

ZEC 1,0/ 8-ST-3,5 C1 R1,8 - PCB connector



1893740

<https://www.phoenixcontact.com/us/products/1893740>

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The figure shows a 10-position version of the product

PCB direct plug, nominal cross section: 1 mm², color: green, nominal current: 8 A, rated voltage (III/2): 200 V, contact surface: Sn, contact connection type: Socket, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: ZEC 1,0/..-ST, pitch: 3.5 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 method: Latching 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 | 1893740 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA02 |
| Product key | AABEAA |
| GTIN | 4017918161293 |
| Weight per piece (including packing) | 9.55 g |
| Weight per piece (excluding packing) | 8.82 g |
| Customs tariff number | 85366930 |
| Country of origin | GR |

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Technical data

Product properties

| | |
|-----------------------|-----------------------|
| Product type | PCB direct plug |
| Product family | ZEC 1,0/...-ST |
| Product line | COMBICON Connectors S |
| Type | Direct plug connector |
| Number of positions | 8 |
| Pitch | 3.5 mm |
| Number of connections | 8 |
| Number of rows | 1 |
| Number of potentials | 8 |
| Mounting type | without |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 8 A |
| Nominal voltage U_N | 200 V |
| Contact resistance | 1.3 mΩ |
| Rated voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 200 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |

Connection data

Connection technology

| | |
|-------------------------|-----------------------|
| Type | Direct plug connector |
| Connector system | ZEC |
| Nominal cross section | 1 mm ² |
| Contact connection type | Socket |

Interlock

| | |
|---------------|-----------------|
| Locking type | Snap-in locking |
| Mounting type | Latching 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 ² ... 1 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 1 mm ² |
| Conductor cross-section AWG | 24 ... 16 |

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| | |
|---|---|
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 1 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.75 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 0.5 mm ² |
| 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 µm - 8 µm Sn) |
| Metal surface contact area (top layer) | Tin (4 µm - 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. |
|--------------------|--|

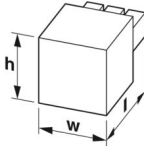
Dimensions

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| | |
|---------------------|--|
| Dimensional drawing |  |
| Pitch | 3.5 mm |
| Width [w] | 32.9 mm |
| Height [h] | 17.5 mm |
| Length [l] | 24.05 mm |
| Installed height | 18 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 ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 1 mm ² / solid / > 35 N |
| | 1 mm ² / flexible / > 35 N |

Insertion and withdrawal forces

| | |
|-------------------------------------|-------------|
| Result | Test passed |
| No. of cycles | 20 |
| Insertion strength per pos. approx. | 5 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

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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 | $10^{11} \Omega$ |

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) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm |
| minimum creepage distance (III/3) | 2 mm |
| Rated insulation voltage (III/2) | 200 V |
| Rated surge voltage (III/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm |
| minimum creepage distance (III/2) | 1.5 mm |
| Rated insulation voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 1.5 mm |
| minimum creepage distance (II/2) | 1.6 mm |

Environmental and real-life conditions

Durability test

| | |
|-----------------------------|---------------------|
| Specification | IEC 60512-5:1992-08 |
| Contact resistance R_1 | 1.3 m Ω |
| Contact resistance R_2 | 2 m Ω |
| Insertion/withdrawal cycles | 20 |

Climatic test

| | |
|-----------------------------------|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 1.39 kV |

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 |

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| | |
|-----------------|-------------------|
| Test directions | X-, Y- and Z-axis |
|-----------------|-------------------|

