

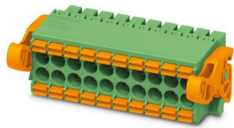
# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



1034446

<https://www.phoenixcontact.com/us/products/1034446>

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PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 18, number of rows: 2, number of positions: 9, number of connections: 18, product range: DFMC 1,5/...-ST-LR, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Insertion in base strip, conductor/PCB connection direction: 0 °, plug-in system: COMBICON DFMC 1,5, locking: Lock-and-release locking system, mounting method: Lock & Release ejector lever, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive operation due to color-coded actuating push button
- Optimized for tight installation situations: operation and conductor connection from one direction
- Automatic locking and intuitive release through Lock and Release operating lever in contrasting color

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1034446                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Product key                          | AABFJC                         |
| GTIN                                 | 4055626541211                  |
| Weight per piece (including packing) | 10.534 g                       |
| Weight per piece (excluding packing) | 10.071 g                       |
| Country of origin                    | DE                             |

# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | PCB connector         |
| Product family        | DFMC 1,5/...-ST-LR    |
| Product line          | COMBICON Connectors S |
| Number of positions   | 9                     |
| Pitch                 | 3.5 mm                |
| Number of connections | 18                    |
| Number of rows        | 2                     |
| Number of potentials  | 18                    |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 8 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 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 |

### Connection data

#### Connection technology

|                         |                     |
|-------------------------|---------------------|
| Type                    | Plug component      |
| Connector system        | COMBICON DFMC 1,5   |
| Nominal cross section   | 1.5 mm <sup>2</sup> |
| Contact connection type | Socket              |

#### Interlock

|               |                                 |
|---------------|---------------------------------|
| Locking type  | Lock-and-release locking system |
| Mounting type | Lock & Release ejector lever    |

#### Conductor connection

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| Connection method                                                     | Push-in spring connection                     |
| Conductor/PCB connection direction                                    | 0 °                                           |
| Conductor cross-section rigid                                         | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Conductor cross-section flexible                                      | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Conductor cross-section AWG                                           | 24 ... 16                                     |
| Conductor cross-section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve  | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |

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|                                    |                          |
|------------------------------------|--------------------------|
| Cylindrical gauge a x b / diameter | 2.4 mm x 1.5 mm / 1.6 mm |
| Stripping length                   | 10 mm                    |

## Specifications for ferrules without insulating collar

|                                                              |                                                              |
|--------------------------------------------------------------|--------------------------------------------------------------|
| recommended crimping tool                                    | 1212034 CRIMPFOX 6                                           |
| ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.25 mm <sup>2</sup> ; Length: 7 mm           |
|                                                              | Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm           |
|                                                              | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|                                                              | Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|                                                              | Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm    |
|                                                              | Cross section: 1.5 mm <sup>2</sup> ; Length: 10 mm           |

## Specifications for ferrules with insulating collar

|                                                           |                                                              |
|-----------------------------------------------------------|--------------------------------------------------------------|
| recommended crimping tool                                 | 1212034 CRIMPFOX 6                                           |
| ferrules with insulating collar, according to DIN 46228-4 | Cross section: 0.14 mm <sup>2</sup> ; Length: 8 mm           |
|                                                           | Cross section: 0.25 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|                                                           | Cross section: 0.34 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|                                                           | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|                                                           | Cross section: 0.75 mm <sup>2</sup> ; Length: 10 mm          |

## 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

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| Color (Housing)                                                   | 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       |

### Material data – actuating element

|                            |               |
|----------------------------|---------------|
| Color (Actuating element)  | orange (2003) |
| Insulating material        | PBT           |
| Insulating material group  | I             |
| CTI according to IEC 60112 | 600           |

# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



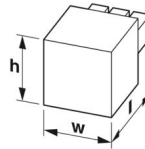
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|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
|---------------------|--|



|       |        |
|-------|--------|
| Pitch | 3.5 mm |
|-------|--------|

|           |         |
|-----------|---------|
| Width [w] | 38.4 mm |
|-----------|---------|

|            |          |
|------------|----------|
| Height [h] | 13.25 mm |
|------------|----------|

|            |          |
|------------|----------|
| Length [l] | 27.79 mm |
|------------|----------|

