

# MDSTB 2,5/ 3-G-5,08 BEIGE - PCB header



1834819

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: beige, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 6, number of rows: 2, number of positions: 3, number of connections: 6, product range: MDSTB 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.23 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Easy PCB replacement thanks to plug-in modules
- Well-known mounting principle allows worldwide use
- Conductor connection on several levels enables higher contact density

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1834819                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA03                           |
| Product key                          | AACSDA                         |
| GTIN                                 | 4017918262495                  |
| Weight per piece (including packing) | 4.86 g                         |
| Weight per piece (excluding packing) | 3.9 g                          |
| Customs tariff number                | 85366930                       |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | MDSTB 2,5/...-G       |
| Product line              | COMBICON Connectors M |
| Number of positions       | 3                     |
| Pitch                     | 5.08 mm               |
| Number of connections     | 6                     |
| Number of rows            | 2                     |
| Number of potentials      | 6                     |
| Mounting type             | without               |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 1                     |

### Electrical properties

#### Properties

|                             |                |
|-----------------------------|----------------|
| Nominal current $I_N$       | 10 A           |
| Nominal voltage $U_N$       | 320 V          |
| Contact resistance          | 2.8 m $\Omega$ |
| Rated voltage (III/3)       | 250 V          |
| Rated surge voltage (III/3) | 4 kV           |
| Rated voltage (III/2)       | 320 V          |
| Rated surge voltage (III/2) | 4 kV           |
| Rated voltage (II/2)        | 400 V          |
| Rated surge voltage (II/2)  | 4 kV           |

### Mounting

|               |                |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout    | Linear pinning |

### 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                     | Tin-plated                                                                       |
| Metal surface contact area (top layer)      | Tin (5 $\mu\text{m}$ - 7 $\mu\text{m}$ Sn)                                       |
| Metal surface contact area (middle layer)   | Nickel (2 $\mu\text{m}$ - 3 $\mu\text{m}$ Ni)                                    |
| Metal surface soldering area (top layer)    | Tin (5 $\mu\text{m}$ - 7 $\mu\text{m}$ Sn)                                       |
| Metal surface soldering area (middle layer) | Nickel (2 $\mu\text{m}$ - 3 $\mu\text{m}$ Ni)                                    |

#### Material data - housing

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|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | beige (7032) |
| Insulating material                    | PBT          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 225          |
| Flammability rating according to UL 94 | V0           |

## 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. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dimensions

|                       |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| Dimensional drawing   |  |
| Pitch                 | 5.08 mm                                                                            |
| Width [w]             | 17.78 mm                                                                           |
| Height [h]            | 26.93 mm                                                                           |
| Length [l]            | 22.1 mm                                                                            |
| Installed height      | 23.7 mm                                                                            |
| Solder pin length [P] | 3.23 mm                                                                            |
| Pin dimensions        | 1 x 1 mm                                                                           |

## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.4 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            |

### Contact holder in insert

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

## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 8 N                    |
| Withdraw strength per pos. approx.  | 6 N                    |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 12                    |

### 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 225             |
| Rated insulation voltage (III/3)                       | 250 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 4 mm                |
| Rated insulation voltage (III/2)                       | 320 V               |
| Rated surge voltage (III/2)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/2) | 3 mm                |
| minimum creepage distance (III/2)                      | 3.2 mm              |
| Rated insulation voltage (II/2)                        | 400 V               |
| Rated surge voltage (II/2)                             | 4 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm                |
| minimum creepage distance (II/2)                       | 4 mm                |

## Environmental and real-life conditions

### Durability test

|                                             |                       |
|---------------------------------------------|-----------------------|
| Specification                               | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level      | 4.8 kV                |
| Contact resistance R <sub>1</sub>           | 2.8 mΩ                |
| Contact resistance R <sub>2</sub>           | 2.8 mΩ                |
| Contact resistance R <sub>2</sub> 2nd level | 2.5 mΩ                |
| Insertion/withdrawal cycles                 | 25                    |

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|                                              |        |
|----------------------------------------------|--------|
| 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                    | 100 °C/168 h                                                              |
| Power-frequency withstand voltage | 2.21 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 | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

