

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

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: light gray, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, 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	1705220
Packing unit	50 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Product key	AABSSA
GTIN	4046356761789
Weight per piece (including packing)	1.938 g
Weight per piece (excluding packing)	1.592 g
Country of origin	DE

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

## Technical data

### Product properties

Product type	PCB headers
Product family	SMC 1,5/..-G
Product line	COMBICON Connectors S
Number of positions	6
Pitch	3.81 mm
Number of connections	6
Number of rows	1
Number of potentials	6
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 - 7 $\mu\text{m}$ Sn)
Metal surface contact area (middle layer)	Nickel (2 - 3 $\mu\text{m}$ Ni)
Metal surface soldering area (top layer)	Tin (5 - 7 $\mu\text{m}$ Sn)
Metal surface soldering area (middle layer)	Nickel (2 - 3 $\mu\text{m}$ Ni)

#### Material data - housing

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header

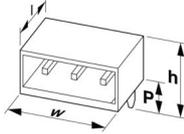


1705220

<https://www.phoenixcontact.com/us/products/1705220>

Color (Housing)	light gray (7035)
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]	24.25 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

### Contact holder in insert

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

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.	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 |

Specification	IEC 60664-1:2007-04
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

### 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.)

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

## 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

## 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

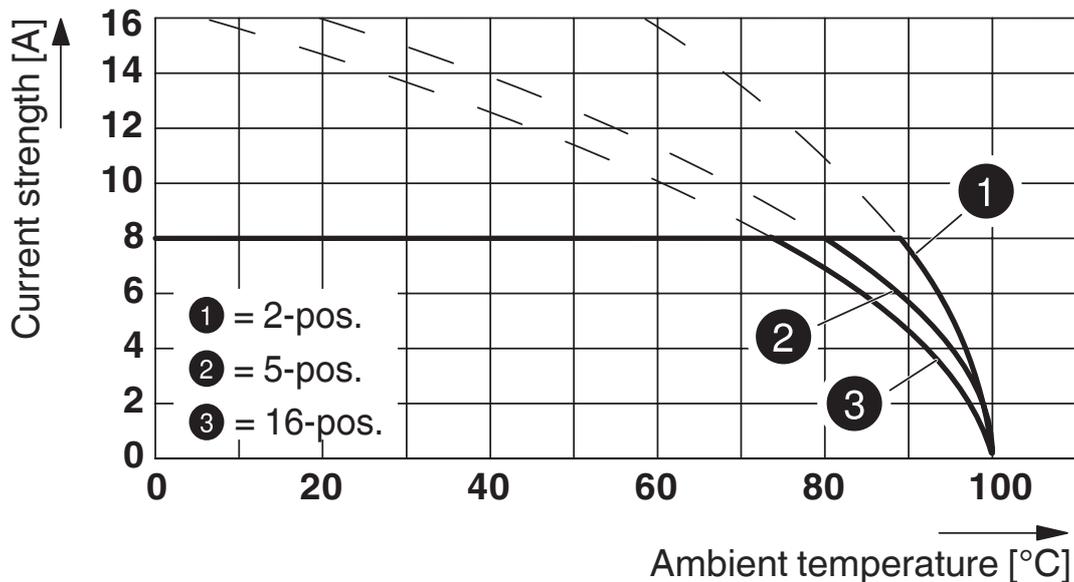
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

