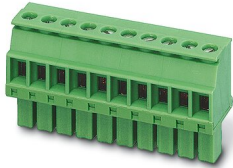


PCB connector - MCVW 1,5/ 6-ST-3,81

1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

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PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: MCVW 1,5/.-ST, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Commercial Data

| | |
|--------------------------------------|---------------------------|
| Item number | 1827017 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales Key | E1 - Leiterplattenanschl. |
| Product Key | AABAGA |
| Catalog Page | Page 193 (C-1-2013) |
| GTIN | 4017918050061 |
| Weight per Piece (including packing) | 5,038 g |
| Weight per Piece (excluding packing) | 4,766 g |
| Customs tariff number | 85366990 |
| Country of origin | DE |

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Technical Data

Product properties

| | |
|-----------------------|-----------------------|
| Type | Standard |
| Product line | COMBICON Connectors S |
| Product type | PCB plug |
| Number of positions | 6 |
| Pitch | 3.81 mm |
| Number of connections | 6 |
| Number of rows | 1 |
| Mounting flange | without |
| Number of potentials | 6 |

Electrical properties

| | |
|-----------------------------|----------------|
| Nominal current I_N | 8 A |
| Nominal voltage U_N | 160 V |
| Pollution degree | 3 |
| Contact resistance | 3.7 m Ω |
| 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 |

Connection data

Connection technology

| | |
|-----------------------|---------------------|
| Type | Standard |
| Connector system | COMBICON MC 1,5 |
| Nominal cross section | 1.5 mm ² |
| Type of contact | Female connector |

Interlock

| | |
|-----------------|---------|
| Locking type | without |
| Mounting flange | without |

Conductor connection

| | |
|---|--|
| Connection method | Screw connection with tension sleeve |
| Conductor/PCB connection direction | -90 ° |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| 2 conductors with same cross section, solid | 0.08 mm ² ... 0.5 mm ² |

PCB connector - MCVW 1,5/ 6-ST-3,81

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| | |
|---|---|
| 2 conductors with same cross section, flexible | 0.08 mm ² ... 0.75 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 0.34 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 0.5 mm ² |
| Cylindrical gauge a x b / diameter | 2.4 mm x 1.5 mm / 1.6 mm |
| Stripping length | 7 mm |
| Torque | 0.22 Nm ... 0.25 Nm |

Material specifications

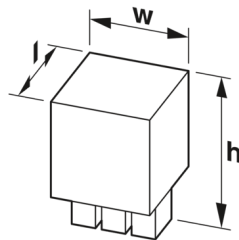
Material data - contact

| | |
|--|--|
| Note | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface characteristics | hot-dip tin-plated |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn) |
| Metal surface contact area (top layer) | Tin (4 - 8 µm Sn) |

Material data - housing

| | |
|---|--------------|
| Housing color | 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] | 23.65 mm |
| Height [h] | 19.15 mm |
| Length [l] | 10.4 mm |
| Installed height | 19.15 mm |

Mounting

PCB connector - MCVW 1,5/ 6-ST-3,81



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| | |
|-----------------------|-------------|
| Drive form screw head | Slotted (L) |
|-----------------------|-------------|

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |

Pull-out test

| | |
|---|--|
| Specification | IEC 60999-1:1999-11 |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.14 mm ² / solid / > 10 N |
| | 0.14 mm ² / flexible / > 10 N |
| | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / flexible / > 40 N |

Insertion and withdrawal forces

| | |
|-------------------------------------|-------------|
| Result | Test passed |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |

Torque test

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

Contact holder in insert

| | |
|---|------------------------|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | 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 |

Visual inspection

| | |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result | Test passed |

Dimension check

| | |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result | Test passed |

Environmental and real-life conditions

Vibration test

| | |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:2007-12 |
|---------------|-----------------------|

PCB connector - MCVW 1,5/ 6-ST-3,81



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| | |
|------------------------|------------------------|
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 - 60.1 Hz) |
| Sweep speed | 5g (60.1 - 150 Hz) |
| Test duration per axis | 2.5 h |

