

## Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

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: 3, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm



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

### Your advantages

- ✓ Designed for integration into the SMT soldering process
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ Screwable flange for superior mechanical stability
- ✓ Automatic locking and intuitive release through Lock and Release operating lever in contrasting color
- ✓ Small component size for applications where space is at a premium



### Key Commercial Data

|                        |                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit           | 50 pc                                                                                                   |
| Minimum order quantity | 50 pc                                                                                                   |
| GTIN                   | <br>4 046356 597029 |
| GTIN                   | 4046356597029                                                                                           |

### Technical data

#### Item properties

|                           |                          |
|---------------------------|--------------------------|
| Brief article description | Feed-through header      |
| Plug-in system            | MINI COMBICON - DFMC 1,5 |
| Type of contact           | Male connector           |
| Range of articles         | DMCV 1,5/...G1F-THR      |
| Pitch                     | 3.5 mm                   |
| Number of positions       | 3                        |
| Mounting type             | THR soldering            |
| Pin layout                | Linear pinning           |

# Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

## Technical data

### Item properties

|                       |                                |
|-----------------------|--------------------------------|
| Locking               | Lock & release threaded flange |
| Number of levels      | 2                              |
| Number of connections | 6                              |
| Number of potentials  | 6                              |

### 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 - 3 µm Ni),                                                           |
| Metal surface soldering area (top layer)    | Tin (3 - 5 µm Sn)                                                                 |
| Metal surface soldering area (middle layer) | Nickel (1.3 - 3 µm Ni)                                                            |

### Material data - housing

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

### Dimensions for the product

|                             |              |
|-----------------------------|--------------|
| Length [ l ]                | 10.6 mm      |
| Width [ w ]                 | 17.5 mm      |
| Height [ h ]                | 12 mm        |
| Pitch                       | 3.5 mm       |
| Height (without solder pin) | 10 mm        |
| Solder pin [P]              | 2 mm         |
| Pin spacing                 | 5.50 mm      |
| Pin dimensions              | 0.8 x 0.8 mm |

### Dimensions for PCB design

# Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

## Technical data

### Dimensions for PCB design

|               |         |
|---------------|---------|
| Hole diameter | 1.4 mm  |
| Pin spacing   | 5.50 mm |

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 50                  |
| Denomination packing units | Pcs.                |

### 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.          | 3 N         |
| Withdraw strength per pos. approx.           | 2 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>            | 2.1 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 2.4 mΩ                |
| Impulse withstand voltage at sea level       | 2.95 kV               |
| Power-frequency withstand voltage            | 1.39 kV               |
| Insulation resistance, neighboring positions | > 10 TΩ               |

### Thermal tests (C)

|                         |                       |
|-------------------------|-----------------------|
| Specification           | IEC 60512-5-1:2002-02 |
| Number of positions     | 20                    |
| Conductor cross section | 1.5 mm <sup>2</sup>   |

## Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

### Technical data

#### Thermal tests (C)

|                                                 |             |
|-------------------------------------------------|-------------|
| Test current                                    | 8 A         |
| 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                                                                   |
| 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 |
|                                        | CUL    |
| Flammability rating according to UL 94 | V0     |

