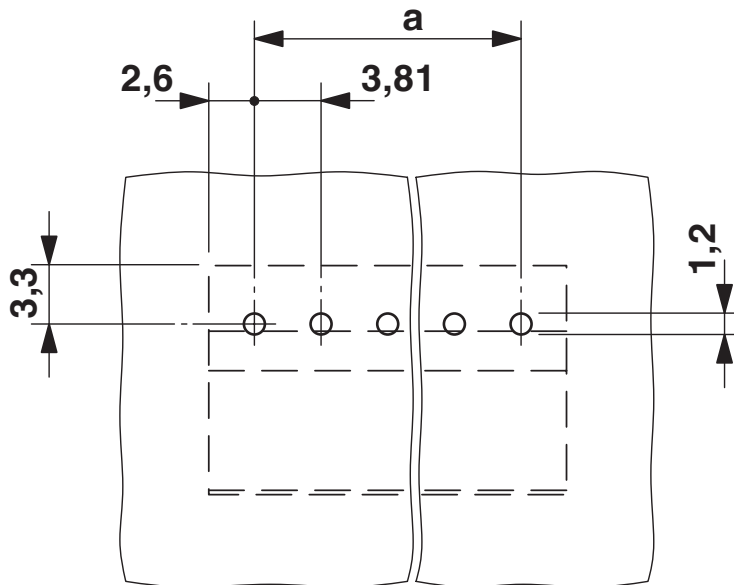
1827415

<https://www.phoenixcontact.com/us/products/1827415>



Type: MCVR 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

Drilling plan/solder pad geometry



# SMC 1,5/16-G-3,81 - PCB header





1827415


<https://www.phoenixcontact.com/us/products/1827415>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1827415>

 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	8 A	-	-
D	300 V	8 A	-	-

 <b>cULus Recognized</b> Approval ID: E60425-20110128				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	8 A	-	-
D	300 V	8 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40011723				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine	160 V	8 A	-	-

# SMC 1,5/16-G-3,81 - PCB header



1827415

<https://www.phoenixcontact.com/us/products/1827415>

## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 10.0	EC002637
-----------	----------

### UNSPSC

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

# SMC 1,5/16-G-3,81 - PCB header



1827415

<https://www.phoenixcontact.com/us/products/1827415>

## 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%
-------------------------------------	----------------------------

### EF3.1 Climate Change

CO2e kg	0.036 kg CO2e
---------	---------------

Phoenix Contact 2026 © - 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](mailto:info@phoenixcon.com)