

# Printed-circuit board connector - MSTBU 2,5/ 2-STD-5,08 BK - 1735066

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PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: black, contact surface: Tin, mounting: Direct mounting



The figure shows a 10-position version of the product

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors



## Key Commercial Data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| GTIN                                 |                                |
| GTIN                                 | 4046356172615                  |
| Weight per Piece (excluding packing) | 4.420 g                        |
| Custom tariff number                 | 85366990                       |
| Country of origin                    | Germany                        |
| Note                                 | Made to Order (non-returnable) |

## Technical data

### Item properties

|                           |                                      |
|---------------------------|--------------------------------------|
| Brief article description | Printed-circuit board connector      |
| Plug-in system            | CLASSIC COMBICON                     |
| Type of contact           | Female connector                     |
| Range of articles         | MSTBU 2,5/..-STD                     |
| Pitch                     | 5.08 mm                              |
| Number of positions       | 2                                    |
| Connection method         | Screw connection with tension sleeve |

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## Technical data

### Item properties

|                       |                 |
|-----------------------|-----------------|
| Drive form screw head | Slotted (L)     |
| Mounting type         | Direct mounting |
| Locking               | without         |
| Number of levels      | 1               |
| Number of connections | 2               |
| Number of potentials  | 2               |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 12 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 320 V |
| Rated voltage (III/2)       | 320 V |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated surge voltage (III/2) | 4 kV  |
| Rated surge voltage (II/2)  | 4 kV  |

### Connection capacity

|   |  |
|---|--|
| Connection method   | Screw connection with tension sleeve         |
| pluggable   | Yes  |
| Conductor cross section solid   | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross section AWG / kcmil   | 24 ... 12                                    |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, solid   | 0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>    |
| 2 conductors with same cross section, flexible  | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>    |
| Stripping length  | 7 mm   |
| Torque  | 0.5 Nm ... 0.6 Nm                            |

### 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

|               |              |
|---------------|--------------|
| Housing color | black (9005) |
|---------------|--------------|

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## Technical data

### Material data - housing

|  |     |
|--|-----|
| Insulating material                    | PA  |
| Insulating material group              | I   |
| CTI according to IEC 60112             | 600 |
| Flammability rating according to UL 94 | V0  |

### Dimensions for the product

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 25.5 mm  |
| Width [ w ]                 | 20.04 mm |
| Height [ h ]                | 17 mm    |
| Pitch                       | 5.08 mm  |
| Height (without solder pin) | 17 mm    |

### Packaging information

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

### General product information

|      |  |
|------|--|
| Note | 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. |
|------|--|

### 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) |

### Termination and connection method

|  |                     |
|--|---------------------|
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
|  | Test passed         |

### Pull-out test

|  |  |
|--|--|
| Pull-out test  | IEC 60999-1:1999-11                      |
|  | Test passed                              |
| Conductor cross section / conductor type / tensile force | 0.14 mm <sup>2</sup> / solid / > 10 N    |
|  | 0.14 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  |

### Mechanical tests according to standard

|                       |                                    |
|-----------------------|------------------------------------|
| Test specification    | IEC 61984                          |
| Visual examination    | Test passed IEC 60512-1-1:2002-02  |
| Dimensional test      | Test passed IEC 60512-1-2:2002-02  |
| Resistance of marking | Test passed IEC 60068-2-70:1995-12 |
| Result                | Test passed                        |

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## Technical data

### Mechanical tests according to standard

|                                     |                                    |
|-------------------------------------|------------------------------------|
| Specification                       | IEC 60512-13-2:2006-02             |
| No. of cycles                       | 25                                 |
| Insertion strength per pos. approx. | 8 N                                |
| Withdraw strength per pos. approx.  | 6 N                                |
| Polarization and coding             | Test passed IEC 60512-13-5:2006-02 |
| Result                              | Test passed                        |
| Specification                       | IEC 60512-15-1:2008-05             |
| Test force per pos.                 | 31 N                               |

### 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) | 3 mm                |
| Minimum clearance - inhomogeneous field (III/2) | 3 mm                |
| Minimum clearance - inhomogeneous field (II/2)  | 3 mm                |
| Minimum creepage distance value (III/3)         | 4 mm                |
| Minimum creepage distance value (III/2)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Current carrying capacity / derating curves

|               |           |
|---------------|-----------|
| Specification | IEC 61984 |
|---------------|-----------|

