

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

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's documentation. Our General Terms of Use for Downloads are valid  
(<http://phoenixcontact.com/download>)

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm



The figure shows a 10-position version of the product

### Your advantages

- ✓ Well-known mounting principle allows worldwide use
- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 250 pc                                                                                                  |
| GTIN         | <br>4 017918 045586 |
| GTIN         | 4017918045586                                                                                           |

### Technical data

#### Item properties

|                           |                     |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system            | MINI COMBICON       |
| Type of contact           | Male connector      |
| Range of articles         | MC 1,5/...-G        |
| Pitch                     | 3.81 mm             |
| Number of positions       | 2                   |
| Mounting type             | Wave soldering      |
| Pin layout                | Linear pinning      |
| Locking                   | without             |
| Number of levels          | 1                   |
| Number of connections     | 2                   |
| Number of potentials      | 2                   |

# Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

## Technical data

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 8 A    |
| Nom. voltage                | 160 V  |
| Rated voltage               | 160 V  |
| Rated voltage (III/2)       | 160 V  |
| Rated voltage (II/2)        | 250 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2)  | 2.5 kV |

### 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 (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

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

### Dimensions for the product

|                             |              |
|-----------------------------|--------------|
| Length [ l ]                | 9.2 mm       |
| Width [ w ]                 | 9.01 mm      |
| Height [ h ]                | 10.65 mm     |
| Pitch                       | 3.81 mm      |
| Height (without solder pin) | 7.25 mm      |
| Solder pin [P]              | 3.4 mm       |
| Pin dimensions              | 0.8 x 0.8 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.2 mm |
|---------------|--------|

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 250                 |
| Denomination packing units | Pcs.                |

### Ambient conditions

# Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

## Technical data

### Ambient conditions

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

### Air clearances and creepage distances

|                                                 |                     |
|-------------------------------------------------|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (II/2)  | 1.5 mm              |
| Minimum creepage distance value (III/3)         | 2.5 mm              |
| Minimum creepage distance value (III/2)         | 1.6 mm              |
| Minimum creepage distance value (II/2)          | 2.5 mm              |

### Mechanical tests (A)

|                                              |             |
|----------------------------------------------|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 6 N         |
| Withdraw strength per pos. approx.           | 4 N         |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N  | Test passed |

### Durability tests (B)

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Contact resistance R <sub>1</sub>            | 1.3 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 1.5 mΩ                |
| Impulse withstand voltage at sea level       | 2.95 kV               |
| Power-frequency withstand voltage            | 1.39 kV               |
| Insulation resistance, neighboring positions | 15 TΩ                 |

### Thermal tests (C)

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 20                    |
| Conductor cross section                         | 1.5 mm <sup>2</sup>   |
| Test current                                    | 8 A DC                |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|                                        |                                                                           |
|----------------------------------------|---------------------------------------------------------------------------|
| Specification                          | ISO 6988:1985-02                                                          |
| Cold stress                            | -40 °C/2 h                                                                |
| Thermal stress                         | 100 °C/168 h                                                              |
| Corrosive stress                       | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV                                                                   |

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

### Technical data

#### Climatic tests (D)

|                                   |         |
|-----------------------------------|---------|
| Power-frequency withstand voltage | 1.39 kV |
|-----------------------------------|---------|

#### Environmental and durability tests (E)

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

#### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:2007-12  |
| Result                 | Test passed            |
| Frequency              | 10 - 150 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5 g (60.1 - 150 Hz)    |
| Test duration per axis | 2.5 h                  |

#### Standards and Regulations

|                                        |        |
|----------------------------------------|--------|
| Connection in acc. with standard       | EN-VDE |
|                                        | CSA    |
| Flammability rating according to UL 94 | V0     |

