

## Printed-circuit board connector - MSTB 2,5 HC/ 2-ST - 1911855

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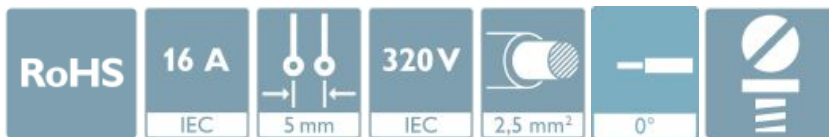


The figure shows a 10-pos. version of the product in green

PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 2, Number of rows: 1, Number of positions per row: 2, number of connections: 2, product range: MSTB 2,5 HC/...-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, plug-in system: POWER COMBICON 2,5, Locking: without, type of packaging: packed in cardboard

### Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ Integrated double steel spring provides additional safety in the event of temperature and power fluctuations



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 50 pc                                                                                                   |
| GTIN         | <br>4 017918 191009 |
| GTIN         | 4017918191009                                                                                           |

### Technical data

#### Item properties

|                           |                    |
|---------------------------|--------------------|
| Brief article description | PCB connector      |
| Plug-in system            | POWER COMBICON 2,5 |
| Type of contact           | Female connector   |
| Range of articles         | MSTB 2,5 HC/...-ST |
| Pitch                     | 5 mm               |
| Number of positions       | 2                  |
| Drive form screw head     | Slotted (L)        |
| Screw thread              | M3                 |
| Locking                   | without            |
| Number of levels          | 1                  |
| Number of connections     | 2                  |

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## Technical data

### Item properties

|                      |   |
|----------------------|---|
| Number of potentials | 2 |
|----------------------|---|

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 16 A  |
| Nom. voltage                | 320 V |
| Rated voltage (III/3)       | 250 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> ... 1.5 mm <sup>2</sup>  |
| Cylindrical gauge a x b / diameter                                                        | 2.8 mm x 2.4 mm / 2.5 mm                     |
| 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                          | green (6021) |
| Insulating material                    | PA           |
| Insulating material group              | I            |
| CTI according to IEC 60112             | 600          |
| Flammability rating according to UL 94 | V0           |

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## Technical data

### Material data - housing

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

### Dimensions for the product

|                             |                                                                                            |
|-----------------------------|--------------------------------------------------------------------------------------------|
| Caption                     | Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center |
| Length [ l ]                | 18.1 mm                                                                                    |
| Width [ w ]                 | 10 mm                                                                                      |
| Height [ h ]                | 15 mm                                                                                      |
| Pitch                       | 5 mm                                                                                       |
| Height (without solder pin) | 15 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         |
| Conductor cross section / conductor type / tensile force | 0.2 mm² / solid / > 10 N    |
|                                                          | 0.2 mm² / flexible / > 10 N |
|                                                          | 2.5 mm² / solid / > 50 N    |
|                                                          | 2.5 mm² / flexible / > 50 N |

### Mechanical tests according to standard

|                                |                        |
|--------------------------------|------------------------|
| Test specification             | IEC 61984              |
| Visual inspection              | IEC 60512-1-1:2002-02  |
| Dimension check                | IEC 60512-1-2:2002-02  |
| Resistance of inscriptions     | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | IEC 60512-13-2:2006-02 |
| No. of cycles                  | 50                     |

# Printed-circuit board connector - MSTB 2,5 HC/ 2-ST - 1911855

## Technical data

### Mechanical tests according to standard

|                                     |                        |
|-------------------------------------|------------------------|
| Insertion strength per pos. approx. | 4 N                    |
| Withdraw strength per pos. approx.  | 3 N                    |
| Polarization and coding             | IEC 60512-13-5:2006-02 |
| Contact holder in insert            | IEC 60512-15-1:2008-05 |
| Test force per pos.                 | 41.5 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)         | 3.2 mm              |
| Minimum creepage distance value (III/2)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Current carrying capacity / derating curves

|         |                                                                 |
|---------|-----------------------------------------------------------------|
| Caption | Derating curve for: MSTB 2,5 HC/...-ST with MSTBVA 2,5 HC/...-G |
|---------|-----------------------------------------------------------------|

