

1845137  
<https://www.phoenixcontact.com/us/products/1845137>

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PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of potentials: 26, number of rows: 2, number of positions: 13, number of connections: 26, product range: DMC 0,5/..-G1-SMD, pitch: 2.54 mm, mounting: SMD soldering, pin layout: Linear pad geometry, number of solder pins per potential: 1, plug-in system: COMBICON DFMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: 56 mm wide tape

Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Designed for integration into the SMT process
- Conductor connection on several levels enables higher contact density

Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1845137                        |
| Packing unit                         | 300 pc                         |
| Minimum order quantity               | 300 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA01                           |
| Product key                          | AAAUDA                         |
| GTIN                                 | 4046356964678                  |
| Weight per piece (including packing) | 2.22 g                         |
| Weight per piece (excluding packing) | 2.22 g                         |
| Customs tariff number                | 85366930                       |
| Country of origin                    | PL                             |

# DMC 0,5/13-G1-2,54 SMD R56 - PCB header



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## Technical data

### Product properties

|                           |                        |
|---------------------------|------------------------|
| Product type              | PCB headers            |
| Product family            | DMC 0,5/...-G1-SMD     |
| Product line              | COMBICON Connectors XS |
| Number of positions       | 13                     |
| Pitch                     | 2.54 mm                |
| Number of connections     | 26                     |
| Number of rows            | 2                      |
| Number of potentials      | 26                     |
| Mounting type             | without                |
| Pin layout                | Linear pad geometry    |
| Solder pins per potential | 1                      |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 6 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 2.8 mΩ |
| Rated voltage (III/3)       | 32 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)        | 160 V  |
| Rated surge voltage (II/2)  | 2.5 kV |

### Mounting

|               |                     |
|---------------|---------------------|
| Mounting type | SMD soldering       |
| Pin layout    | Linear pad geometry |

#### Processing notes

|                                  |                  |
|----------------------------------|------------------|
| Process                          | Reflow soldering |
| Moisture Sensitive Level         | MSL 1            |
| Classification temperature $T_c$ | 260 °C           |
| Solder cycles in the reflow      | 3                |

### 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 | Completely gold-plated                                                           |

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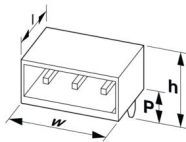
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|                                             |                      |
|---------------------------------------------|----------------------|
| Metal surface contact area (top layer)      | Gold (0.25 Au)       |
| Metal surface contact area (middle layer)   | Nickel (2 - 4 µm Ni) |
| Metal surface soldering area (top layer)    | Gold (0.25 Au)       |
| Metal surface soldering area (middle layer) | Nickel (2 - 4 µm Ni) |

## Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | black (9005) |
| Insulating material                    | LCP          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 175          |
| Flammability rating according to UL 94 | V0           |

## Dimensions

|                     |                                                                                     |
|---------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 2.54 mm                                                                             |
| Width [w]           | 37.6 mm                                                                             |
| Height [h]          | 7.39 mm                                                                             |
| Length [l]          | 12.26 mm                                                                            |
| Pin dimensions      | 0.64 x 0.64 mm                                                                      |

## PCB design

|              |                              |
|--------------|------------------------------|
| Pad geometry | 1.2 x 2.1 mm<br>1.2 x 3.8 mm |
| Pin spacing  | 2.54 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            |

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## Contact holder in insert

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

## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 100         |
| Insertion strength per pos. approx. | 2 N         |
| Withdraw strength per pos. approx.  | 1 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                              | IIIa                |
| Comparative tracking index (IEC 60112)                 | CTI 175             |
| Rated insulation voltage (III/3)                       | 32 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)                      | 1.3 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)                      | 1.6 mm              |
| Rated insulation voltage (II/2)                        | 160 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              |

## Environmental and real-life conditions

### Vibration test

|               |                             |
|---------------|-----------------------------|
| Specification | IEC 60068-2-6:2007-12       |
| Frequency     | 10 - 500 - 10 Hz            |
| Sweep speed   | 1 octave/min                |
| Amplitude     | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration  | 5g (60.1 Hz ... 500 Hz)     |

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|                        |                   |
|------------------------|-------------------|
| Test duration per axis | 2 h               |
| Test directions        | X-, Y- and Z-axis |

## Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 2.95 kV               |
| Contact resistance $R_1$                     | 2.8 m $\Omega$        |
| Contact resistance $R_2$                     | 2.9 m $\Omega$        |
| Insertion/withdrawal cycles                  | 100                   |
| Insulation resistance, neighboring positions | > 5 M $\Omega$        |

## 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/3 cycles |
| Thermal stress                    | 105 °C/168 h                                                               |
| Power-frequency withstand voltage | 1.39 kV                                                                    |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °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

|                             |                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing         |  |
| Type of packaging           | 56 mm wide tape                                                                      |
| [W] tape width              | 56 mm                                                                                |
| [W2] coil overall dimension | ≤ 62.4 mm                                                                            |
| [A] coil diameter           | ≤ 330 mm                                                                             |
| Outer packaging type        | Transparent-Bag                                                                      |

## Drawings

Dimensional drawing



Diagram



Type: DFMC 0,5/...-ST-2,54 with DMC 0,5/...-G1-2,54 SMD R...

# DMC 0,5/13-G1-2,54 SMD R56 - PCB header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1845137>

|  <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                                                                                                                                         | 150 V                 | 6 A                   | -                 | -                           |
| C                                                                                                                                         | 50 V                  | 6 A                   | -                 | -                           |

|  <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                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

### ETIM

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

### 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% |
|-------------------------------------|----------------------------|

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