## Mounting

|               |                         |
|---------------|-------------------------|
| Mounting type | Insertion in base strip |
|---------------|-------------------------|

## Notes

|                    |                                                                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mechanical tests

|                      |  |
|----------------------|--|
| Conductor connection |  |
|----------------------|--|

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

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

|                                          |  |
|------------------------------------------|--|
| Test for conductor damage and slackening |  |
|------------------------------------------|--|

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

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

|                                       |  |
|---------------------------------------|--|
| Repeated connection and disconnection |  |
|---------------------------------------|--|

|               |                     |
|---------------|---------------------|
| 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 | 0.2 mm <sup>2</sup> / solid / > 10 N |
|-----------------------------------------------------------------------------|--------------------------------------|

|  |                                         |
|--|-----------------------------------------|
|  | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|--|-----------------------------------------|

|  |                                      |
|--|--------------------------------------|
|  | 1.5 mm <sup>2</sup> / solid / > 40 N |
|--|--------------------------------------|

|  |                                         |
|--|-----------------------------------------|
|  | 1.5 mm <sup>2</sup> / flexible / > 40 N |
|--|-----------------------------------------|

|                                 |  |
|---------------------------------|--|
| Insertion and withdrawal forces |  |
|---------------------------------|--|

|               |                        |
|---------------|------------------------|
| Specification | IEC 60512-13-2:2006-02 |
|---------------|------------------------|

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

|               |    |
|---------------|----|
| No. of cycles | 25 |
|---------------|----|

|                                     |     |
|-------------------------------------|-----|
| Insertion strength per pos. approx. | 3 N |
|-------------------------------------|-----|

# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



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

|                                              |                                                                           |
|----------------------------------------------|---------------------------------------------------------------------------|
| 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                                 | 50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz)                                  |
| Test duration per axis                       | 2.5 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 <sub>1</sub>            | 2 mΩ                                                                      |
| Contact resistance R <sub>2</sub>            | 2.3 mΩ                                                                    |
| Insertion/withdrawal cycles                  | 25                                                                        |
| Insulation resistance, neighboring positions | > 5 MΩ                                                                    |
| Climatic test                                |                                                                           |
| Specification                                | ISO 6988:1985-02                                                          |
| Corrosive stress                             | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| 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                                                          |

## Electrical tests

## Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 20                    |

## Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

## Temperature cycles

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

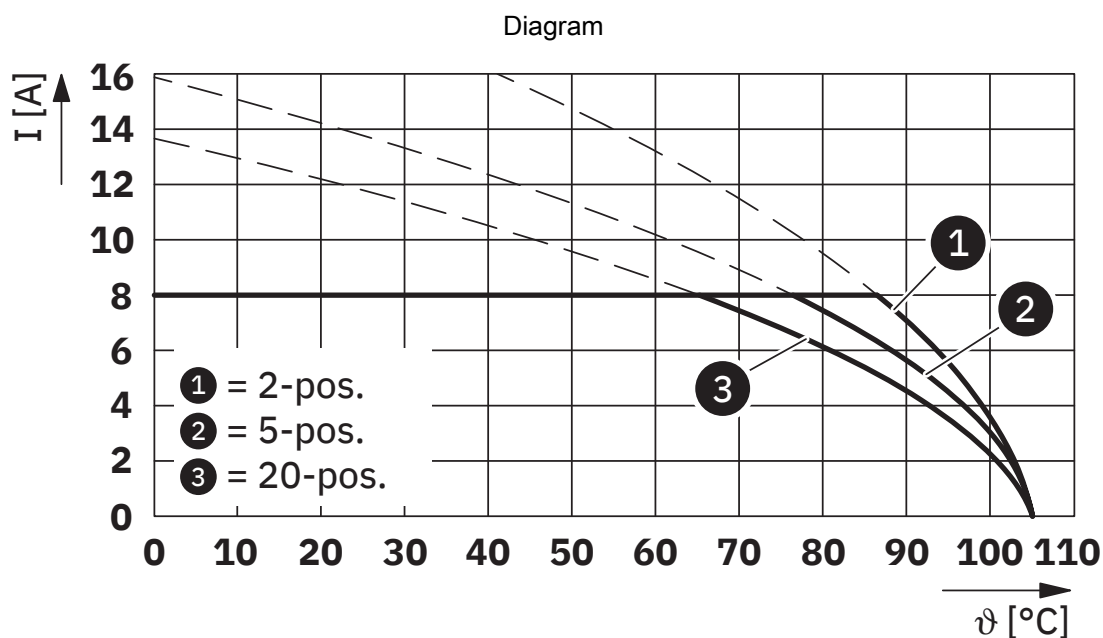
## Air clearances and creepage distances |