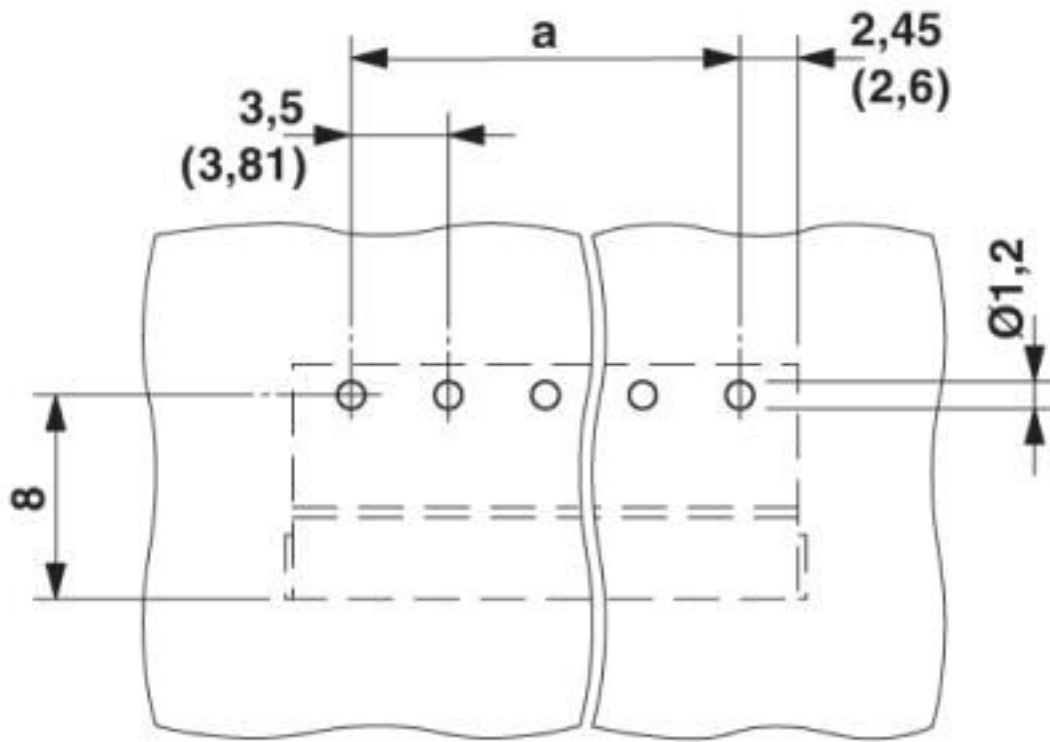
#### Environmental Product Compliance

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

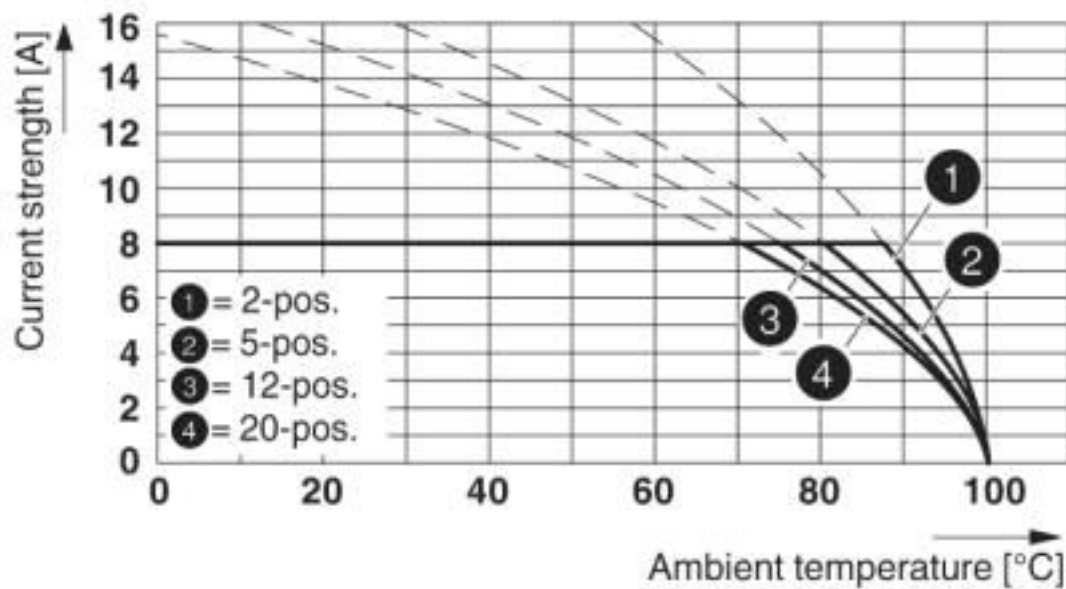
### Drawings

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

