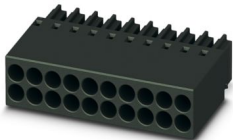


# DMCC 0,5/ 3-ST-2,54 - PCB connector

1027605

<https://www.phoenixcontact.com/us/products/1027605>

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The figure shows a 10-pos. version with 20 contacts

PCB connector, nominal cross section: 0.75 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Socket, number of potentials: 6, number of rows: 2, number of positions: 3, number of connections: 6, 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                          | 1027605       |
| Packing unit                         | 100 pc        |
| Minimum order quantity               | 100 pc        |
| Sales key                            | AA01          |
| Product key                          | AAACDA        |
| GTIN                                 | 4055626521565 |
| Weight per piece (including packing) | 0.649 g       |
| Weight per piece (excluding packing) | 0.53 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   | 3                      |
| Pitch                 | 2.54 mm                |
| Number of connections | 6                      |
| Number of rows        | 2                      |
| Number of potentials  | 6                      |

### Electrical properties

#### Properties

|                             |  |
|-----------------------------|--|
| Nominal current $I_N$       | 6 A  |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 2.2 mΩ   |
| 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 <sup>2</sup> , 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 <sup>2</sup> |
| 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 <sup>2</sup> ... 0.75 mm <sup>2</sup> (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

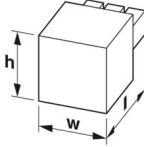
### Material data - contact

|  |           |
|--|-----------|
| 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]           | 8.12 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. |

# DMCC 0,5/ 3-ST-2,54 - PCB connector



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|                           |  |
|---------------------------|--|
| Note on change in voltage | With a cable cross-section of AWG 18 or 0.75 mm <sup>2</sup> , 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 <sup>2</sup> / 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 <sub>1</sub>            | 2.2 mΩ                |
| Contact resistance R <sub>2</sub>            | 2.2 mΩ                |
| Contact resistance R <sub>2</sub> 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 <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /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<br>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 <sup>2</sup> )/Hz                             |
| Acceleration           | 0.572 g  |
| Test duration per axis | 5 h  |
| Test directions        | X-, Y- and Z-axis  |
| Contact interruption   | < 1 $\mu\text{s}$  |
| Result                 | Test passed  |

## Railway application: Shocks

|                                |  |
|--------------------------------|--|
| Specification                  | DIN EN 50155 (VDE 0115-200):2022-06<br>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 $\mu\text{s}$  |
| 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 |

# DMCC 0,5/ 3-ST-2,54 - PCB connector



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

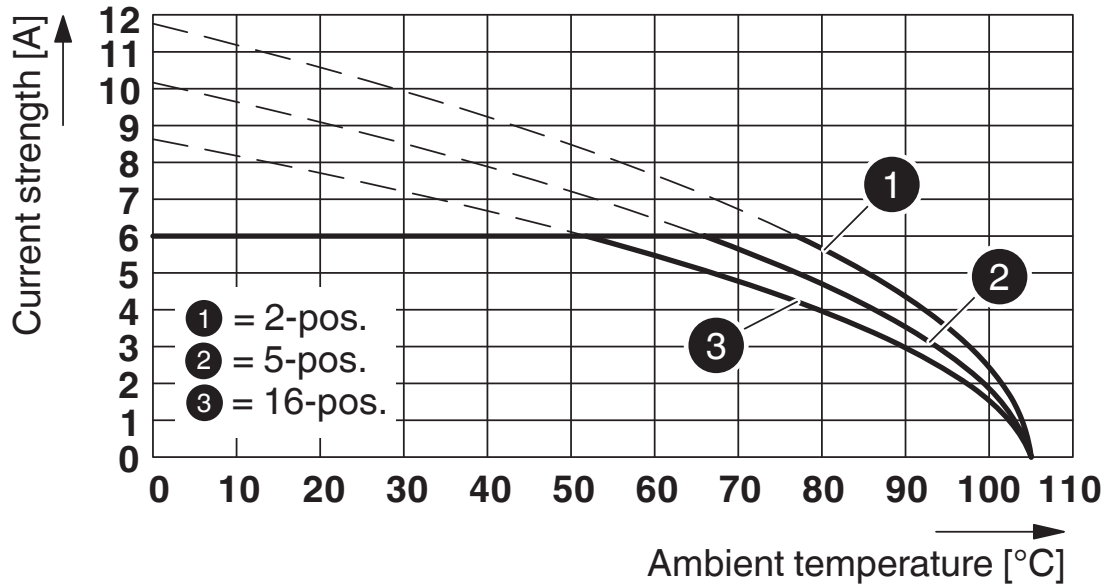
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## Drawings

Diagram



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

# DMCC 0,5/ 3-ST-2,54 - PCB connector





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1027605>

|  <b>cULus Recognized</b><br>Approval ID: E60425-19920306 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   |                       |                       |                   |                             |
| Factory wiring  | 150 V                 | 6 A                   | 26 - 18           | -                           |
| D   |                       |                       |                   |                             |
| Factory wiring  | 150 V                 | 6 A                   | 26 - 18           | -                           |

|  <b>VDE report with production monitoring</b><br>Approval ID: 40042389 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| 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 | 0.008 kg CO2e |
|---------|---------------|

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