Printed-circuit board connector - ZEC 1,0/12-ST-3,5 C1 R1,12

1893782

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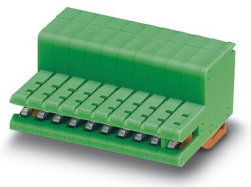


PCB direct plug, nominal cross section: 1 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 200 V, contact surface: Tin, type of contact: Female connector, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: ZEC 1,0/. .-ST, pitch: 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: 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	1893782
Packing unit	1 pc
Minimum order quantity	50 pc
Note	Made to Order (non-returnable)
Sales Key	A01
Product Key	AABEAA
Catalog Page	Page 365 (C-1-2013)
GTIN	4017918161330
Weight per Piece (including packing)	14.543 g
Weight per Piece (excluding packing)	13.276 g
Customs tariff number	85366930
Country of origin	GR

Technical Data

Product properties

Type	Direct plug connector
Product line	COMBICON Connectors S
Product type	PCB direct plug
Number of positions	12
Pitch	3.5 mm
Number of connections	12
Number of rows	1
Mounting flange	without
Number of potentials	12

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	200 V
Degree of pollution	3
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

Connection data

Connection technology

Type	Direct plug connector
Connector system	ZEC
Nominal cross section	1 mm²
Type of contact	Female connector

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 solid	0.2 mm² ... 1 mm²
Conductor cross section flexible	0.2 mm² ... 1 mm²
Conductor cross section AWG	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 0.75 mm²
2 conductors with the same cross section, flexible, with TWIN	0.5 mm² ... 0.5 mm²

ferrule with plastic sleeve	
Stripping length	7 mm

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 (5 - 7 µm Sn)
Metal surface contact area (top layer)	Tin (5 - 7 µm Sn)

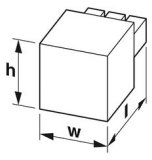
Material data - housing

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

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

Dimensional drawing	
Pitch	3.5 mm
Width [w]	46.9 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 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	1 mm² / solid / > 35 N
	1 mm² / 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

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} Ω

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

Vibration test

Specification	IEC 60068-2-6:1995-03
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Sweep speed	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h

Durability test

Specification	IEC 60512-5:1992-08
Contact resistance R_1	1.3 mΩ
Contact resistance R_2	2 mΩ
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

Ambient conditions

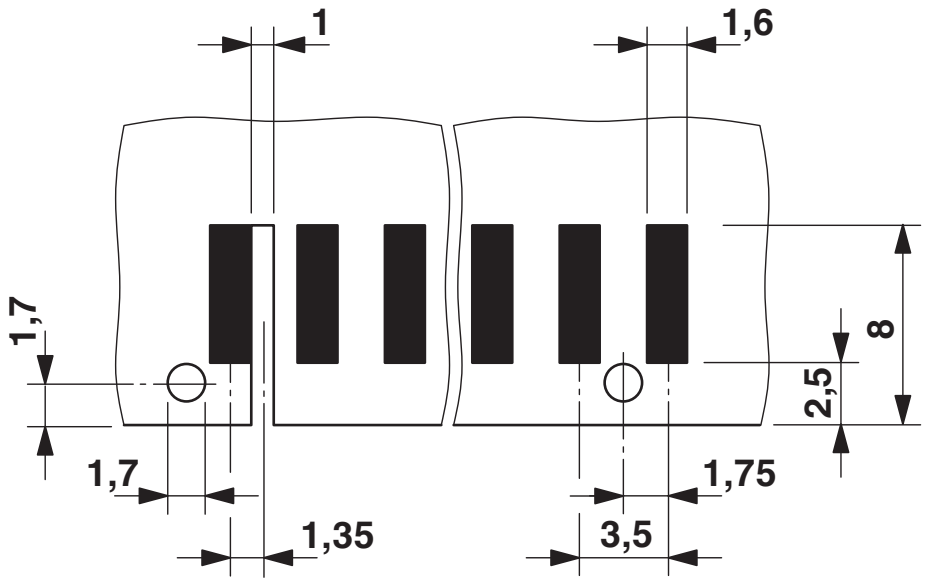
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard

