

# Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

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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: 15, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



The figure shows a 10-position version of the product

## Your advantages

- Well-known connection principle allows worldwide use
- Easy PCB replacement thanks to plug-in modules
- Screwable flange for superior mechanical stability
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections
- Can be combined with the MSTB 2,5 range
- Low temperature rise, thanks to maximum contact force



## Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 50 pc         |
| GTIN         |               |
| GTIN         | 4017918049607 |

## Technical data

### Item properties

|                           |                                      |
|---------------------------|--------------------------------------|
| Brief article description | Printed-circuit board connector      |
| Plug-in system            | CLASSIC COMBICON                     |
| Type of contact           | Male connector                       |
| Range of articles         | IC 2,5/...-STF                       |
| Pitch                     | 5.08 mm                              |
| Number of positions       | 15                                   |
| Connection method         | Screw connection with tension sleeve |
| Drive form screw head     | Slotted (L)                          |
| Screw thread              | M3                                   |

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## Technical data

### Item properties

|                       |              |
|-----------------------|--------------|
| Locking               | Screw flange |
| Number of levels      | 1            |
| Number of connections | 15           |
| Number of potentials  | 15           |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 12 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 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>  |
| Stripping length  | 7 mm   |
| Torque  | 0.5 Nm ... 0.6 Nm                            |

### Flange specifications

|                 |               |
|-----------------|---------------|
| Type of locking | Screw locking |
| Mounting flange | Screw flange  |
| Torque          | 0.3 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                     | Tin-plated  |
| Metal surface terminal point (top layer)    | Tin (5 - 7 µm Sn)   |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 µm Ni)  |

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## Technical data

### Material data - contact

|   |                       |
|---|-----------------------|
| Metal surface contact area (top layer)    | Tin (5 - 7 µm Sn)     |
| Metal surface contact area (middle layer) | Nickel (2 - 3 µm Ni), |

### 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           |
| 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

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 19 mm    |
| Width [ w ]                 | 86.32 mm |
| Height [ h ]                | 15 mm    |
| Pitch                       | 5.08 mm  |
| Height (without solder pin) | 15 mm    |

### Packaging information

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

### 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 | 0.2 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 |

### Mechanical tests according to standard

|                    |                       |
|--------------------|-----------------------|
| Test specification | IEC 61984             |
| Visual inspection  | IEC 60512-1-1:2002-02 |

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## Technical data

### Mechanical tests according to standard

|                                     |                        |
|-------------------------------------|------------------------|
| 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                       | 25                     |
| Insertion strength per pos. approx. | 8 N                    |
| Withdraw strength per pos. approx.  | 7 N                    |
| Polarization and coding             | IEC 60512-13-5:2006-02 |

### 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)         | 1.6 mm              |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Current carrying capacity / derating curves

|                  |   |
|------------------|---|
| Caption          | Type: (U)MSTBVK 2,5/...-STF-5,08 with IC 2,5/...-STF-5,08 |
| Specification    | IEC 61984:2008-10   |
| Reduction factor | 0.8   |
| Note             | Representation based on IEC 60512-5-2:2002-02             |
|                  | For number of positions, see diagram                      |

### Mechanical tests (A)

|  |             |
|--|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 8 N         |
| Withdraw strength per pos. approx.           | 7 N         |
| Polarization when inserted requirement >20 N | Test passed |

### Durability tests (B)

|  |                       |
|--|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Contact resistance R <sub>1</sub>            | 2.9 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 3 mΩ                  |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | 2 TΩ                  |

### Thermal tests (C)

|                     |                       |
|---------------------|-----------------------|
| Specification       | IEC 60512-5-1:2002-02 |
| Number of positions | 16                    |

# Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

## Technical data

### Thermal tests (C)

|   |                     |
|---|---------------------|
| Conductor cross section                         | 2.5 mm <sup>2</sup> |
| Test current                                    | 12 A DC             |
| 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  |
| Power-frequency withstand voltage      | 2.21 kV   |