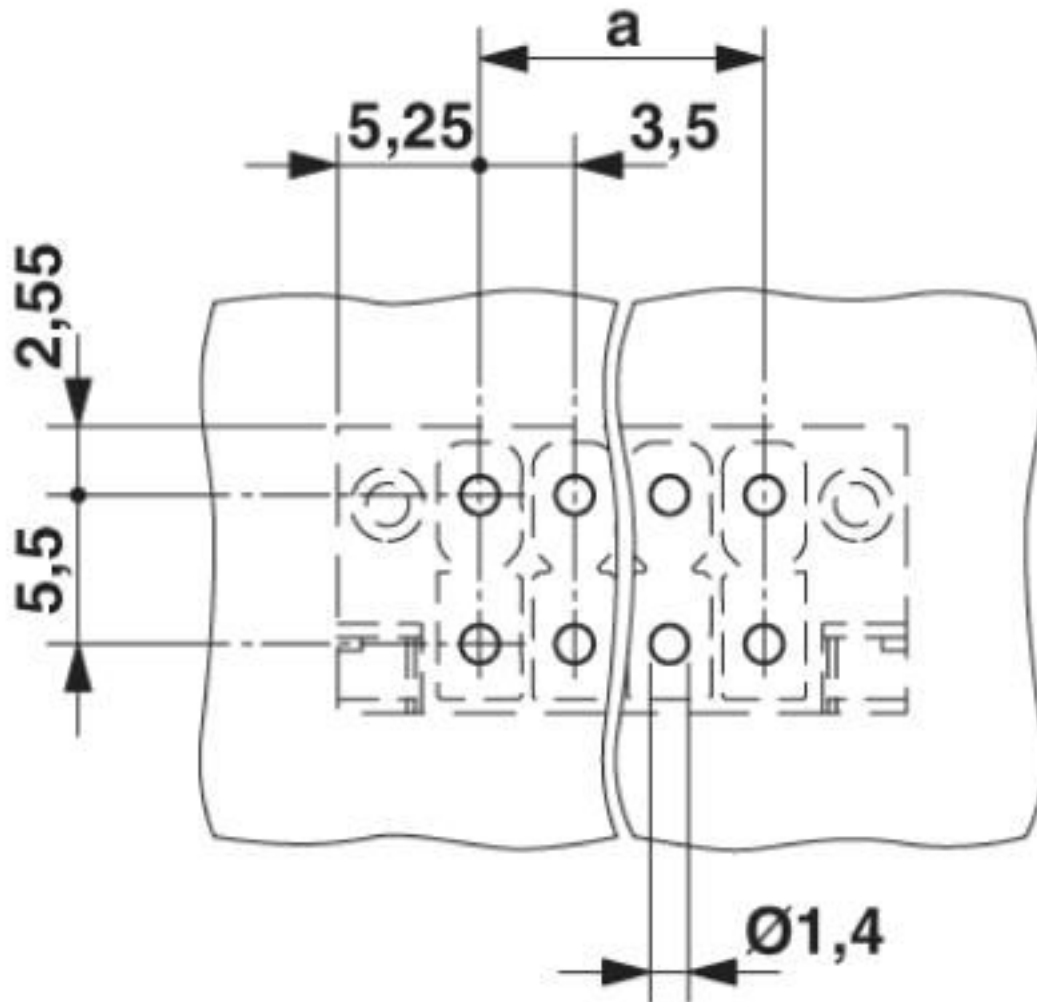
#### Environmental Product Compliance

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

### Drawings

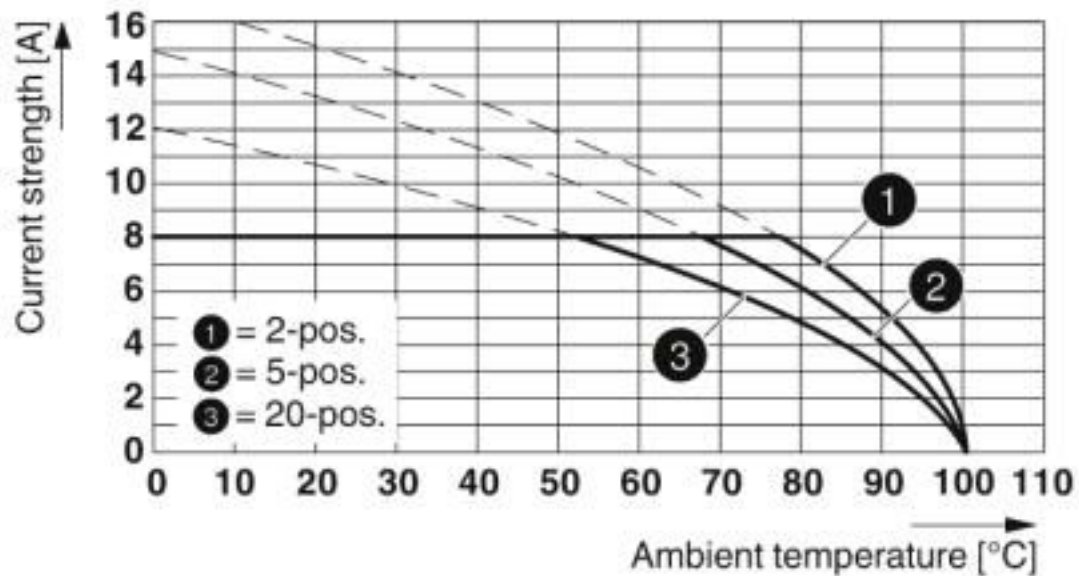
# Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

