

# Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

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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: 16, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



The figure shows a 10-position version of the product

## Your advantages

- Time saving push-in connection, tools not required
- Intuitive use through colour coded actuation lever
- Quick and convenient testing using integrated test option
- Screwable flange for superior mechanical stability
- Can be combined with the MSTB 2,5 range



## Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 50 pc         |
| GTIN         |               |
| GTIN         | 4017918142735 |

## Technical data

### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB connector             |
| Plug-in system            | CLASSIC COMBICON          |
| Type of contact           | Female connector          |
| Range of articles         | FKC 2,5/..-STF            |
| Pitch                     | 5.08 mm                   |
| Number of positions       | 16                        |
| Connection method         | Push-in spring connection |
| Locking                   | Screw flange              |
| Number of levels          | 1                         |
| Number of connections     | 16                        |

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## Technical data

### Item properties

|                      |    |
|----------------------|----|
| Number of potentials | 16 |
|----------------------|----|

### 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   | Push-in spring connection                    |
| 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 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 2.0 mm / 2.0 mm                     |
| Stripping length  | 10 mm  |

### Specifications for ferrules

|  |  |
|--|--|
| Recommended crimping pliers                                  | 1212034 CRIMPFOX 6   |
| Ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|  | Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|  | Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm    |
|  | Cross section: 1.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|  | Cross section: 2.5 mm <sup>2</sup> ; Length: 10 mm           |
| Recommended crimping pliers                                  | 1212034 CRIMPFOX 6   |
| Ferrules with insulating collar, according to DIN 46228-4    | Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|  | Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm |
|  | Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm    |
|  | Cross section: 1.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm  |
|  | Cross section: 2.5 mm <sup>2</sup> ; Length: 10 mm           |

### Flange specifications

|                 |               |
|-----------------|---------------|
| Type of locking | Screw locking |
| Mounting flange | Screw flange  |
| Torque          | 0.3 Nm        |

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## Technical data

### 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           |
| 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       |

### Material data – actuating element

|  |               |
|--|---------------|
| Color of the actuating lever           | orange (2003) |
| Insulating material                    | PBT           |
| CTI according to IEC 60112             | 600           |
| Flammability rating according to UL 94 | V0            |

### Dimensions for the product

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 25.73 mm |
| Width [ w ]                 | 91.38 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.                |

### General product information

|              |  |
|--------------|--|
| Type of note | Notes on operation   |
| 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) |

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## Technical data

### Termination and connection method

|  |                     |
|--|---------------------|
| Test – repeated connection and release   | Test passed         |
| 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  |
| 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.  | 6 N                    |
| Polarization and coding             | IEC 60512-13-5:2006-02 |
| Contact holder in insert            | IEC 60512-15-1:2008-05 |
| Test force per pos.                 | 26 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

|                  |  |
|------------------|--|
| Caption          | Type: FKC 2,5/...-STF-5,08 with IC 2,5/...-STGF-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)

# Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

## Technical data

### 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>            | 1.5 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 1.6 mΩ                |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | > 0.6 TΩ              |

### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 20                    |
| 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 |

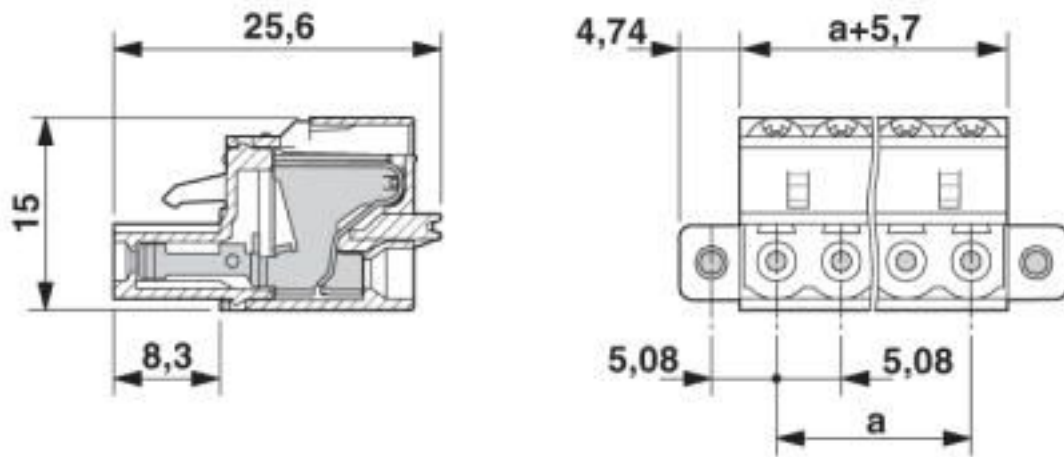
### Environmental Product Compliance

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

## Drawings

# Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

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 |

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## Classifications

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121409 |
|-------------|----------|

## Approvals

### Approvals

### Approvals

IECEE CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

### Ex Approvals

## Approval details

|                            |         |   |                |
|----------------------------|---------|---|----------------|
| 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> | E60425-19931011 |
|                            | B     | D   |                 |
| Nominal voltage UN         | 300 V | 300 V   |                 |
| Nominal current IN         | 10 A  | 10 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 26-12 | 26-12   |                 |

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

## Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

### 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



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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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### Strain relief

Strain relief - STZ 4-FKC-5,08 - 1876877



Strain relief for snapping into the latching chambers of the plugs, 4-pos.

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Strain relief - STZ 8-FKC-5,08 - 1876880



Strain relief for snapping into the latching chambers of the plug components, 8-pos.



## Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

### Accessories

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#### Test plug terminal block

Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm<sup>2</sup> conductor cross section, color: gray

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#### Reducing plug - RPS - 0201647



Reducing plug, color: gray

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### Additional products

Feed-through header - MSTB 2,5/16-GF-5,08 - 1776647



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 16, 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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Printed-circuit board connector - MSTBV 2,5/16-GF-5,08 - 1777219



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 16, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

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Printed-circuit board connector - DFK-MSTBA 2,5/16-GF-5,08 - 1899126



Feed-through header, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 16, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm

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## Printed-circuit board connector - FKC 2,5/16-STF-5,08 - 1873346

### Accessories

Printed-circuit board connector - DFK-MSTBVA 2,5/16-GF-5,08 - 1899427



Feed-through header, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 16, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

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