

# ISPC 16/ 4-STGF-10,16 - PCB connector



1748723

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PCB connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Ag, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: ISPC 16/-STGF, pitch: 10.16 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 16, locking: Screw locking mechanism, mounting method: Threaded flange, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections
- Screwable flange for superior mechanical stability

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1748723             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA05                |
| Product key                          | AAEFBA              |
| Catalog page                         | Page 565 (C-1-2013) |
| GTIN                                 | 4046356310857       |
| Weight per piece (including packing) | 36.974 g            |
| Weight per piece (excluding packing) | 35.328 g            |
| Customs tariff number                | 85366990            |
| Country of origin                    | IN                  |

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## Technical data

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | PCB connector          |
| Product family        | ISPC 16/...-STGF       |
| Product line          | COMBICON Connectors XL |
| Type                  | Inverted               |
| Number of positions   | 4                      |
| Pitch                 | 10.16 mm               |
| Number of connections | 4                      |
| Number of rows        | 1                      |
| Number of potentials  | 4                      |
| Mounting flange       | Threaded flange        |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 76 A   |
| Nominal voltage $U_N$       | 1000 V |
| Contact resistance          | 0.5 mΩ |
| Rated voltage (III/3)       | 1000 V |
| Rated surge voltage (III/3) | 8 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 8 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Connection data

#### Connection technology

|                         |                    |
|-------------------------|--------------------|
| Type                    | Inverted           |
| Connector system        | COMBICON PC 16     |
| Nominal cross section   | 16 mm <sup>2</sup> |
| Contact connection type | Pin                |

#### Interlock

|                 |                         |
|-----------------|-------------------------|
| Locking type    | Screw locking mechanism |
| Mounting flange | Threaded flange         |

#### Conductor connection

|                                    |                                             |
|------------------------------------|---------------------------------------------|
| Connection method                  | Push-in spring connection                   |
| Conductor/PCB connection direction | 0 °                                         |
| Conductor cross section rigid      | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section flexible   | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section AWG        | 18 ... 4                                    |

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|                                                                                           |                                             |
|-------------------------------------------------------------------------------------------|---------------------------------------------|
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.75 mm <sup>2</sup> ... 10 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.75 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| Cylindrical gauge a x b / diameter                                                        | - / 5.4 mm                                  |
| Stripping length                                                                          | 18 mm                                       |

## Material specifications

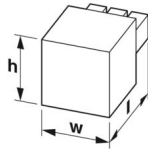
### Material data - contact

|                                          |                                                                                  |
|------------------------------------------|----------------------------------------------------------------------------------|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                         | Cu alloy                                                                         |
| Surface characteristics                  | Electroplated silver                                                             |
| Metal surface terminal point (top layer) | Silver (4 - 8 µm Ag)                                                             |
| Metal surface contact area (top layer)   | Silver (4 - 8 µm Ag)                                                             |

### Material data - housing

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

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 10.16 mm                                                                             |
| Width [w]           | 58.4 mm                                                                              |
| Height [h]          | 25.1 mm                                                                              |
| Length [l]          | 45.1 mm                                                                              |

## 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. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mechanical tests

# ISPC 16/ 4-STGF-10,16 - PCB connector



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## Conductor connection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

## 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 | 0.75 mm <sup>2</sup> / solid / > 30 N    |
|                                                                             | 0.75 mm <sup>2</sup> / flexible / > 30 N |
|                                                                             | 16 mm <sup>2</sup> / solid / > 100 N     |
|                                                                             | 16 mm <sup>2</sup> / flexible / > 100 N  |

## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 50                     |
| Insertion strength per pos. approx. | 15 N                   |
| Withdraw strength per pos. approx.  | 15 N                   |

## 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           |

## Environmental and real-life conditions

### Vibration test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency     | 10 - 150 - 10 Hz      |
| Sweep speed   | 1 octave/min          |

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|                        |                             |
|------------------------|-----------------------------|
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

## Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 9.8 kV                |
| Contact resistance R <sub>1</sub>            | 0.5 mΩ                |
| Contact resistance R <sub>2</sub>            | 0.5 mΩ                |
| Insertion/withdrawal cycles                  | 50                    |
| 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                    | 105 °C/168 h                                                              |
| Power-frequency withstand voltage | 4.26 kV                                                                   |

## Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 60068-2-27:2008-02            |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 30g                               |
| Shock duration  | 18 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °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                                    |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 9                     |

### 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              | I                   |
| Comparative tracking index (IEC 60112) | CTI 600             |
| Rated insulation voltage (III/3)       | 1000 V              |