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

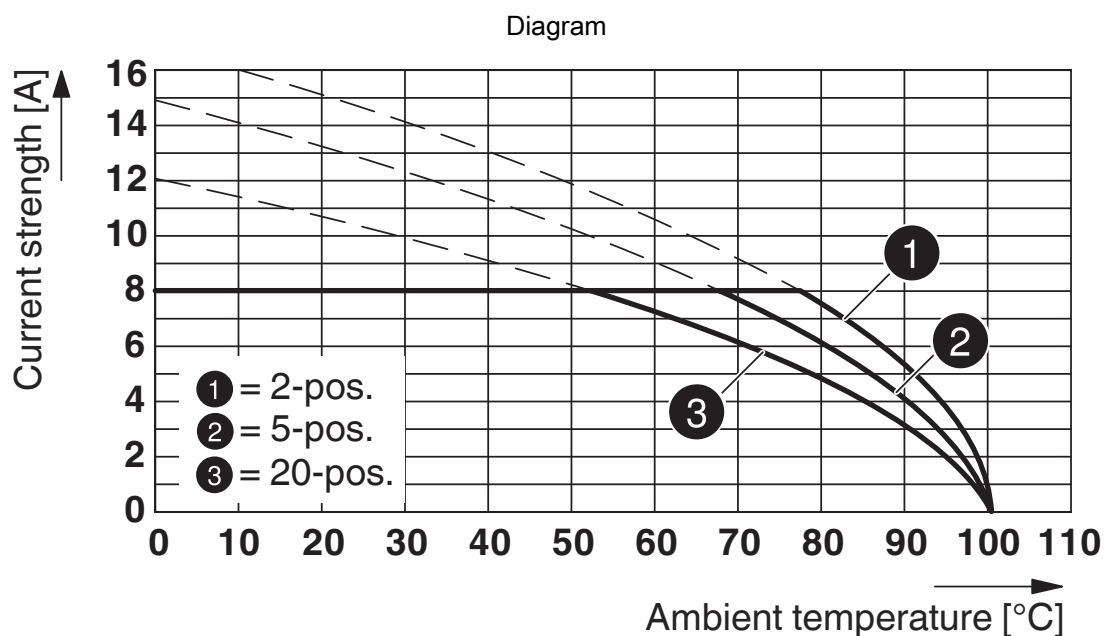
## Packaging specifications

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