## Packaging specifications

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

Drawings

Diagram

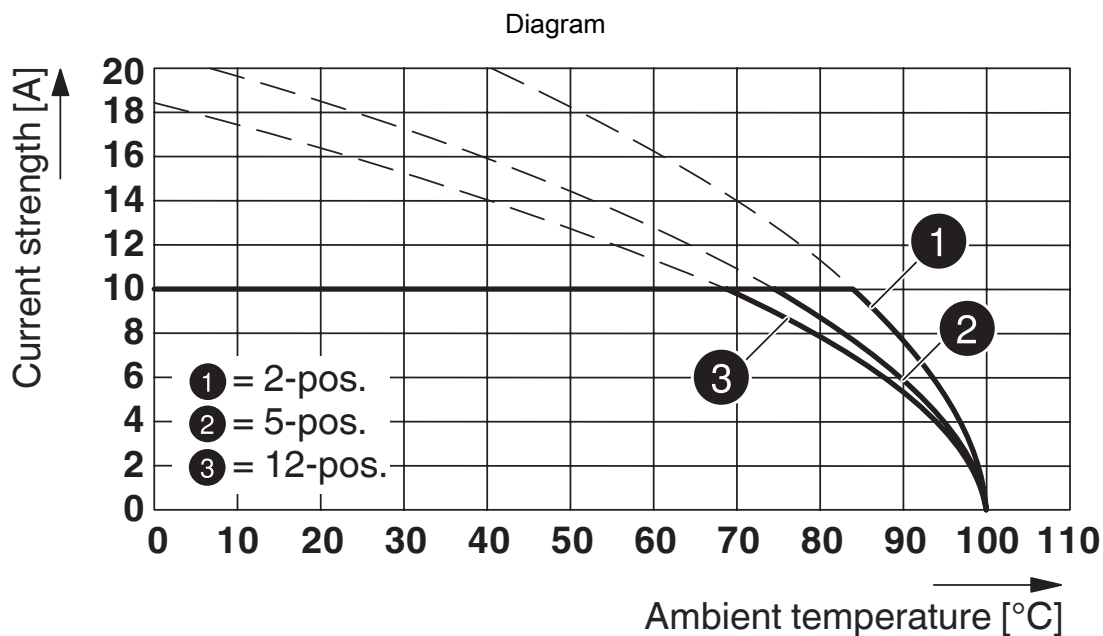


Type: MVSTBW 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08

Diagram



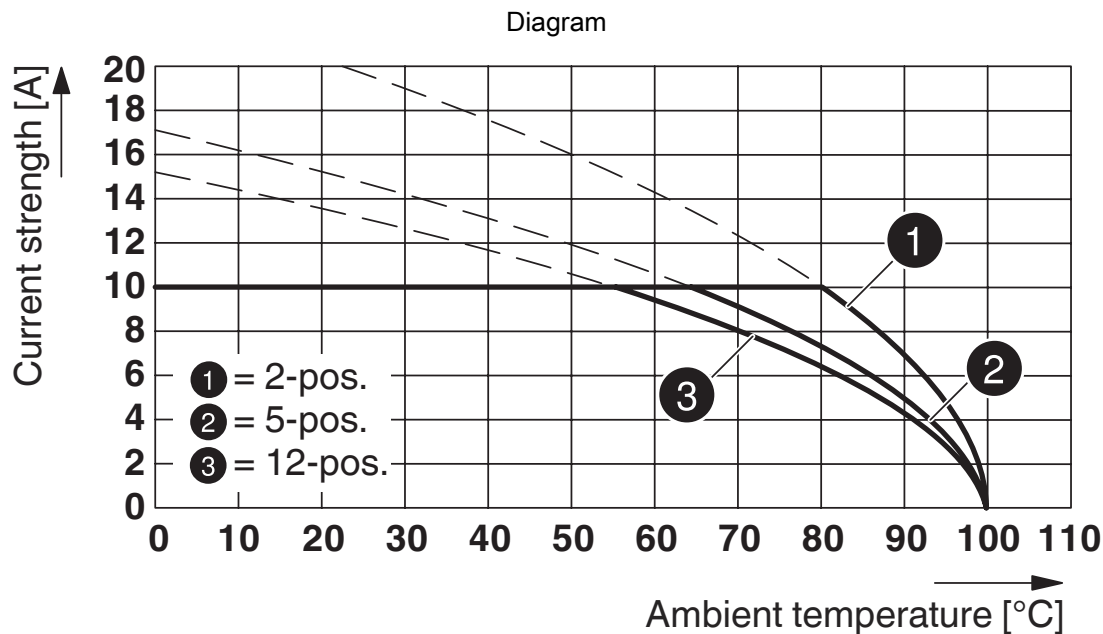
Type: MSTB 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



