

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB direct plug, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: ZEC 1,5/.-ST, pitch: 5 mm, connection method: Spring-cage connection, mounting: Direct plug-in method, conductor/PCB connection direction: 0 °, plug-in system: ZEC, locking: Snap-in locking, mounting: Self-locking flange, type of packaging: packed in cardboard

## Your advantages

- Defined contact force ensures that contact remains stable over the long term
- Inexpensive direct plug-in connection with just one component
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Plug-in direction parallel to the PCB

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1883048             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA03                |
| Product key                          | AACECA              |
| Catalog page                         | Page 365 (C-1-2013) |
| GTIN                                 | 4017918161002       |
| Weight per piece (including packing) | 3.839 g             |
| Weight per piece (excluding packing) | 3.8 g               |
| Customs tariff number                | 85366930            |
| Country of origin                    | GR                  |

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | PCB direct plug       |
| Product family        | ZEC 1,5/...-ST        |
| Product line          | COMBICON Connectors M |
| Type                  | Direct plug connector |
| Number of positions   | 2                     |
| Pitch                 | 5 mm                  |
| Number of connections | 2                     |
| Number of rows        | 1                     |
| Number of potentials  | 2                     |
| Mounting flange       | without               |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 03 |
|------------------|----|

### Electrical properties

|                             |                |
|-----------------------------|----------------|
| Nominal current $I_N$       | 10 A           |
| Nominal voltage $U_N$       | 320 V          |
| Contact resistance          | 1.2 m $\Omega$ |
| Rated voltage (III/3)       | 250 V          |
| Rated surge voltage (III/3) | 4 kV           |
| Rated voltage (III/2)       | 320 V          |
| Rated surge voltage (III/2) | 4 kV           |
| Rated voltage (II/2)        | 630 V          |
| Rated surge voltage (II/2)  | 4 kV           |

### Connection data

#### Connection technology

|                         |                       |
|-------------------------|-----------------------|
| Type                    | Direct plug connector |
| Connector system        | ZEC                   |
| Nominal cross section   | 1.5 mm <sup>2</sup>   |
| Contact connection type | Socket                |

#### Interlock

|                 |                     |
|-----------------|---------------------|
| Locking type    | Snap-in locking     |
| Mounting flange | Self-locking flange |

#### Conductor connection

|                                                            |                                             |
|------------------------------------------------------------|---------------------------------------------|
| Connection method                                          | Spring-cage connection                      |
| Connection direction of the conductor to plug-in direction | 0 °                                         |
| Conductor cross section rigid                              | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross section flexible                           | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

|                                                                                           |                                              |
|-------------------------------------------------------------------------------------------|----------------------------------------------|
| Conductor cross section AWG                                                               | 24 ... 16                                    |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>  |
| Stripping length                                                                          | 7 mm                                         |

## Specifications for ferrules without insulating collar

|                           |                    |
|---------------------------|--------------------|
| recommended crimping tool | 1212034 CRIMPFOX 6 |
|---------------------------|--------------------|

## Specifications for ferrules with insulating collar

|                           |                    |
|---------------------------|--------------------|
| recommended crimping tool | 1212034 CRIMPFOX 6 |
|---------------------------|--------------------|

## Mounting

|               |                       |
|---------------|-----------------------|
| Mounting type | Direct plug-in method |
|---------------|-----------------------|

## 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                  | 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

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

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

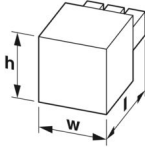
## Dimensions

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 5 mm                                                                               |
| Width [w]           | 11.4 mm                                                                            |
| Height [h]          | 13.7 mm                                                                            |
| Length [l]          | 24.05 mm                                                                           |
| Installed height    | 13.7 mm                                                                            |

## Mechanical tests

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1990-05 |
| Result        | Test passed         |

### Repeated connection and disconnection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1990-05 |
| Result        | Test passed         |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1990-05                     |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|                                                                             | 1.5 mm <sup>2</sup> / flexible / > 40 N |

### Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 20          |
| Insertion strength per pos. approx. | 6 N         |
| Withdraw strength per pos. approx.  | 3 N         |

### Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

### Visual inspection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-2:1985-00 |
| Result        | Test passed         |

### Dimension check

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-2:1985-00 |
| Result        | Test passed         |

