

DMCC 0,5/ 2-ST-2,54 - PCB connector

1027603

<https://www.phoenixcontact.com/us/products/1027603>

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The figure shows a 2-pos. version with 4 contacts

PCB connector, nominal cross section: 0.75 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Socket, number of potentials: 4, number of rows: 2, number of positions: 2, number of connections: 4, product range: DMCC 0,5/...-ST, pitch: 2.54 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON DFMC 0,5, locking: without, mounting method: without, type of packaging: packed in cardboard

Your advantages

- Cost-effective connection of crimped conductors in large quantities
- Gold-plated contacts ensure transfer quality remains stable over the long term
- Contacts arranged in a double row enable high packing density in a compact area
- Tools for manual and automatic crimping available as an option

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1027603 |
| Packing unit | 100 pc |
| Minimum order quantity | 100 pc |
| Sales key | AA01 |
| Product key | AAACDA |
| GTIN | 4055626521558 |
| Weight per piece (including packing) | 0.491 g |
| Weight per piece (excluding packing) | 0.37 g |
| Customs tariff number | 85366990 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|-----------------------|------------------------|
| Product type | PCB connector |
| Product family | DMCC 0,5/...-ST |
| Product line | COMBICON Connectors XS |
| Number of positions | 2 |
| Pitch | 2.54 mm |
| Number of connections | 4 |
| Number of rows | 2 |
| Number of potentials | 4 |

Electrical properties

Properties

| | |
|-----------------------------|--|
| Nominal current I_N | 6 A |
| Nominal voltage U_N | 160 V |
| Contact resistance | 2.2 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 |
| Rated voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |
| Note on change in voltage | With a cable cross-section of AWG 18 or 0.75 mm ² , the rated insulation voltage is reduced to 63 V with a rated surge voltage of 1.5 kV and a pollution degree of 1 or 2, depending on the insulation thickness of the cable used. |

Connection data

Connection technology

| | |
|-------------------------|----------------------|
| Type | Standard |
| Connector system | COMBICON DFMC 0,5 |
| Nominal cross section | 0.75 mm ² |
| Contact connection type | Socket |

Interlock

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

Conductor connection

| | |
|------------------------------------|--|
| Connection method | Crimp connection |
| Conductor/PCB connection direction | 0 ° |
| Conductor cross-section flexible | 0.14 mm ² ... 0.75 mm ² (Maximum external diameter of the insulation 1.9 mm) |

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| | |
|-----------------------------|--|
| Conductor cross-section AWG | 26 ... 18 (Maximum external diameter of the insulation 1.9 mm) |
| Stripping length | 4.1 mm ... 4.5 mm |

Material specifications

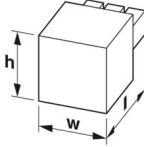
Material data - contact

| | |
|--|-----------|
| Contact material | Cu alloy |
| Metal surface contact area (top layer) | Gold (Au) |

Material data - housing

| | |
|---|--------------|
| Color (Housing) | black (9005) |
| 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 | 2.54 mm |
| Width [w] | 5.58 mm |
| Height [h] | 6.49 mm |
| Length [l] | 16 mm |

Notes

| | |
|---------------------|---|
| Note on the contact | The information on the basic material and the finish properties of the crimp contacts is to be found in the E-Shop in the technical data for the respective crimp contact. |
| Note on application | All laboratory tests are performed in combination with the crimp contacts specified as accessories. |
| Note on application | The current depends on the crimp contact and conductor cross-section used. |
| Note on application | The corresponding crimp contacts are to be found in the "Accessories" tab. |
| Note on application | The crimp contacts may only be processed with approved crimping tools. |
| Note on the contact | These connectors conform to DIN EN 61984, connectors without switching power (COC). When used for their intended purpose, they must not be plugged in or disconnected live or under load. |

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| | |
|---------------------------|--|
| Note on change in voltage | With a cable cross-section of AWG 18 or 0.75 mm ² , the rated insulation voltage is reduced to 63 V with a rated surge voltage of 1.5 kV and a pollution degree of 1 or 2, depending on the insulation thickness of the cable used. |
|---------------------------|--|

Mechanical tests

Tensile strength of crimp connections

| | |
|---|--|
| Result | Test passed |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.14 mm ² / flexible / > 18 N |

Insertion and withdrawal forces

| | |
|-------------------------------------|------------------------|
| Specification | IEC 60512-13-2:2006-02 |
| Result | Test passed |
| No. of cycles | 100 |
| Insertion strength per pos. approx. | 2 N |
| Withdraw strength per pos. approx. | 2 N |

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

Durability test

| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV |
| Contact resistance R ₁ | 2.2 mΩ |
| Contact resistance R ₂ | 2.2 mΩ |
| Contact resistance R ₂ 2nd level | 2.4 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/1 cycle |

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| | |
|-----------------------------------|--------------|
| Thermal stress | 105 °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 h |
| Test directions | X-, Y- and Z-axis |

Shocks

| | |
|-----------------|-----------------------------------|
| Specification | IEC 60068-2-27:2008-02 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 30g |
| Shock duration | 18 ms |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