### Mechanical tests (A)

|  |             |
|--|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 8 N         |
| Withdraw strength per pos. approx.           | 6 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>            | 2.5 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 2.5 mΩ                |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | > 0.5 TΩ              |

### 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 |

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## Technical data

### Climatic tests (D)

|  |         |
|--|---------|
| Impulse withstand voltage at sea level | 4.8 kV  |
| Power-frequency withstand voltage      | 2.21 kV |

### Environmental and durability tests (E)

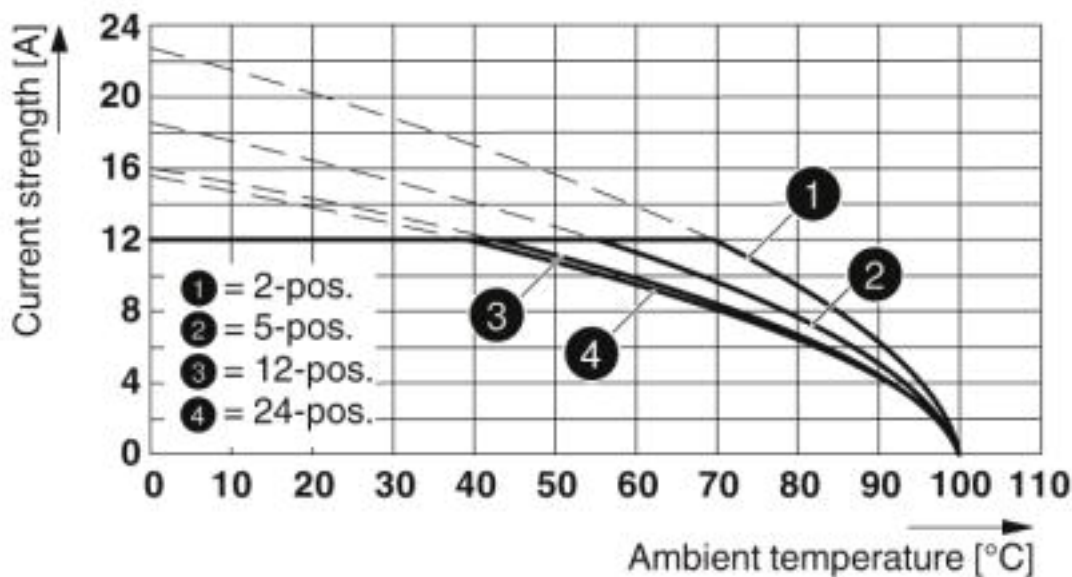
|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Diagram



Type: MSTBU 2,5/...-STD-5,08 with MSTB 2,5/...-G-5,08

## Classifications

eCl@ss

|            |          |
|------------|----------|
| 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 | 27440309 |

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 8.0 | 27440309 |
| eCl@ss 9.0 | 27440309 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002638 |
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

### 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

CSA / IECCEB CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung


#### Ex Approvals

### Approval details


|                            |   |   |       |
|----------------------------|---|---|-------|
| CSA                        |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|                            | B   | D   |       |
| Nominal voltage UN         | 300 V   | 300 V   |       |
| Nominal current IN         | 10 A  | 10 A  |       |
| mm <sup>2</sup> /AWG/kcmil | 28-12   | 28-12   |       |


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## Approvals

|                            |   |   |                |
|----------------------------|---|---|----------------|
| IECEE CB Scheme            |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60988-B1B2 |
| Nominal voltage UN         | 250 V   |   |                |
| Nominal current IN         | 12 A  |   |                |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5   |   |                |

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

|                            |   |   |                 |
|----------------------------|---|---|-----------------|
| 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> | E60425-19931014 |
|                            | B   | D   |                 |
| Nominal voltage UN         | 250 V   | 300 V   |                 |
| Nominal current IN         | 12 A  | 10 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 30-12   | 30-12   |                 |

|                            |   |   |          |
|----------------------------|---|---|----------|
| VDE Zeichengenehmigung     |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40050694 |
| Nominal voltage UN         | 250 V   |   |          |
| Nominal current IN         | 12 A  |   |          |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5   |   |          |