Drilling diagram



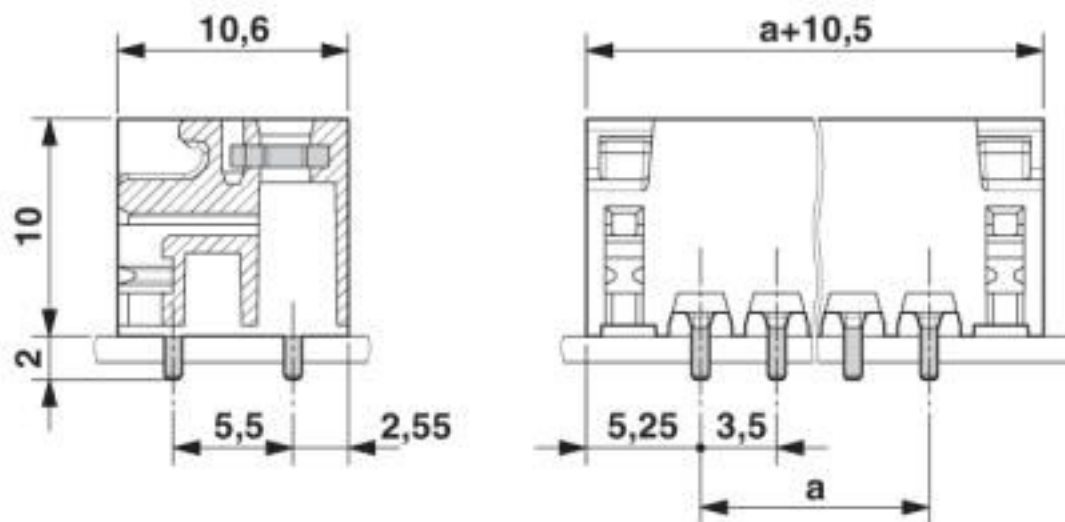
# Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

Diagram



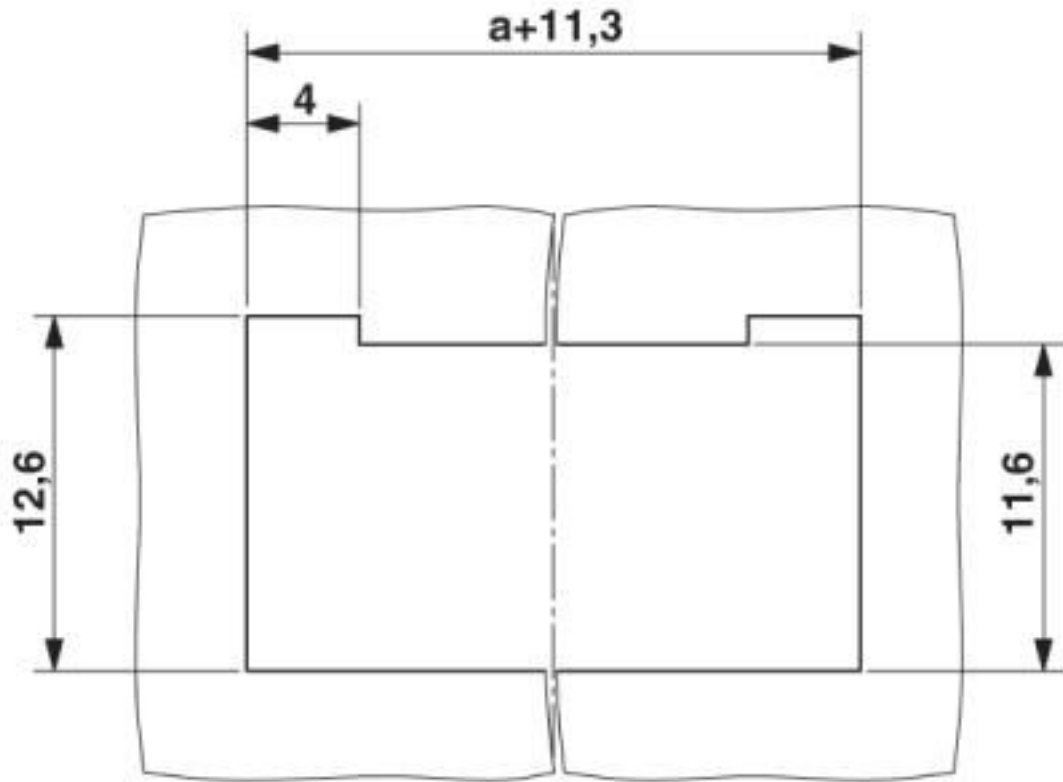
Type: DFMC 1,5/...-STF-3,5 with DMCV 1,5/...-G1F-3,5-LR P...THR