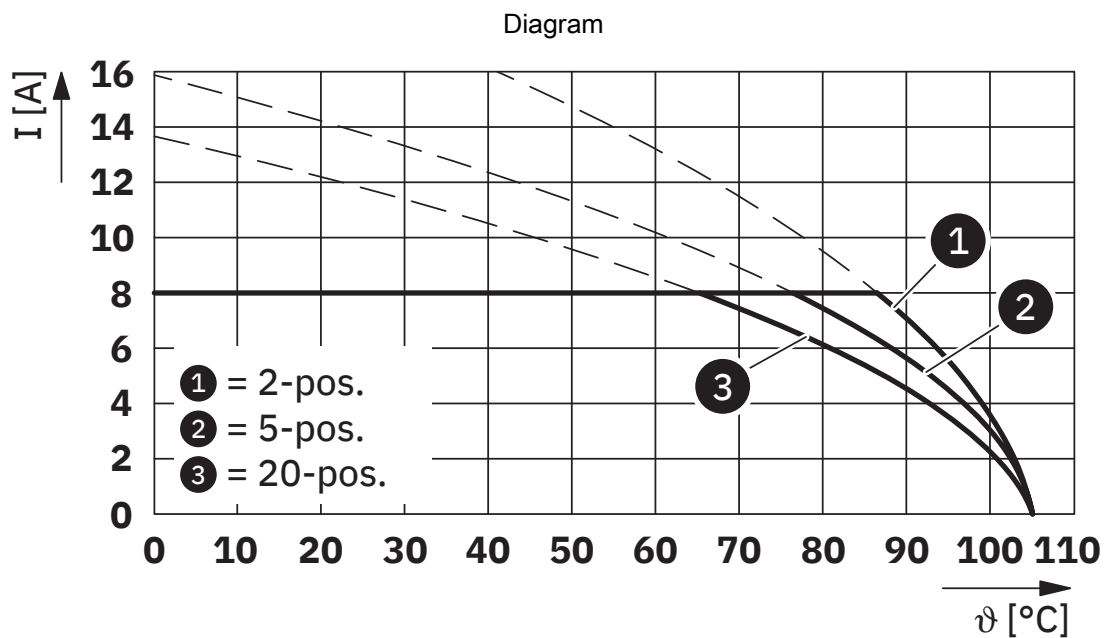
## Drawings



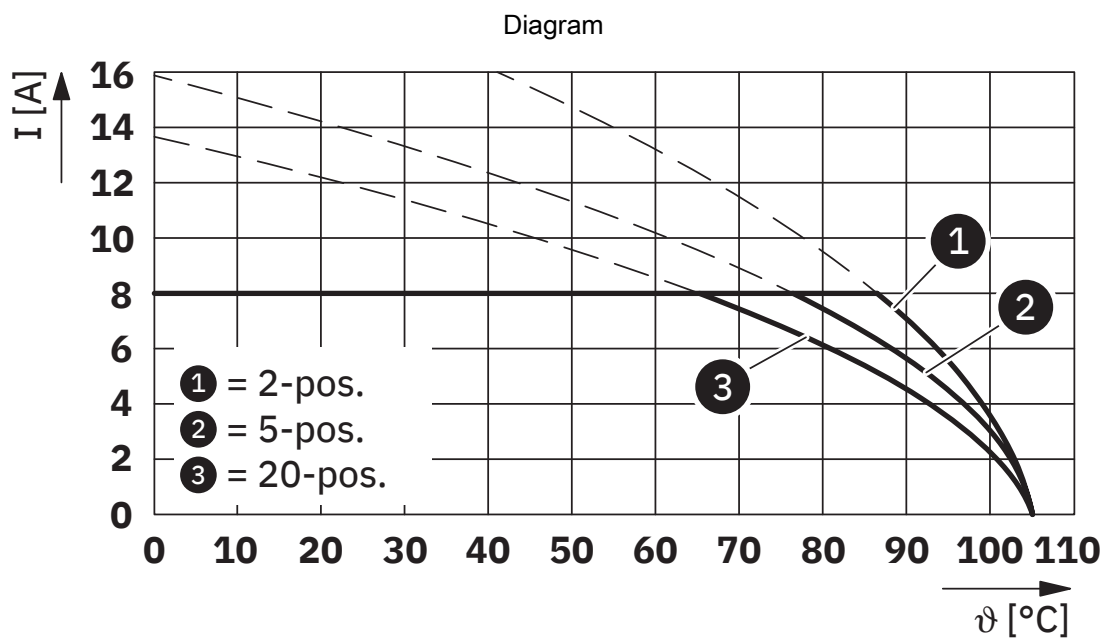
Type: DFMC 1,5/...-ST-3,5-LR with DMC 1,5/...-G1F-3,5-LR P...THR