Durability test

| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 4.8 kV |
| Contact resistance R ₁ | 3.7 mΩ |
| Contact resistance R ₂ | 3.9 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 | 2.21 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 |

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 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 |

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

| | |
|---|--------|
| 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) | 1.6 mm |

Packaging specifications

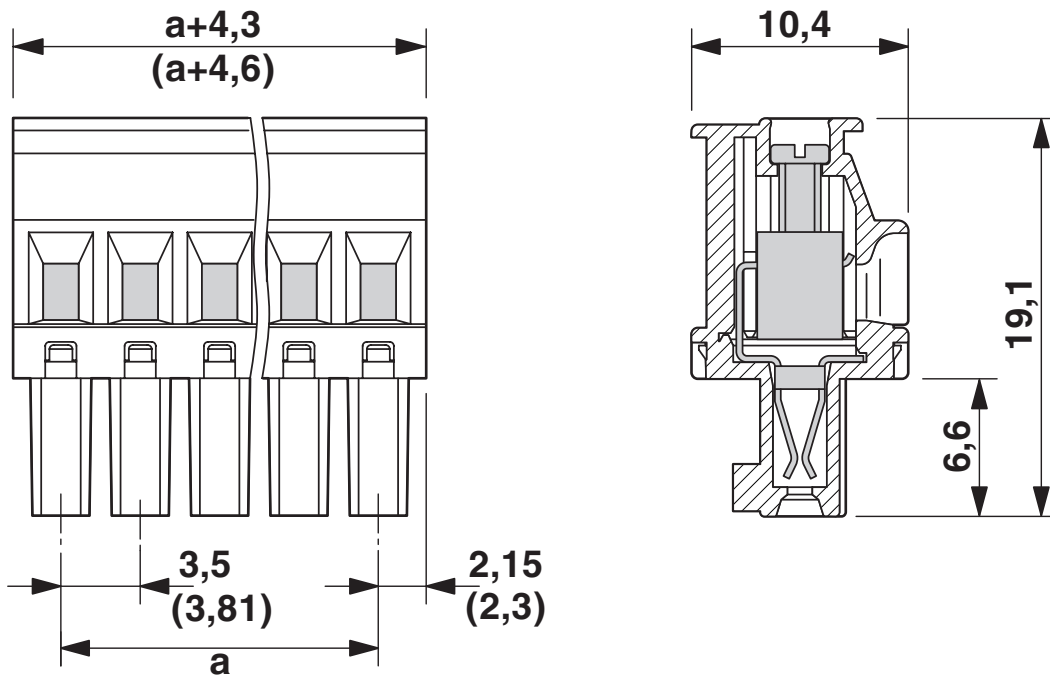
| | |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

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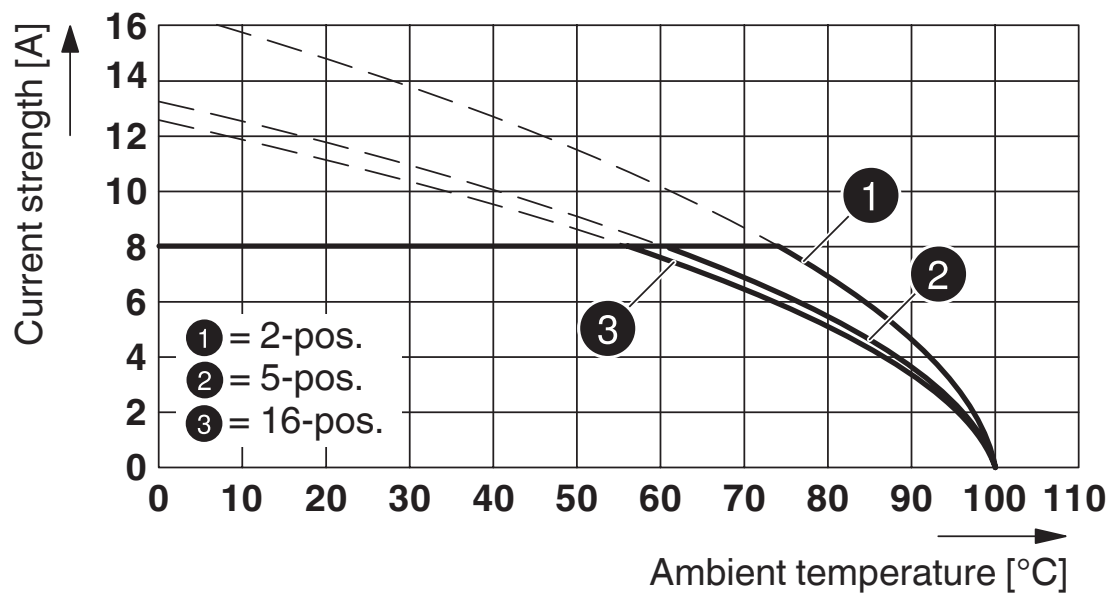
<https://www.phoenixcontact.com/de/produkte/1827017>

