

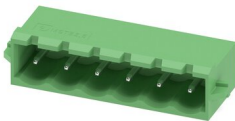
# MSTBA 2,5/ 6-G-5,08-RN - PCB header



1926057

<https://www.phoenixcontact.com/us/products/1926057>

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: MSTBA 2,5/..-G-RN, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Snap-in locking, mounting: Engagement nose, type of packaging: packed in cardboard, Article with engagement nose

## Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Well-known mounting principle allows worldwide use
- Closed contour for optimum stability of the plug-in connection
- Intuitive locking mechanism prevents accidental disconnection

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1926057             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 50 pc               |
| Sales Key                            | AA03                |
| Product Key                          | AACSHI              |
| Catalog Page                         | Page 313 (C-1-2013) |
| GTIN                                 | 4017918820107       |
| Weight per Piece (including packing) | 2.96 g              |
| Weight per Piece (excluding packing) | 2.606 g             |
| Customs tariff number                | 85366930            |
| Country of origin                    | DE                  |

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## Technical Data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Type                      | Standard              |
| Product line              | COMBICON Connectors M |
| Product type              | PCB headers           |
| Product family            | MSTBA 2,5/..-G-RN     |
| Number of positions       | 6                     |
| Pitch                     | 5.08 mm               |
| Number of connections     | 6                     |
| Number of rows            | 1                     |
| Mounting flange           | Engagement nose       |
| Number of potentials      | 6                     |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 1                     |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 12 A   |
| Nominal voltage $U_N$       | 320 V  |
| Degree of pollution         | 3      |
| Contact resistance          | 0.8 mΩ |
| 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 (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

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|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | green (6021) |
| Insulating material                    | PBT          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 225          |
| Flammability rating according to UL 94 | V0           |

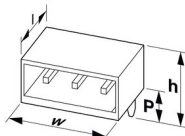
## Material data – actuating element

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

## 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]             | 36.3 mm                                                                             |
| Height [h]            | 12.1 mm                                                                             |
| Length [l]            | 12 mm                                                                               |
| Installed height      | 8.6 mm                                                                              |
| Solder pin length [P] | 3.5 mm                                                                              |

## PCB design

|             |         |
|-------------|---------|
| Pin spacing | 5.08 mm |
|-------------|---------|

## Mechanical tests

### 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 |
|                                                                             | 2.5 mm <sup>2</sup> / solid / > 50 N    |
|                                                                             | 2.5 mm <sup>2</sup> / flexible / > 50 N |

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## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 8 N         |
| Withdraw strength per pos. approx.  | 6 N         |

## Contact holder in insert

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

## Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

## Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result        | Test passed           |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 18                    |

### 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                |

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

### 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) |
| Sweep speed            | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |

### Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Contact resistance $R_1$                     | 0.8 mΩ                |
| Contact resistance $R_2$                     | 0.9 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                    | 100 °C/168 h                                                              |
| Power-frequency withstand voltage | 2.21 kV                                                                   |

### Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 100 °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