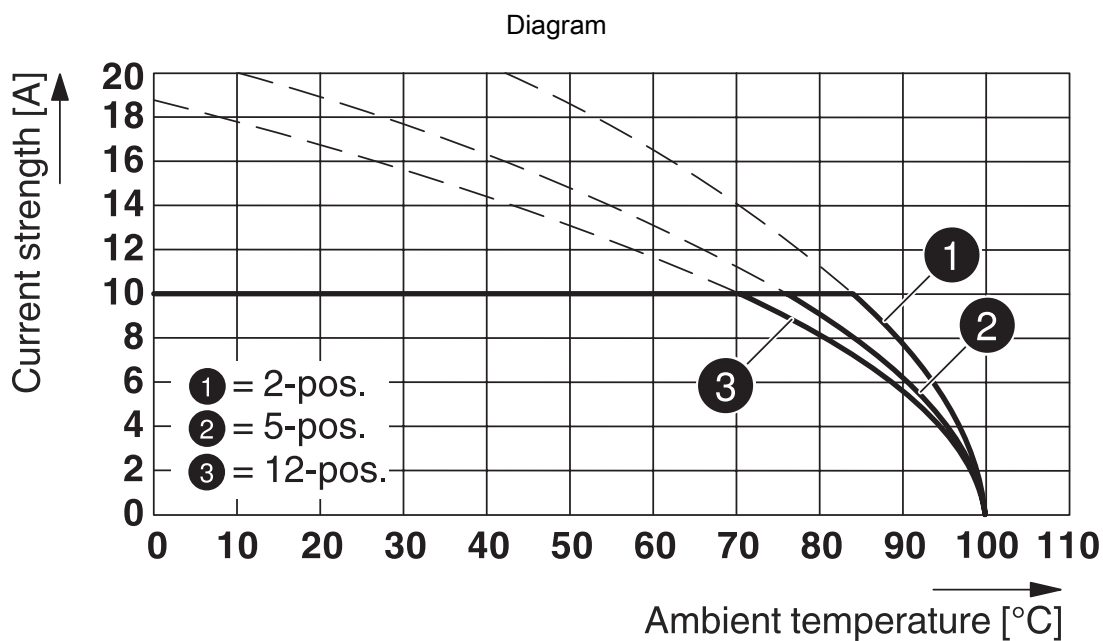
Type: MSTBT 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



Type: MSTBP 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



Type: FRONT-MSTB 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



Type: FK 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



Type:FKCV(R/W) 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08



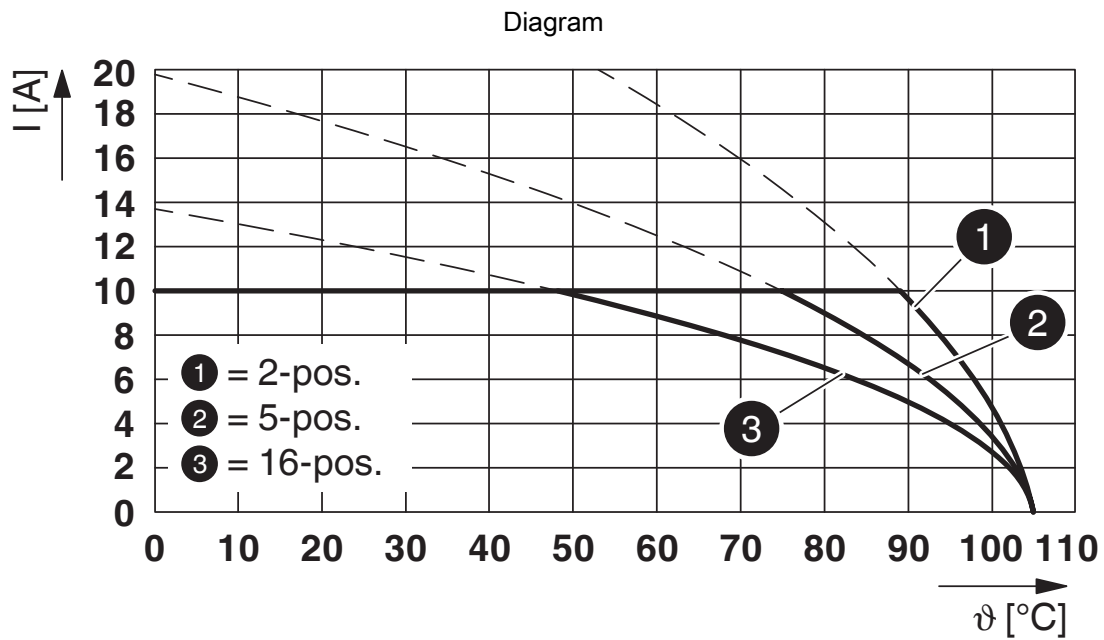
Type: FKCT 2,5/...-ST-5,08 with MDSTB 2,5/...-G-5,08

# MDSTB 2,5/ 3-G-5,08 BEIGE - PCB header



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Type: IC 2,5/...-G-5,08 with MDSTB 2,5/...-G-5,08

# MDSTB 2,5/ 3-G-5,08 BEIGE - PCB header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1834819>

|  <b>CSA</b><br>Approval ID: 2585950 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                      | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                    | 300 V                 | 15 A                  | -                 | -                           |
| D                                                                                                                    | 300 V                 | 15 A                  | -                 | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19931011 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                         | 300 V                 | 15 A                  | -                 | -                           |
| D                                                                                                                                         | 300 V                 | 10 A                  | -                 | -                           |

|  <b>VDE approval of drawings</b><br>Approval ID: 40050648 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                        | 250 V                 | 10 A                  | -                 | -                           |

# MDSTB 2,5/ 3-G-5,08 BEIGE - PCB header



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## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.044 kg CO2e |
|---------|---------------|

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