Drawings

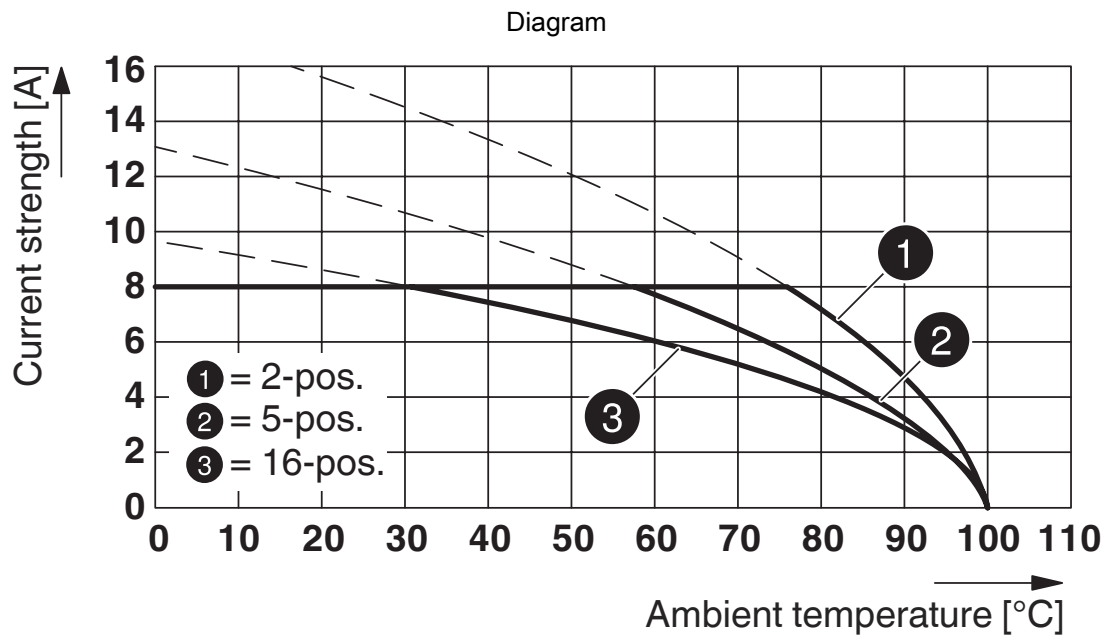
Dimensional drawing



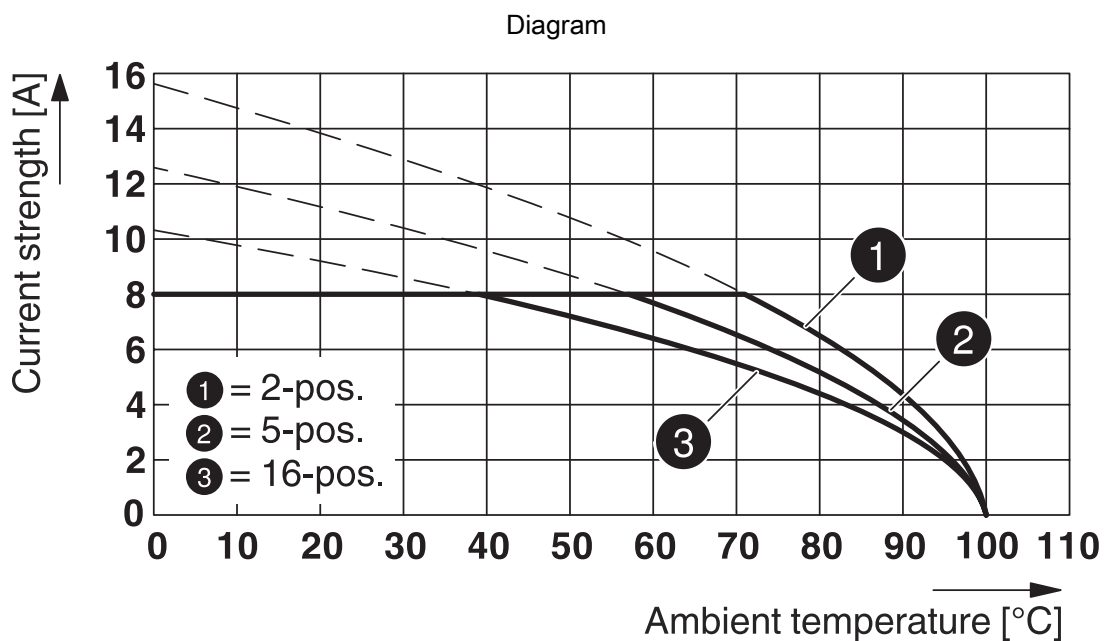