### Environmental and durability tests (E)

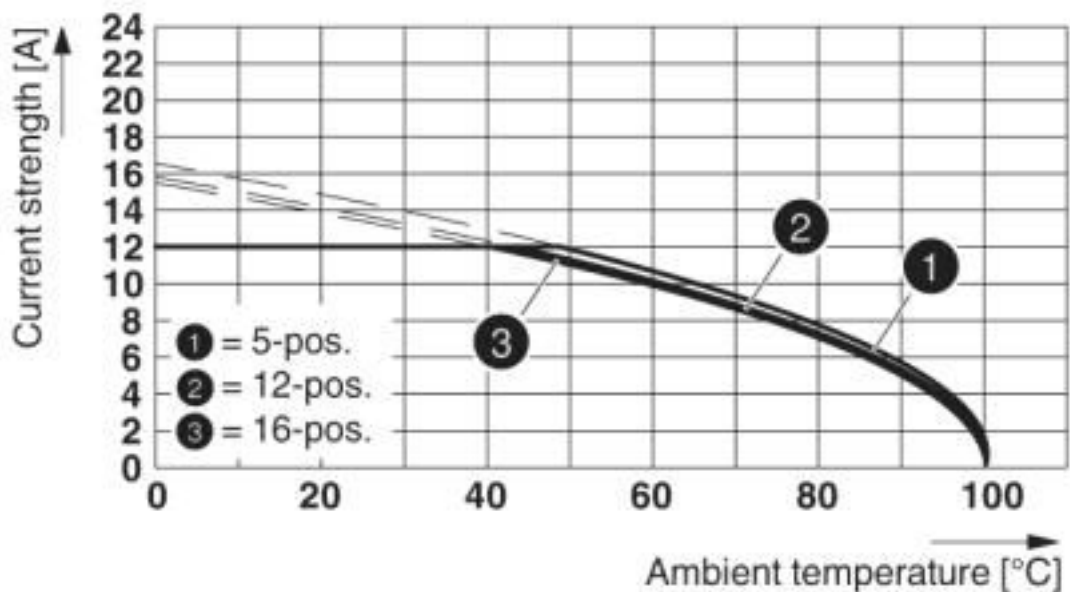
|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with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

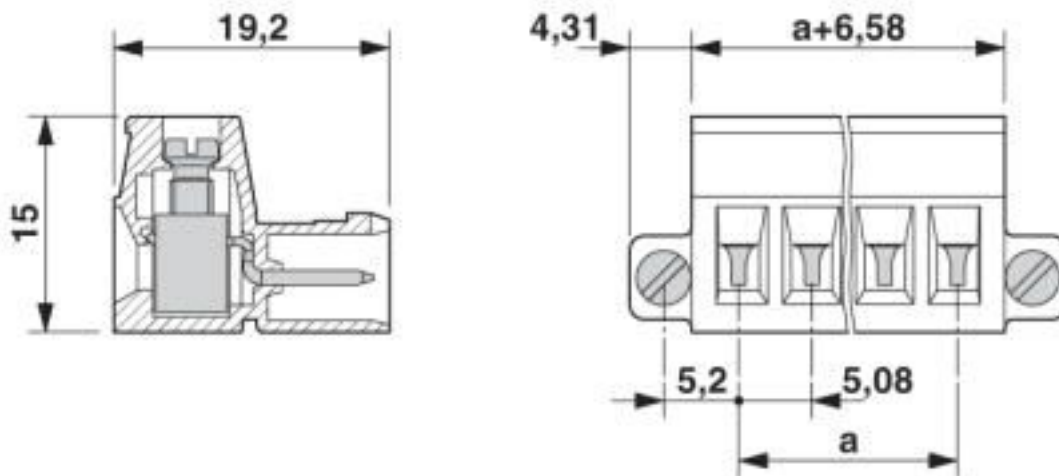
Diagram



Type: (U)MSTBVK 2,5/...-STF-5,08 with IC 2,5/...-STF-5,08

# Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| 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 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 |

# Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

## Classifications

### UNSPSC

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

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

# Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

## Approvals

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

## Accessories

### Accessories

#### Bridge

Insertion bridge - EBP 2- 5 - 1733169



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

#### Cable housing

Cable housing - KGS-MSTB 2,5/15 - 1783847



Cable housing, pitch: 0 mm, number of positions: 15, dimension a: 75 mm, color: green

#### Coding element

Coding section - CR-MSTB - 1734401



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

#### Filler plug



## Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

### Accessories

Accessories - MSTB-BL - 1755477



Keying cap, for forming sections, plugs onto header pin, green insulating material

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### Labeled terminal marker

Marker card - SK 5,08/3,8:FORTL.ZAHLEN - 0804293



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: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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### Screwdriver tools

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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### Additional products

Printed-circuit board connector - MSTBC 2,5/15-STZFD-5,08 - 1809404



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 15, pitch: 5.08 mm, connection method: Crimp connection, color: green, mounting: Direct mounting, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

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Feed-through header - IC 2,5/15-GF-5,08 - 1825255



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 15, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

## Printed-circuit board connector - IC 2,5/15-STF-5,08 - 1825446

### Accessories

Feed-through terminal block - ZFKK 1,5-ICV-5,08 - 1873029



Feed-through terminal block, connection method: Special and hybrid connection, cross section: 0.2 mm<sup>2</sup> - 2.5 mm<sup>2</sup>, AWG: 24 - 16, width: 5.1 mm, color: gray, mounting: NS 35/15, NS 35/7,5

Printed-circuit board connector - UMSTBVK 2,5/15-STF-5,08 - 1859302



DIN rail connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 15, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin, mounting: DIN rail

Printed-circuit board connector - MSTBVK 2,5/15-STF-5,08 - 1849215



DIN rail connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 15, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin, mounting: DIN rail

Feed-through header - ICV 2,5/15-GF-5,08 - 1825828



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 15, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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