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

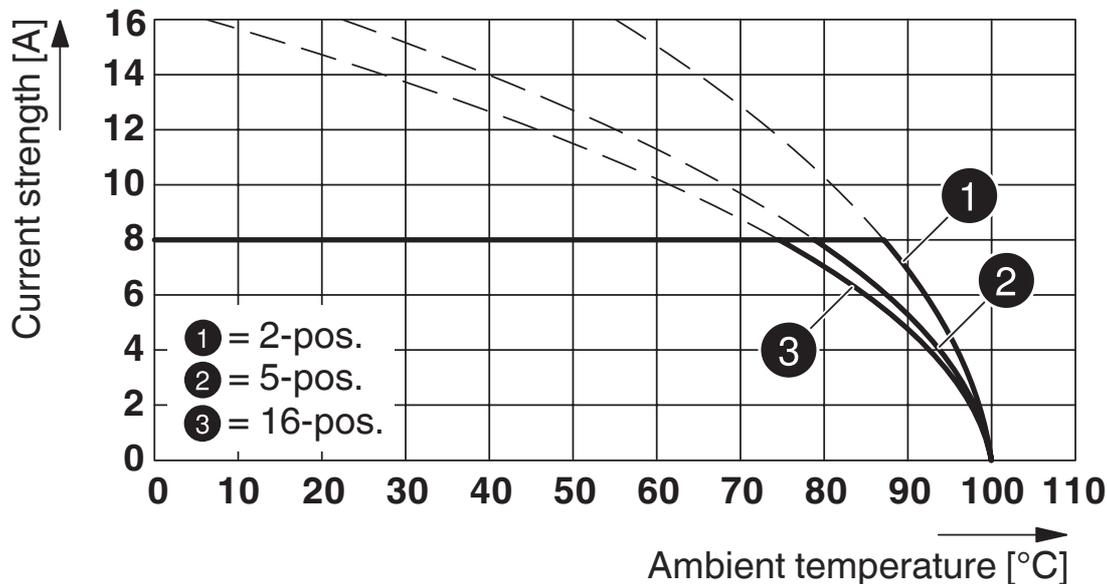
Drawings

Diagram

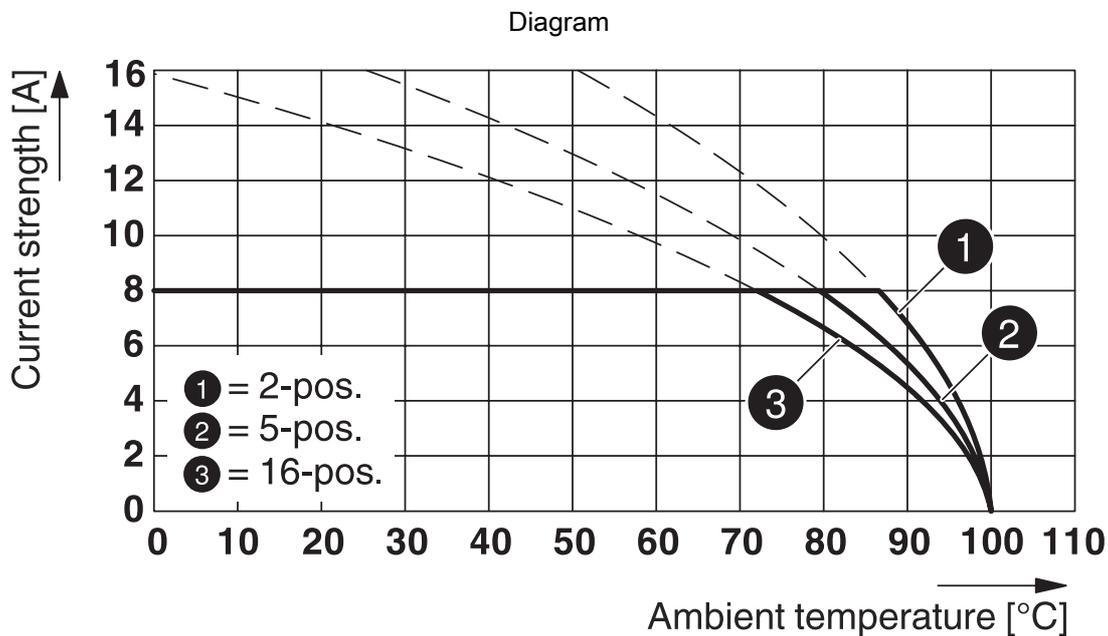


Type: FRONT-MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