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

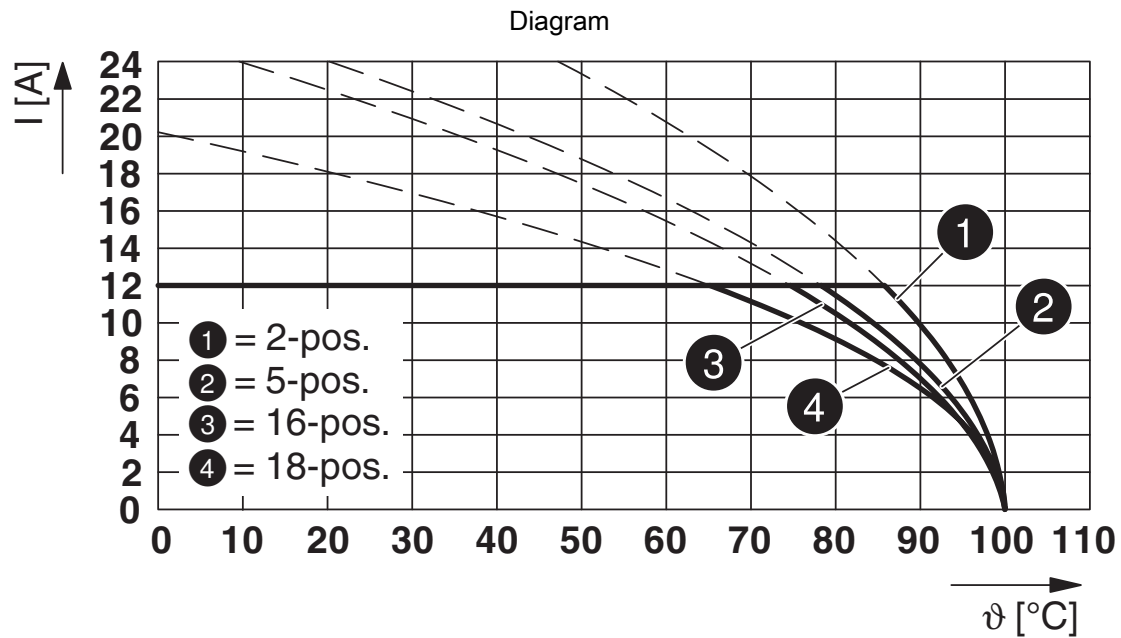
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## Drawings



Type: FKC 2,5/...-ST-5,08-RF with MSTBA 2,5/...-G-5,08-RN

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## Approvals

|                                                                                   |                             |                       |                       |                               |
|-----------------------------------------------------------------------------------|-----------------------------|-----------------------|-----------------------|-------------------------------|
|  | <b>IECEE CB Scheme</b>      |                       |                       |                               |
|                                                                                   | Approval ID: DE1-60988-B1B2 |                       |                       |                               |
|                                                                                   |                             | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG             |
|                                                                                   |                             | 250 V                 | 12 A                  | -                             |
|                                                                                   |                             |                       |                       | Cross Section mm <sup>2</sup> |
|                                                                                   |                             |                       |                       | -                             |

|                                                                                   |                      |
|-----------------------------------------------------------------------------------|----------------------|
|  | <b>EAC</b>           |
|                                                                                   | Approval ID: B.01687 |

|                                                                                   |                              |                       |                       |                               |
|-----------------------------------------------------------------------------------|------------------------------|-----------------------|-----------------------|-------------------------------|
|  | <b>cULus Recognized</b>      |                       |                       |                               |
|                                                                                   | Approval ID: E60425-19931011 |                       |                       |                               |
|                                                                                   |                              | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG             |
| Use group B                                                                       |                              |                       |                       | Cross Section mm <sup>2</sup> |
|                                                                                   |                              | 300 V                 | 15 A                  | -                             |
| Use group D                                                                       |                              |                       |                       |                               |
|                                                                                   |                              | 300 V                 | 10 A                  | -                             |
|                                                                                   |                              |                       |                       | -                             |

|                                                                                     |                               |                       |                       |                               |
|-------------------------------------------------------------------------------------|-------------------------------|-----------------------|-----------------------|-------------------------------|
|  | <b>VDE Zeichengenehmigung</b> |                       |                       |                               |
|                                                                                     | Approval ID: 40050648         |                       |                       |                               |
|                                                                                     |                               | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG             |
|                                                                                     |                               | 250 V                 | 12 A                  | -                             |
|                                                                                     |                               |                       |                       | Cross Section mm <sup>2</sup> |
|                                                                                     |                               |                       |                       | -                             |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002637 |
|----------|----------|

### UNSPSC

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

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## Environmental Product Compliance

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

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## Accessories

### CR-MSTB - Coding section

1734401

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Coding section, inserted into the recess in the header or the inverted plug, red insulating material



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