Type: DFMC 1,5/...-ST-3,5-LR with DMCV 1,5/...-G1F-3,5-LR P20THR

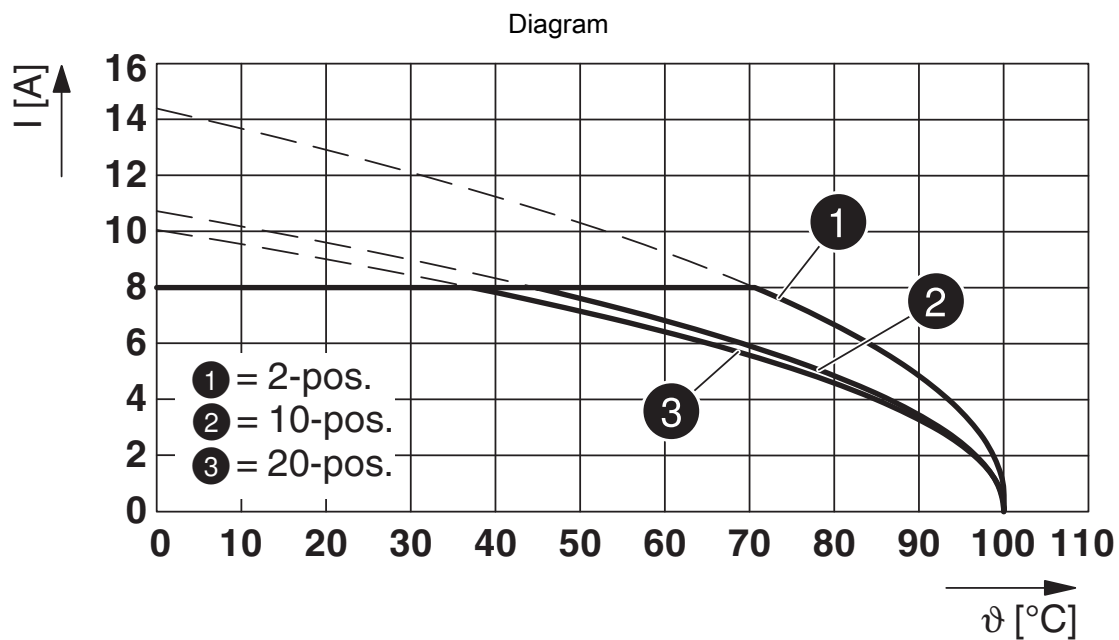


Type: DFMC 1,5/...-ST-3,5-LR with DMC 1,5/...-G1-3,5-LR P...THR



Type: DFMC 1,5/...-ST-3,5-LR with DMC 1,5/...-G1F-3,5-LR P35





Type: DFMC 1,5/...-ST-3,5-LR with DMCV 1,5/...-G1F-3,5-LR P35

# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1034446>

|  <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                                                                                                                                         |                       |                       |                   |                             |
| Field wiring                                                                                                                              | 300 V                 | 8 A                   | 24 - 16           | -                           |
| C                                                                                                                                         |                       |                       |                   |                             |
| Factory wiring                                                                                                                            | 50 V                  | 8 A                   | 24 - 16           | -                           |
| D                                                                                                                                         |                       |                       |                   |                             |
| Field wiring                                                                                                                              | 300 V                 | 8 A                   | 24 - 16           | -                           |

|  <b>VDE report with production monitoring</b><br>Approval ID: 40038423 |                       |                       |                   |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                                   |                       |                       |                   |                             |
|                                                                                                                                                         | 160 V                 | 8 A                   | -                 | 0.2 - 1.5                   |

# DFMC 1,5/ 9-ST-3,5-LR BD:-28SO - PCB connector



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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002638 |
|----------|----------|

### UNSPSC

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

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%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.205 kg CO2e                            |