Dimensional drawing



## Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

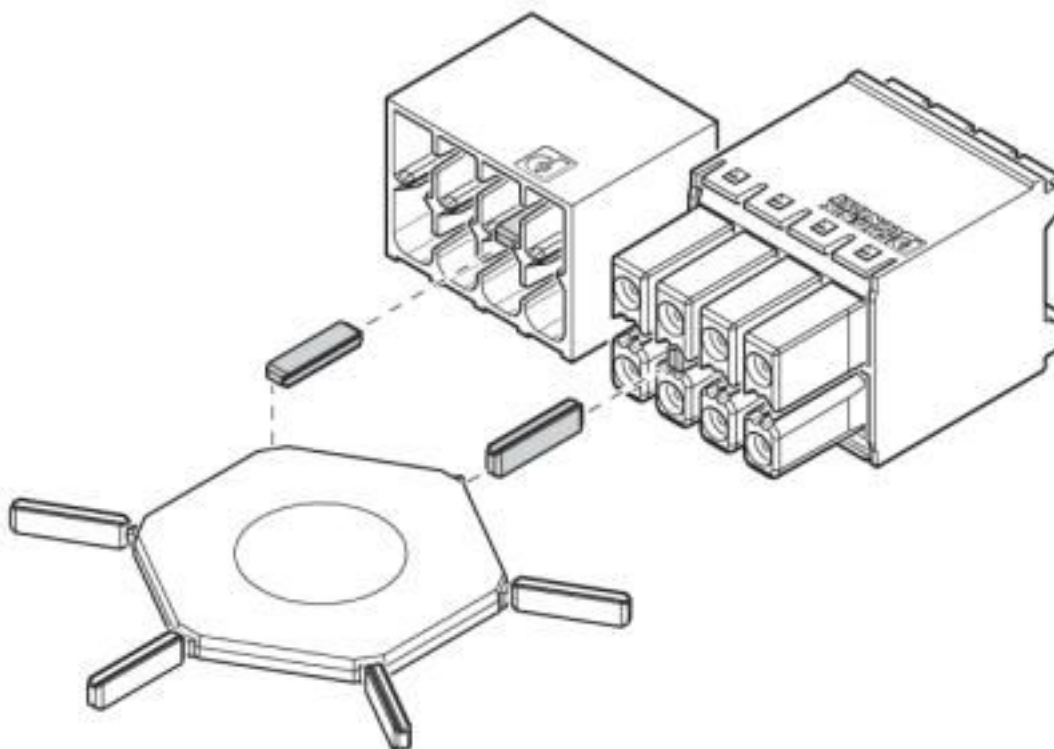
Schematic diagram



Panel cutout

## Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

Schematic diagram



Use of the CP-DMC... coding profile

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

ETIM

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

# Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

## Classifications

### 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

IECEE CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|                    |                                                                                     |                                                           |                 |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------|
| IECEE CB Scheme    |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60359_B1_B2 |
| 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> | 40038423 |
| Nominal voltage UN                         | 160 V                                                                               |                                                                                                                                                                                                                |          |
| Nominal current IN                         | 8 A                                                                                 |                                                                                                                                                                                                                |          |

|     |                                                                                     |         |
|-----|-------------------------------------------------------------------------------------|---------|
| EAC |  | B.01687 |
|-----|-------------------------------------------------------------------------------------|---------|

## Printed-circuit board connector - DMCV 1,5/ 3-G1F-3,5-LR P20THR - 1787409

### Approvals

|                    |                                                                                   |                                                                                                                                                                       |       |
|--------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| cULus Recognized   |  | <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                                                                                 | C                                                                                                                                                                     | D     |
| Nominal voltage UN | 300 V                                                                             | 50 V                                                                                                                                                                  | 300 V |
| Nominal current IN | 8 A                                                                               | 8 A                                                                                                                                                                   | 8 A   |

### Accessories

#### Accessories

#### Coding element

Coding profile - CP-DMC 1,5 NAT - 1790647



Coding profile, for insertion between the coding ribs of the connector and the header following the reflow soldering process, insulating material, color: natural

### Additional products

Printed-circuit board connector - DFMC 1,5/ 3-STF-3,5 - 1790302



Plug, nominal current: 8 A, rated voltage (III/2): 160 V, number of positions: 3 with 6 contacts, pitch: 3.5 mm, connection method: spring-cage connection, color: green, contact surface: tin

Printed-circuit board connector - DFMC 1,5/ 3-ST-3,5-LR - 1790496



Plug, nominal current: 8 A, rated voltage (III/2): 160 V, number of positions: 3 with 6 contacts, pitch: 3.5 mm, connection method: spring-cage 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:

1787409