Drilling diagram



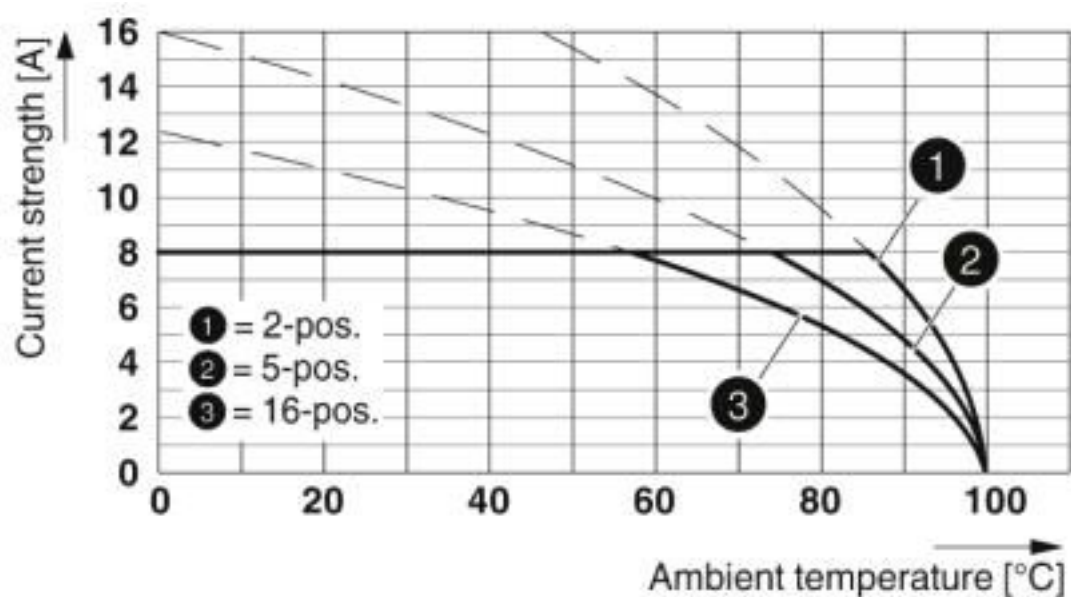
Diagram



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

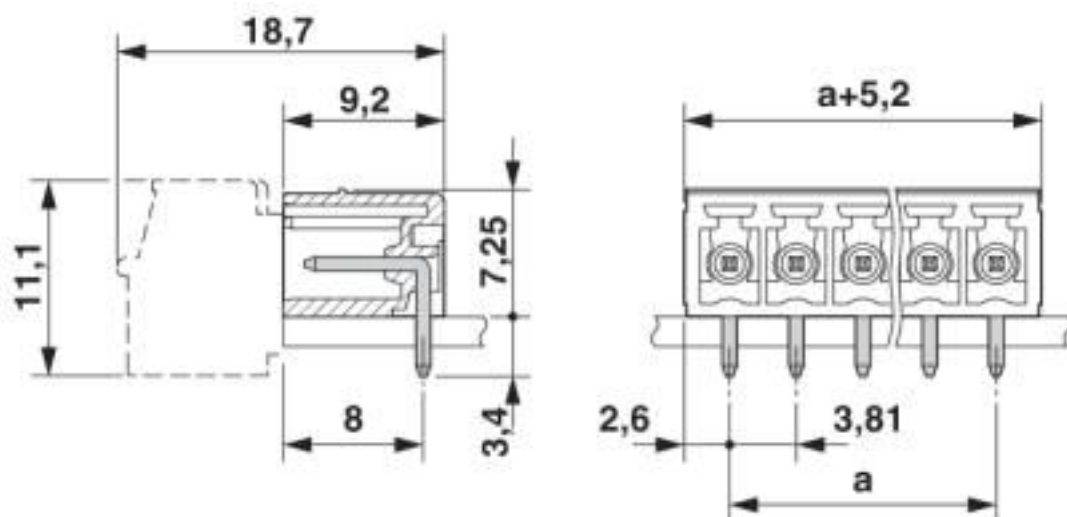
## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