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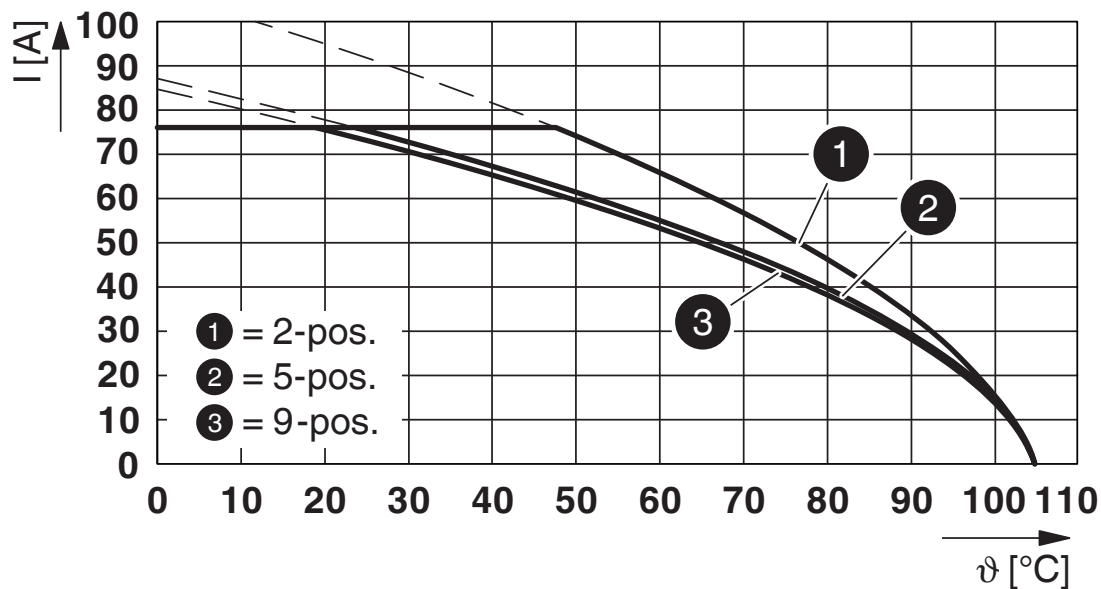
|                                                        |         |
|--------------------------------------------------------|---------|
| Rated surge voltage (III/3)                            | 8 kV    |
| minimum clearance value - non-homogenous field (III/3) | 8 mm    |
| minimum creepage distance (III/3)                      | 12.5 mm |
| Rated insulation voltage (III/2)                       | 1000 V  |
| Rated surge voltage (III/2)                            | 8 kV    |
| minimum clearance value - non-homogenous field (III/2) | 8 mm    |
| minimum creepage distance (III/2)                      | 8 mm    |
| Rated insulation voltage (II/2)                        | 1000 V  |
| Rated surge voltage (II/2)                             | 6 kV    |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm  |
| minimum creepage distance (II/2)                       | 5.5 mm  |

## Packaging specifications

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

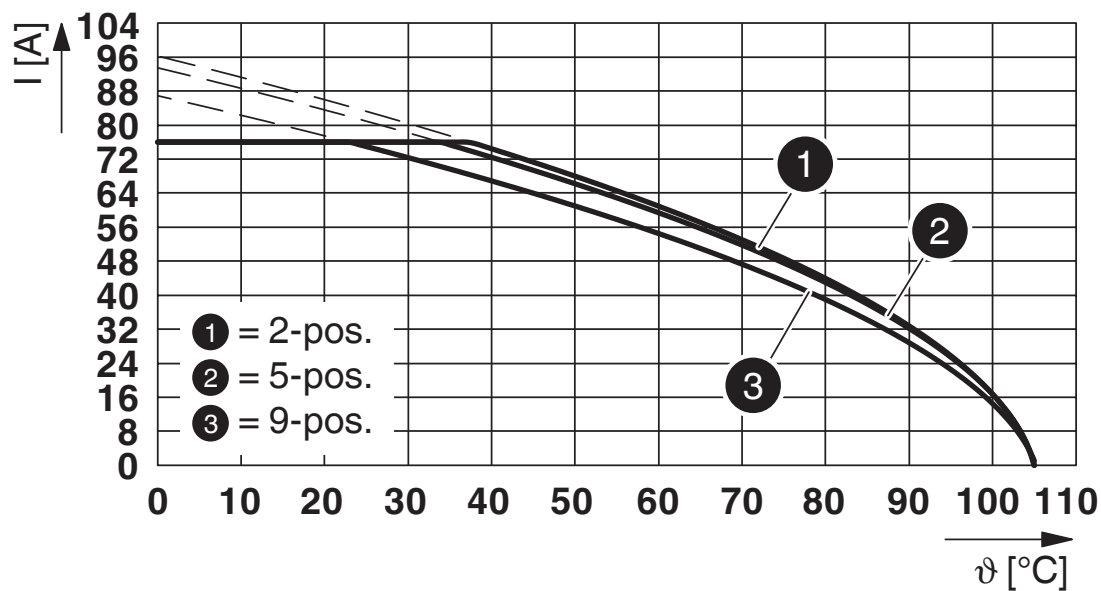
## Drawings

Diagram



Type: SPC 16/...-STF-10,16 with ISPC 16/...-STGF-10,16

Diagram



Type: PC 16/...-STF-10,16 with ISPC 16/...-STGF-10,16

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1748723>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20040202 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               | 600 V                 | 66 A                  | 20 - 4            | -                           |
| Use group C                                                                                                                               | 600 V                 | 66 A                  | 20 - 4            | -                           |

|  <b>VDE approval of drawings</b><br>Approval ID: 40055586 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                            | 1000 V                | 76 A                  | -                 | 0.75 - 16                   |



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002638 |
|----------|----------|

### UNSPSC

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

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## Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |                                          |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|                                         | No hazardous substances above the limits |
| EU REACH SVHC                           |                                          |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |

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