Railway application: Oscillation/broadband noise

| | |
|------------------------|--|
| Specification | DIN EN 50155 (VDE 0115-200):2022-06 IEC 61373:2010-05 |
| Spectrum | Long life test category 1, class B, body mounted |
| Frequency | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$ |
| ASD level | 0.964 (m/s ²)/Hz |
| Acceleration | 0.572 g |
| Test duration per axis | 5 h |
| Test directions | X-, Y- and Z-axis |
| Contact interruption | < 1 μs |
| Result | Test passed |

Railway application: Shocks

| | |
|--------------------------------|--|
| Specification | DIN EN 50155 (VDE 0115-200):2022-06 IEC 61373:2010-05 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 30g |
| Shock duration | 18 ms |
| Number of shocks per direction | 3 |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |
| Contact interruption | < 1 μs |
| Result | Test passed |

Ambient conditions

| | |
|---|------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

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| | |
|---------------------------------|---|
| Ambient temperature (operation) | -55 °C ... 105 °C (dependent on the derating curve) |
|---------------------------------|---|

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 |
| 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 |
|-------------------|---------------------|

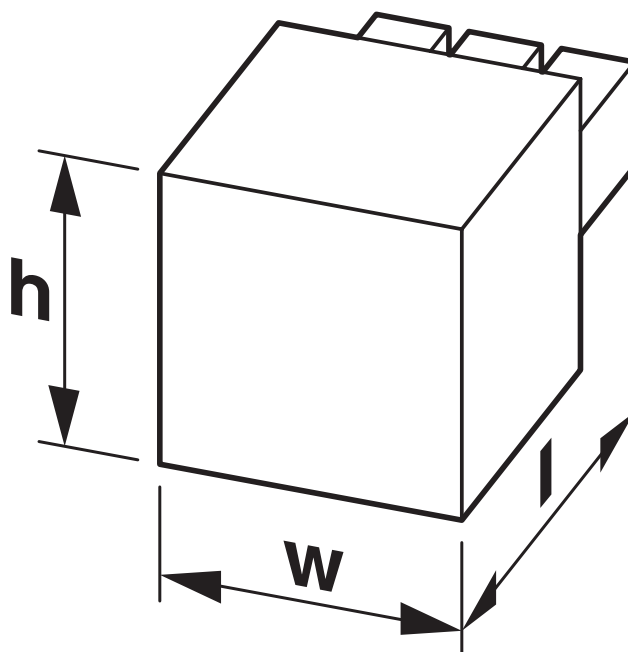
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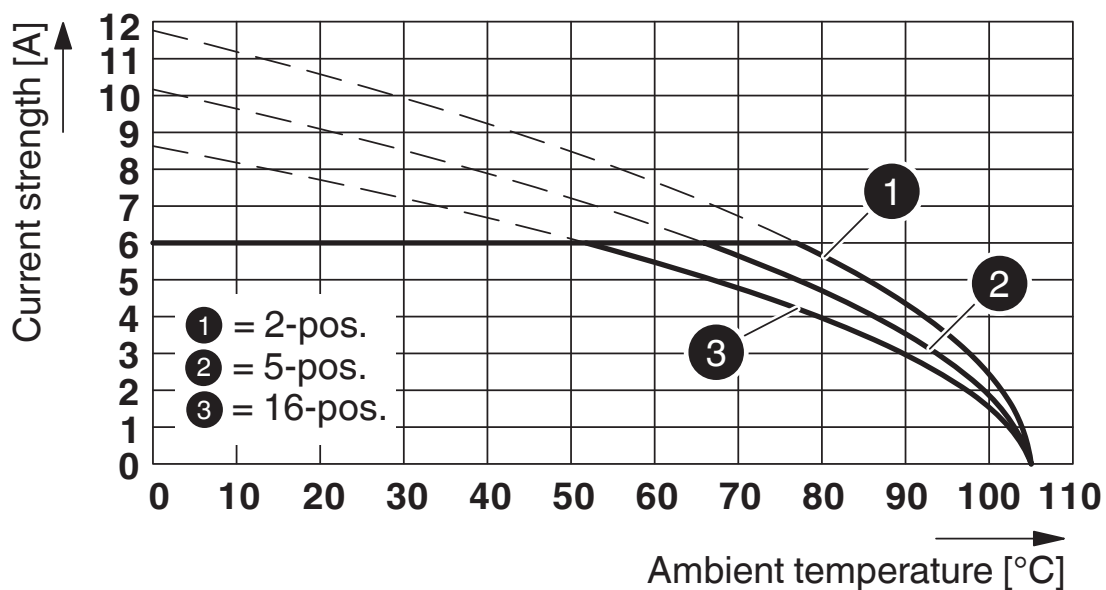
Drawings

Dimensional drawing



Schematic representation – for additional information, see product range drawing in the Download Center

Diagram



Type: DMCC 0.5/...-ST-2.54 with DMC 0.5/...-G1-2.54 P...THR R...

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1027603>

|  cULus Recognized Approval ID: E60425-19920306 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| Factory wiring | 150 V | 6 A | 26 - 18 | - |
| D | | | | |
| Factory wiring | 150 V | 6 A | 26 - 18 | - |

|  VDE report with production monitoring Approval ID: 40042389 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 160 V | 6 A | - | 0.14 - 0.75 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002638 |
|-----------|----------|

UNSPSC

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

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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 | 0.007 kg CO2e |
|---------|---------------|

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