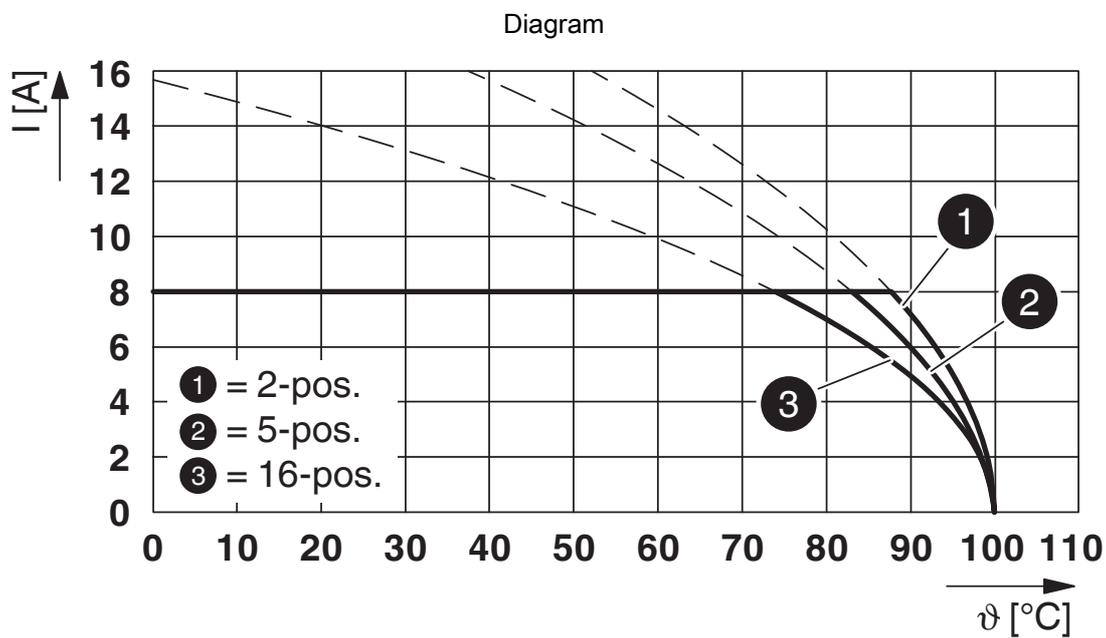
Diagram



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



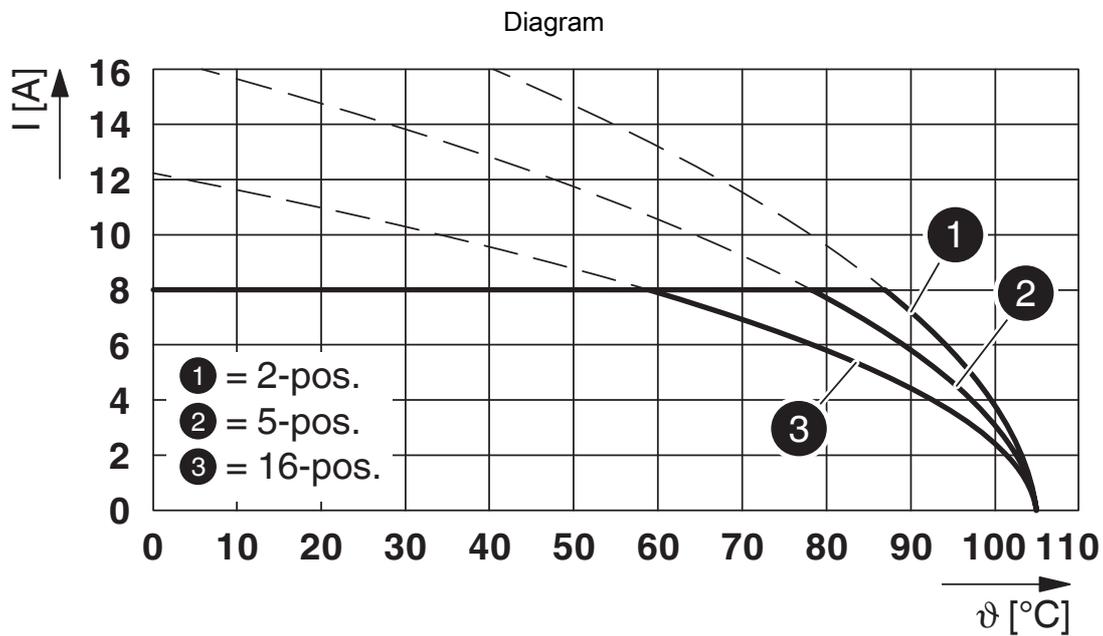
Type: FMC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81