Diagram



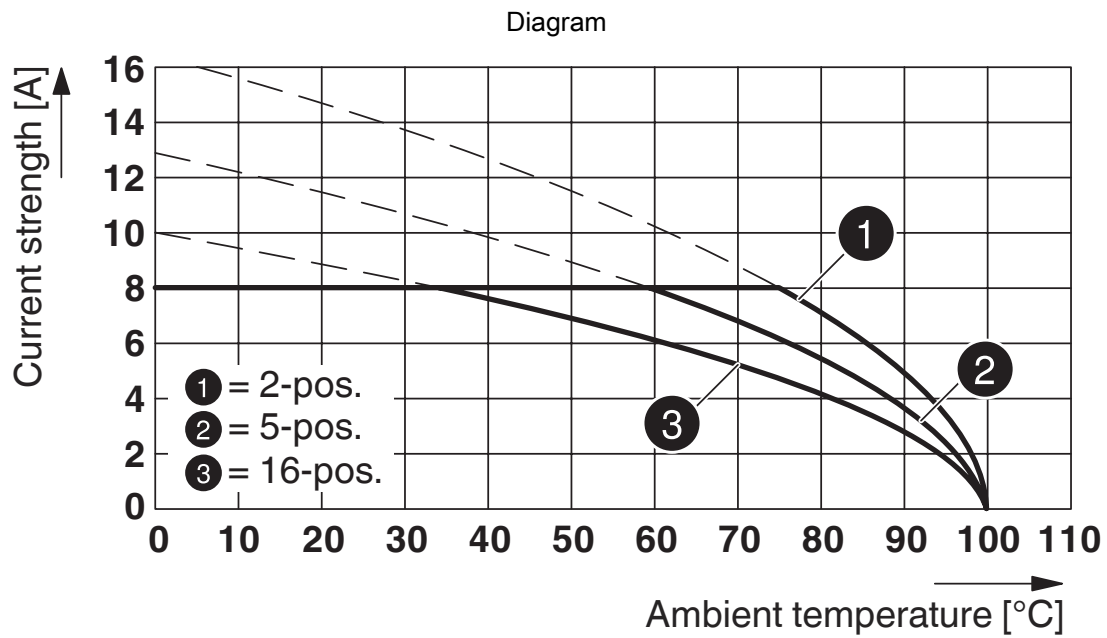
Type: MCV(W/R) 1,5/...-STF-3,81 with IMC 1,5/...-ST-3,81