## Electrical tests

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 12                    |

## Insulation resistance

|                                              |                     |
|----------------------------------------------|---------------------|
| Specification                                | IEC 60512-2:1985-00 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$    |

## 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)                       | 250 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 3.2 mm              |
| Rated insulation voltage (III/2)                       | 320 V               |
| Rated surge voltage (III/2)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/2) | 3 mm                |
| minimum creepage distance (III/2)                      | 3 mm                |
| Rated insulation voltage (II/2)                        | 630 V               |
| Rated surge voltage (II/2)                             | 4 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm                |
| minimum creepage distance (II/2)                       | 3.2 mm              |

## Environmental and real-life conditions

### Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:1995-03       |
| Frequency              | 10 - 150 - 10 Hz            |
| Sweep speed            | 1 octave/min                |
| 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 60512-5:1992-08 |
| Contact resistance $R_1$    | 1.2 m $\Omega$      |
| Contact resistance $R_2$    | 1.5 m $\Omega$      |
| Insertion/withdrawal cycles | 20                  |

### 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   | 100 °C/168 h                                                              |

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

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

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 100 °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                                    |

## Packaging specifications

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

## ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector

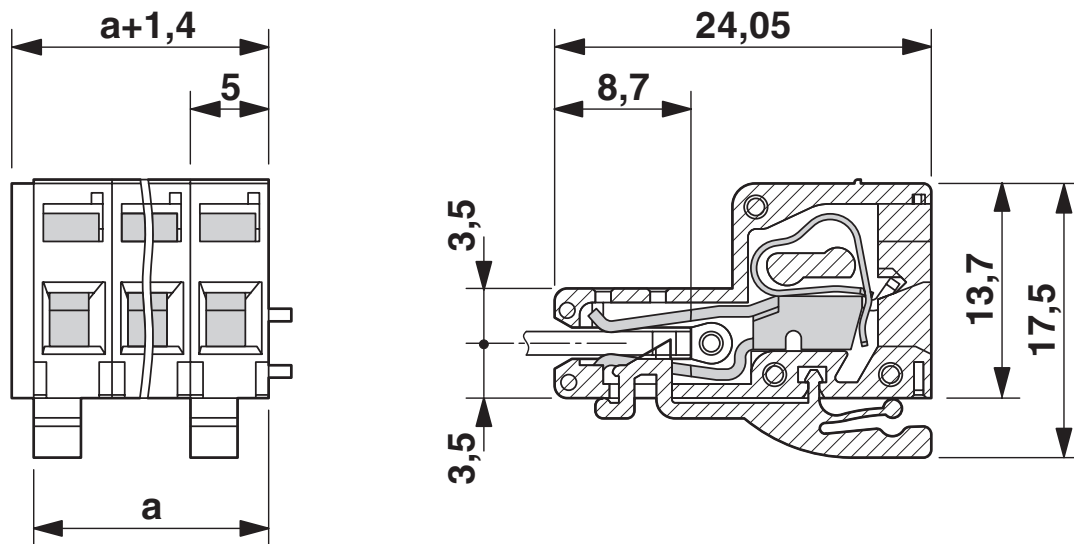
1883048

<https://www.phoenixcontact.com/us/products/1883048>

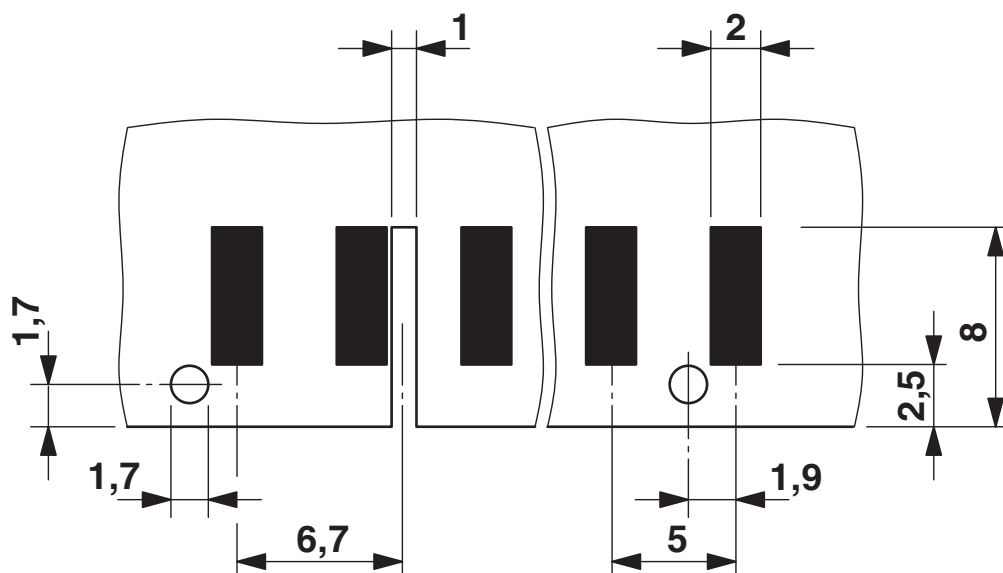


## Drawings

## Dimensional drawing



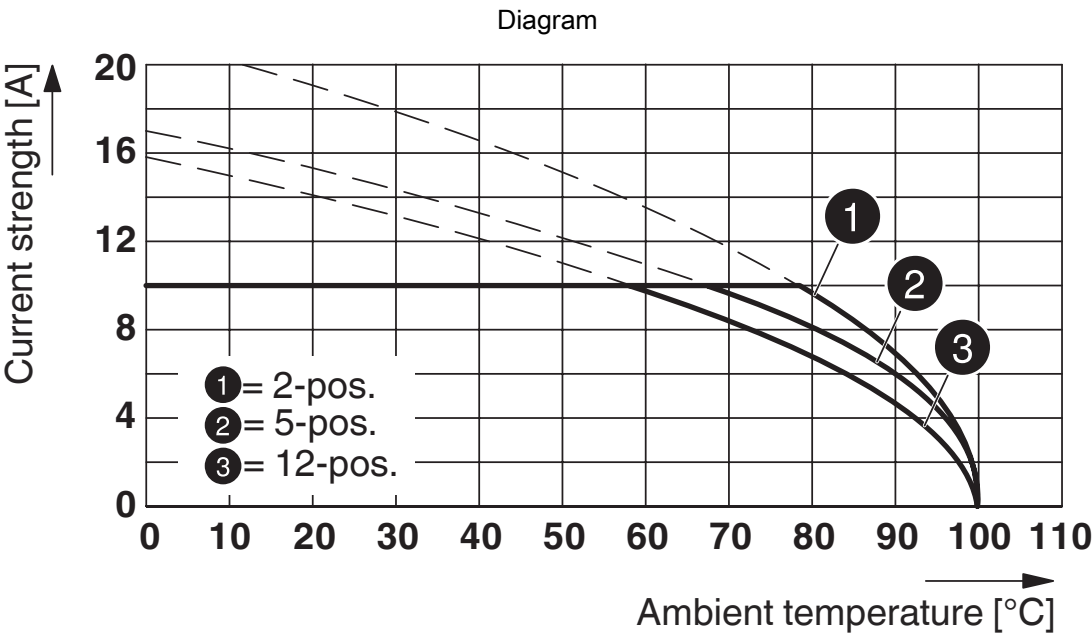
### Drilling plan/solder pad geometry



Size of the PCB:  $1.6 \pm 0.2$  mm

1883048

<https://www.phoenixcontact.com/us/products/1883048>



Type: ZEC 1,5/...-ST-5,0

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1883048>

|  <b>cULus Recognized</b><br>Approval ID: E60425-19941110 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               | 300 V                 | 10 A                  | 26 - 14           | -                           |
| Use group D                                                                                                                               | 300 V                 | 10 A                  | 26 - 14           | -                           |

|  <b>VDE Gutachten mit Fertigungsüberwachung</b><br>Approval ID: 40020343 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                                           | 250 V                 | 10 A                  | -                 | 0.2 - 1.5                   |

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460202 |
| ECLASS-12.0 | 27460202 |
| ECLASS-13.0 | 27460202 |

### ETIM

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

### UNSPSC

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

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## 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%               |

# ZEC 1,5/ 2-ST-5,0 C2 R1,2 - PCB connector



1883048

<https://www.phoenixcontact.com/us/products/1883048>

## Accessories

### SZF 0-0,4X2,5 - Screwdriver

1204504

<https://www.phoenixcontact.com/us/products/1204504>



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

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

0804183

<https://www.phoenixcontact.com/us/products/0804183>



Marker 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

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)