### Mechanical tests (A)

|                                              |             |
|----------------------------------------------|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 4 N         |
| Withdraw strength per pos. approx.           | 3 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>      | 0.6 mΩ                |
| Insertion/withdrawal cycles            | 50                    |
| Contact resistance R <sub>2</sub>      | 0.7 mΩ                |
| Impulse withstand voltage at sea level | 4.8 kV                |

### Thermal tests (C)

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 12                    |
| 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 | 4.8 kV                                                                    |

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## Technical data

### Climatic tests (D)

|                                   |         |
|-----------------------------------|---------|
| Power-frequency withstand voltage | 2.21 kV |
|-----------------------------------|---------|

### Environmental and durability tests (E)

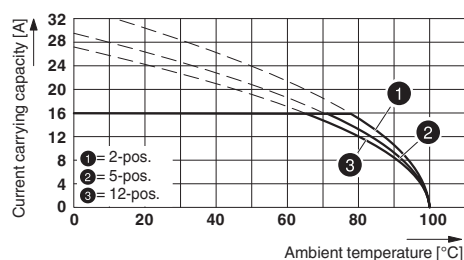
|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with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

### Environmental Product Compliance

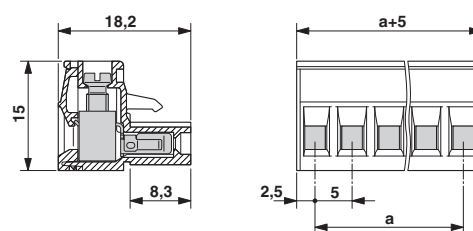
|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| China RoHS | Environmentally Friendly Use Period = 50 years     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

## Drawings

Diagram



Dimensional drawing



Derating curve for: MSTB 2,5 HC/...-ST with MSTBVA 2,5 HC/...-G

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| eCl@ss 11.0   | 27460202 |
| 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 |
| eCl@ss 9.0    | 27440309 |

### ETIM

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

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## 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

VDE Zeichengenehmigung / IECCEB Scheme / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|                        |                                                                                     |                                                                                                                                                                                                           |          |
|------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 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> | 40050079 |
| Nominal voltage UN     | 250 V                                                                               |                                                                                                                                                                                                           |          |
| Nominal current IN     | 16 A                                                                                |                                                                                                                                                                                                           |          |
| mm²/AWG/kcmil          | 0.2-2.5                                                                             |                                                                                                                                                                                                           |          |

|                    |                                                                                     |                                                           |                |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------|
| IECCEB Scheme      |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60988-B1B2 |
| Nominal voltage UN | 250 V                                                                               |                                                           |                |
| Nominal current IN | 16 A                                                                                |                                                           |                |
| mm²/AWG/kcmil      | 0.2-2.5                                                                             |                                                           |                |

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

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## 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> | E60425-19931011 |
|                    | B                                                                                 | D                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V                                                                             | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 16 A                                                                              | 10 A                                                                                                                                                  |                 |
| mm²/AWG/kcmil      | 30-12                                                                             | 30-12                                                                                                                                                 |                 |

## Accessories

### Accessories

#### Coding element

Coding profile - CP-MSTB - 1734634



Coding profile, is inserted into the slot on the plug or inverted header, red insulating material

### Labeled terminal marker

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

Marker card - SK 3,8 REEL P5 WH CUS - 0825124



Marker card, Card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 3.8 mm

### Screwdriver tools

# Printed-circuit board connector - MSTB 2,5 HC/ 2-ST - 1911855

## Accessories

Screwdriver - SZS 0,6X3,5 - 1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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## Terminal marking

Marker card - SK U/3,8 WH:UNBEDRUCKT - 0803906



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440

Marker strip - SK 3,8 WH:REEL - 0805218



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 90000 mm, lettering field size: continuous x 3.8 mm, Number of individual labels: 210000

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## Additional products

Feed-through header - MSTBA 2,5 HC/ 2-G - 1923759



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 2, Number of rows: 1, Number of positions per row: 2, number of connections: 2, product range: MSTBA 2,5 HC/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: POWER COMBICON 2,5, Locking: without, type of packaging: packed in cardboard

Feed-through header - MSTBVA 2,5 HC/ 2-G - 1924198



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 2, Number of rows: 1, Number of positions per row: 2, number of connections: 2, product range: MSTBVA 2,5 HC/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, plug-in system: POWER COMBICON 2,5, Locking: without, type of packaging: packed in cardboard

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