Type: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81



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



Type: MCV(W/R) 1,5/...-ST-3,81 with MCDV 1,5/...-G1-3,81


PCB connector - MCVW 1,5/ 6-ST-3,81



1827017


<https://www.phoenixcontact.com/de/produkte/1827017>

Approvals

|  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 | 28 - 16 | - |
| Use group D | 300 V | 8 A | 28 - 16 | - |

|  IECEE CB Scheme Approval ID: DE1-60987-B1B2 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 160 V | 8 A | - | 0.2 - 1.5 |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  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 | 30 - 14 | - |
| Use group D | 300 V | 8 A | 30 - 14 | - |

|  VDE report with production monitoring Approval ID: 40011723 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 160 V | 8 A | - | 0.2 - 1.5 |

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Classifications

ECLASS

| | |
|---------------|----------|
| ECLASS-9.0 | 27440309 |
| ECLASS-10.0.1 | 27440309 |
| ECLASS-11.0 | 27460202 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002638 |
|----------|----------|

UNSPSC

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

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Environmental Product Compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

PCB connector - MCVW 1,5/ 6-ST-3,81

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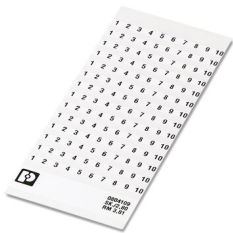
<https://www.phoenixcontact.com/de/produkte/1827017>

Accessories

Marker card

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

<https://www.phoenixcontact.com/de/produkte/0804109>



Marker 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

Screwdriver

Screwdriver - SZS 0,4X2,5 VDE - 1205037

<https://www.phoenixcontact.com/de/produkte/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

PCB connector - MCVW 1,5/ 6-ST-3,81

1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Marker card

Marker card - SK U/2,8 WH:UNBEDRUCKT - 0803883

<https://www.phoenixcontact.com/de/produkte/0803883>

Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 2.8 mm, Number of individual labels: 3600



Insertion bridge

Insertion bridge - EBPL 2-3,81 - 1733495

<https://www.phoenixcontact.com/de/produkte/1733495>

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch



PCB connector - MCVW 1,5/ 6-ST-3,81

1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

Insertion bridge

Insertion bridge - EBPL 3-3,81 - 1733505

<https://www.phoenixcontact.com/de/produkte/1733505>

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch



Insertion bridge

Insertion bridge - EBPL 4-3,81 - 1733518

<https://www.phoenixcontact.com/de/produkte/1733518>

Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch



PCB connector - MCVW 1,5/ 6-ST-3,81

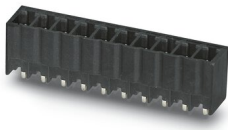
1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

PCB header

PCB header - MCV 1,5/ 6-G-3,81 P14 THR - 1707049

<https://www.phoenixcontact.com/de/produkte/1707049>

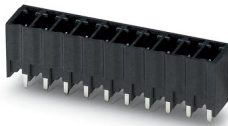


PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: MCV 1,5/...-G-THR, pitch: 3.81 mm, pin layout: Linear pinning, solder pin [P]: 1.4 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, For user information and design recommendations for through-hole reflow technology, go to: Downloads

PCB header

PCB header - MCV 1,5/ 6-G-3,81 P26 THR - 1707463

<https://www.phoenixcontact.com/de/produkte/1707463>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: MCV 1,5/...-G-THR, pitch: 3.81 mm, pin layout: Linear pinning, solder pin [P]: 2.6 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, For user information and design recommendations for through-hole reflow technology, go to: Downloads

PCB connector - MCVW 1,5/ 6-ST-3,81



1827017

<https://www.phoenixcontact.com/de/produkte/1827017>

PCB header

PCB header - MCO 1,5/ 6-GL-3,81 - 1861769

<https://www.phoenixcontact.com/de/produkte/1861769>



PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: MCO 1,5/..-GL, pitch: 3.81 mm, pin layout: Linear pinning, solder pin [P]: 3 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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