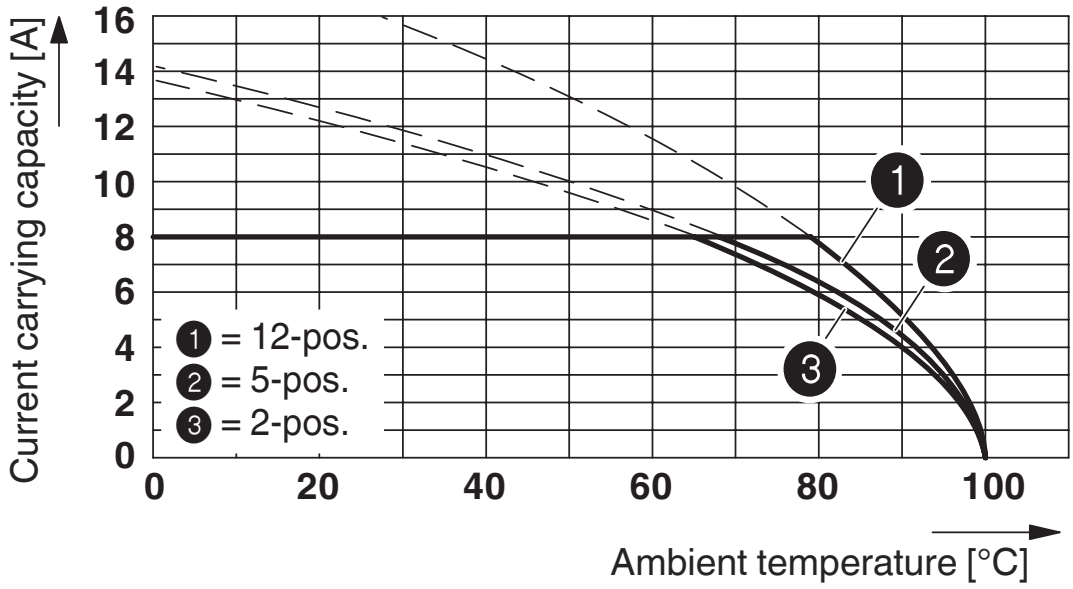
Drawings

Drilling plan/solder pad geometry



Size of the PCB: 1.6 ± 0.2 mm

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 mm^2
Reduction factor = 0.8
Number of positions = see diagram

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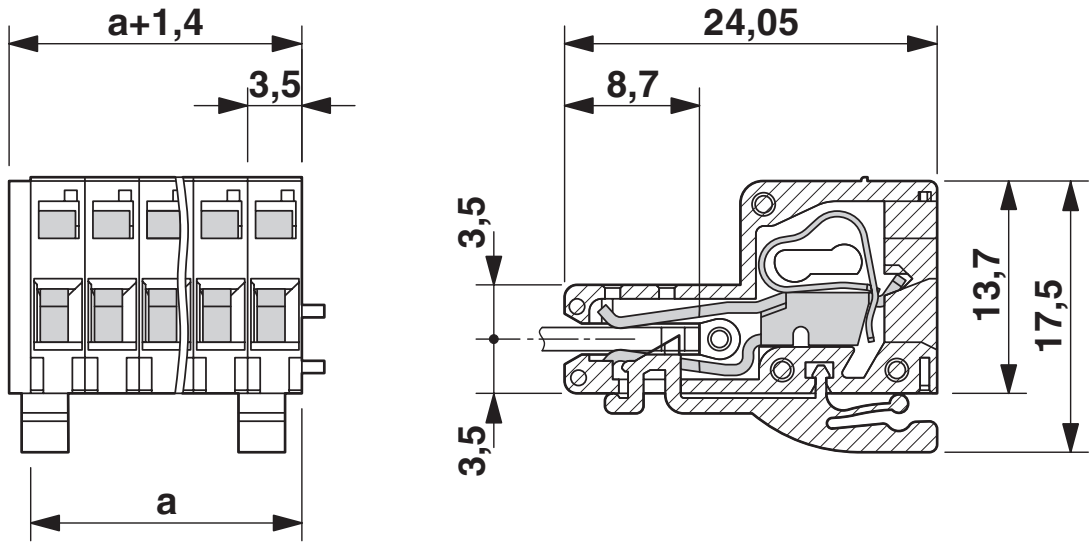
Dimensional drawing



Approvals

IECEE CB Scheme
Approval ID: DE1-51128

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	1000 V	10 A	-	-

EAC
Approval ID: B.01687

cULus Recognized
Approval ID: E60425-19941110

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	150 V	8 A	26 - 16	-

VDE Gutachten mit Fertigungsüberwachung
Approval ID: 40020343

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	8 A	-	0.2 - 1

Classifications

ECLASS

ECLASS-10.0.1	27440309
ECLASS-9.0	27440309
ECLASS-11.0	27460202

ETIM

ETIM 8.0	EC002638

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

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

Accessories

Screwdriver

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

Marker card

Marker card - SK 3,5/2,8:FORTL.ZAHLEN - 0804073

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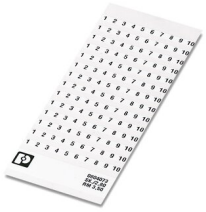

Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 x 2.8 mm

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Marker pen

Marker pen - B-STIFT - 1051993

https://www.phoenixcontact.com/us/products/1051993

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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