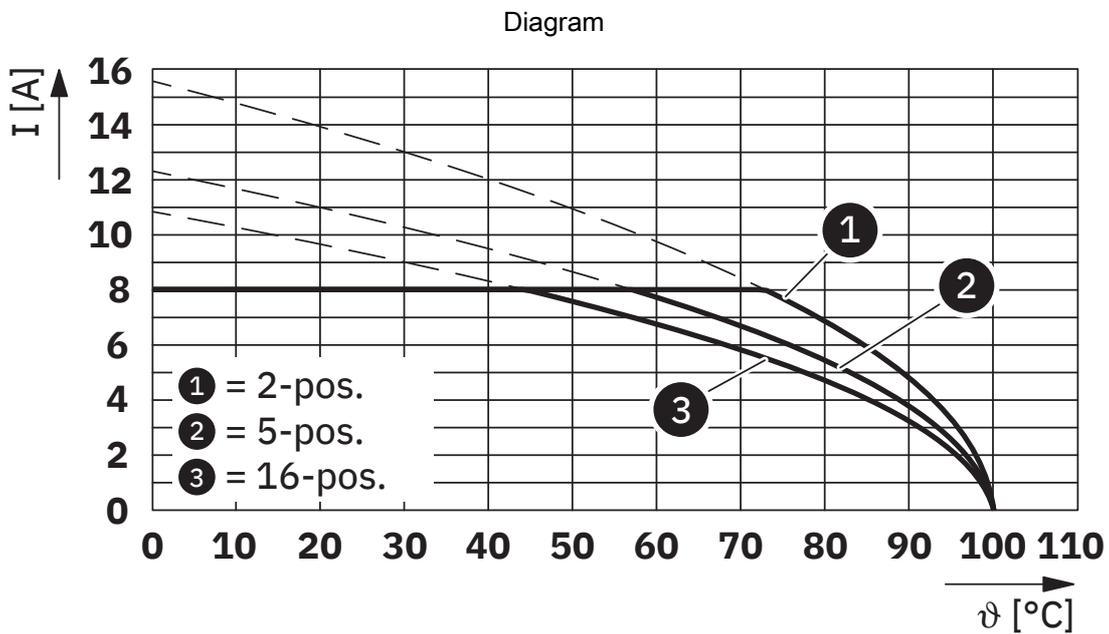
Type: MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

1705220

<https://www.phoenixcontact.com/us/products/1705220>



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



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

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1705220>

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

 <b>VDE approval of drawings</b> Approval ID: 40011723				
--	--	--	--	--

 <b>VDE approval of drawings</b> Approval ID: 40011723				
--	--	--	--	--

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

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

### UNSPSC

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

# SMC 1,5/ 6-G-3,81 GY7035 - PCB header



1705220

<https://www.phoenixcontact.com/us/products/1705220>

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

### EF3.0 Climate Change

CO2e kg	0.021 kg CO2e
---------	---------------

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](mailto:info@phoenixcon.com)