Diagram



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

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440402 |
| eCl@ss 4.0    | 27260700 |
| eCl@ss 4.1    | 27260700 |
| eCl@ss 5.0    | 27260700 |
| eCl@ss 5.1    | 27260700 |

# Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27260700 |
| eCl@ss 7.0 | 27440402 |
| eCl@ss 8.0 | 27440402 |
| eCl@ss 9.0 | 27440402 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002637 |
| ETIM 5.0 | EC002637 |
| ETIM 6.0 | EC002637 |
| ETIM 7.0 | EC002637 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

## Approvals

### Approvals

#### Approvals

CSA / IECCEB CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|                    |                                                                                     |                                                                                                                                         |       |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------|
| CSA                |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|                    | B                                                                                   | D                                                                                                                                       |       |
| Nominal voltage UN | 300 V                                                                               | 300 V                                                                                                                                   |       |
| Nominal current IN | 8 A                                                                                 | 8 A                                                                                                                                     |       |

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

### Approvals

|                    |                     |                                                           |                |
|--------------------|---------------------|-----------------------------------------------------------|----------------|
| IECEE CB Scheme    | <b>CB</b><br>scheme | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60987-B1B2 |
| Nominal voltage UN | 160 V               |                                                           |                |
| Nominal current IN | 8 A                 |                                                           |                |

|                                            |                                                                                   |                                                                                                                                                                                                                |          |
|--------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| VDE Gutachten mit<br>Fertigungsüberwachung |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/<br/>VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40011723 |
| Nominal voltage UN                         | 160 V                                                                             |                                                                                                                                                                                                                |          |
| Nominal current IN                         | 8 A                                                                               |                                                                                                                                                                                                                |          |

|     |            |         |
|-----|------------|---------|
| EAC | <b>EAC</b> | B.01687 |
|-----|------------|---------|

|                    |              |                                                                                                                                                       |                 |
|--------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| cULus Recognized   | <b>cULus</b> | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-20110128 |
|                    | B            | D                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V        | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 8 A          | 8 A                                                                                                                                                   |                 |

### Accessories

Accessories

Coding element

Coding profile - CP-MSTB - 1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



Fiber optic

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

### Accessories

Fiber optic - MC 1,5/10-LWL 1,5-3,81 - 1841174

MINI COMBICON fiber optics, 3.81 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



Fiber optic - MC 1,5/10-LWL 2,3-3,81 - 1841190

MINI COMBICON fiber optics, 3.81 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



Fiber optic - MC 1,5/10-LWL 4-3,81 - 1841213

MINI COMBICON fiber optics, 3.81 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



### Labeled terminal marker

Marker card - SK 3,81/2,8:FORTL.ZAHLEN - 0804109



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm

### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

### Additional products

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

### Accessories

Printed-circuit board connector - FMC 1,5/ 2-ST-3,81 - 1745894



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

Printed-circuit board connector - MC 1,5/ 2-ST-3,81 - 1803578



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

Printed-circuit board connector - MCVW 1,5/ 2-ST-3,81 - 1826979



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

Printed-circuit board connector - MCVR 1,5/ 2-ST-3,81 - 1827127



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

Printed-circuit board connector - FRONT-MC 1,5/ 2-ST-3,81 - 1850660



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Front screw connection, color: green, contact surface: Tin

## Printed-circuit board connector - MC 1,5/ 2-G-3,81 - 1803277

### Accessories

#### Printed-circuit board connector - FK-MCP 1,5/ 2-ST-3,81 - 1851041



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

#### Printed-circuit board connector - MCC 1/ 2-STZ-3,81 - 1852176



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Crimp connection, color: green, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 5A/MCC-MT 0,2-0,35 (1859988); 8A/MCC-MT 0,5-1,0 (1859991)

#### Printed-circuit board connector - QC 0,5/ 2-ST-3,81 - 1897393



PCB connector, nominal current: 6 A, rated voltage (III/2): 200 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 2, pitch: 3.81 mm, connection method: Displacement connection, color: green, contact surface: Tin

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Phoenix Contact:

1803277