Ambient conditions

| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |

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

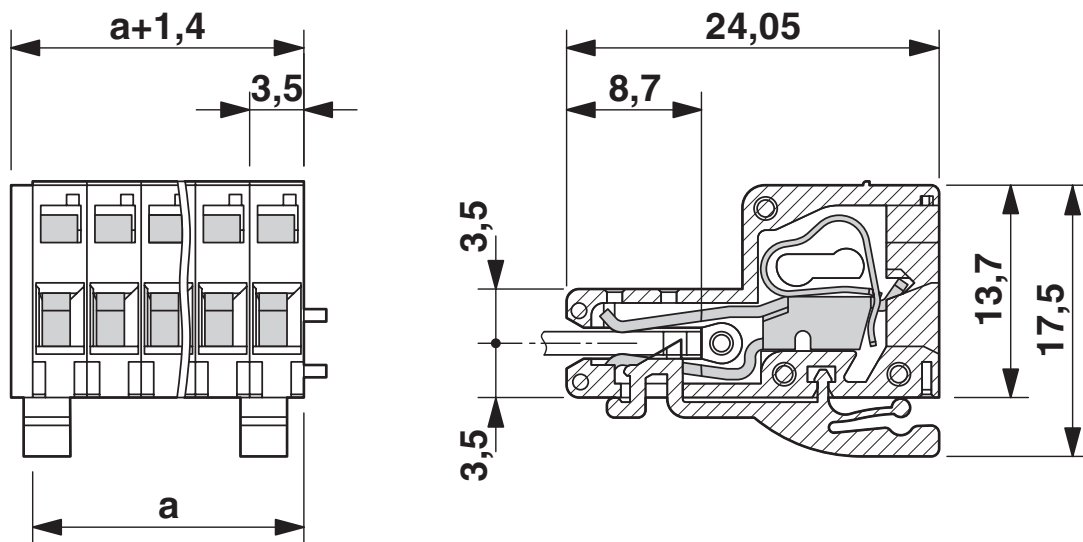
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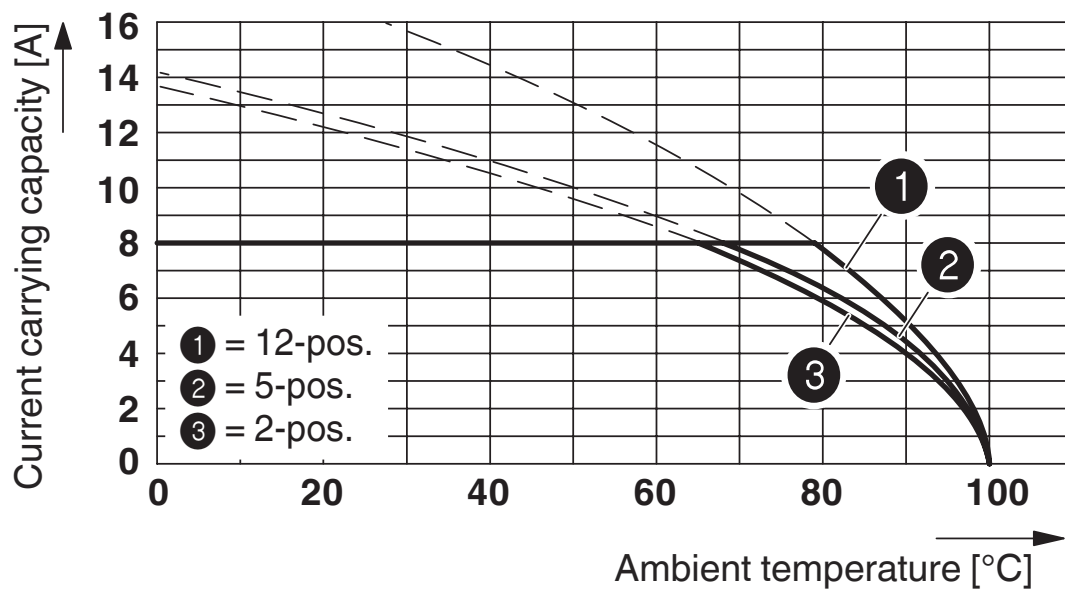
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Drawings

Dimensional drawing



Diagram



Type: ZEC 1,0/...-ST-3,5

Derating curve, determined as per DIN EN 61984 (VDE 0627):2002-09

Representation based on DIN EN 60512-5-2:2003-01

Connected conductor cross-section = 1 mm²

Reduction factor = 0.8

Number of positions = see diagram

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Approvals

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|  cULus Recognized Approval ID: E60425-19941111 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 150 V | 8 A | 26 - 16 | - |

|  VDE report with production monitoring Approval ID: 40020343 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 160 V | 8 A | - | 0.2 - 1 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | 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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