

SPT 16/ 3-V-10,0-ZFV BK/BU/WH - PCB terminal block



1806590

<https://www.phoenixcontact.com/us/products/1806590>

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Printed circuit board terminal, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: SPT 16/...-V, pitch: 10 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: multicolored, Pin layout: Zigzag pinning M, Solder pin [P]: 4.1 mm, number of solder pins per potential: 3, 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
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

Item number	1806590
Packing unit	50 pc
Minimum order quantity	1 pc
Product key	AAOBCB
GTIN	4046356692687
Weight per piece (including packing)	23.964 g
Weight per piece (excluding packing)	23.96 g
Country of origin	BG

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Technical data

Product properties

Product type	Printed circuit board terminal
Product family	SPT 16/...-V
Product line	COMBICON Terminals XL
Type	PC terminal block can be aligned
Number of positions	3
Pitch	10 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Zigzag pinning M
Solder pins per potential	3

Electrical properties

Properties

Nominal current I_N	76 A
Nominal voltage U_N	1000 V
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	PC terminal block can be aligned
Nominal cross section	16 mm ²

Conductor connection

Connection method	Push-in spring connection
Conductor cross-section rigid	0.75 mm ² ... 16 mm ² (Conductor connection with open terminal point)
	0.75 mm ² ... 16 mm ² (Push-in connection)
Conductor cross-section flexible	0.75 mm ² ... 16 mm ²
Conductor cross-section AWG	20 ... 4
Conductor cross-section flexible, with ferrule without plastic sleeve	0.75 mm ² ... 16 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.75 mm ² ... 10 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.75 mm ² ... 4 mm ²
Stripping length	18 mm

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Mounting

Mounting type	Wave soldering
Pin layout	Zigzag pinning M

Material specifications

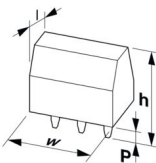
Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (10 - 16 µm Sn)
Metal surface soldering area (top layer)	Tin (10 - 16 µm Sn)

Material data - housing

Color (Housing)	multicolored ()
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 mm
Width [w]	31.8 mm
Height [h]	35.4 mm
Length [l]	29 mm
Installed height	31.3 mm
Solder pin length [P]	4.1 mm
Pin dimensions	1.2 x 1 mm

PCB design

Pin spacing	15 mm
Hole diameter	1.7 mm

Mechanical tests

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Test for conductor damage and slackening

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 ² / solid / > 30 N
	0.75 mm ² / flexible / > 30 N
	16 mm ² / solid / > 100 N
	16 mm ² / flexible / > 100 N

Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2019-01
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Short-time withstand current

Specification	IEC 60947-7-4:2019-01
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Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

Air clearances and creepage distances |

Specification	IEC 60947-7-4:2019-01
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	1000 V
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

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:1995-03
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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

Glow-wire test

Specification	IEC 60695-2-10:2013-04
Temperature	850 °C
Time of exposure	5 s

Aging

Specification	IEC 60947-7-4:2019-01
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Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/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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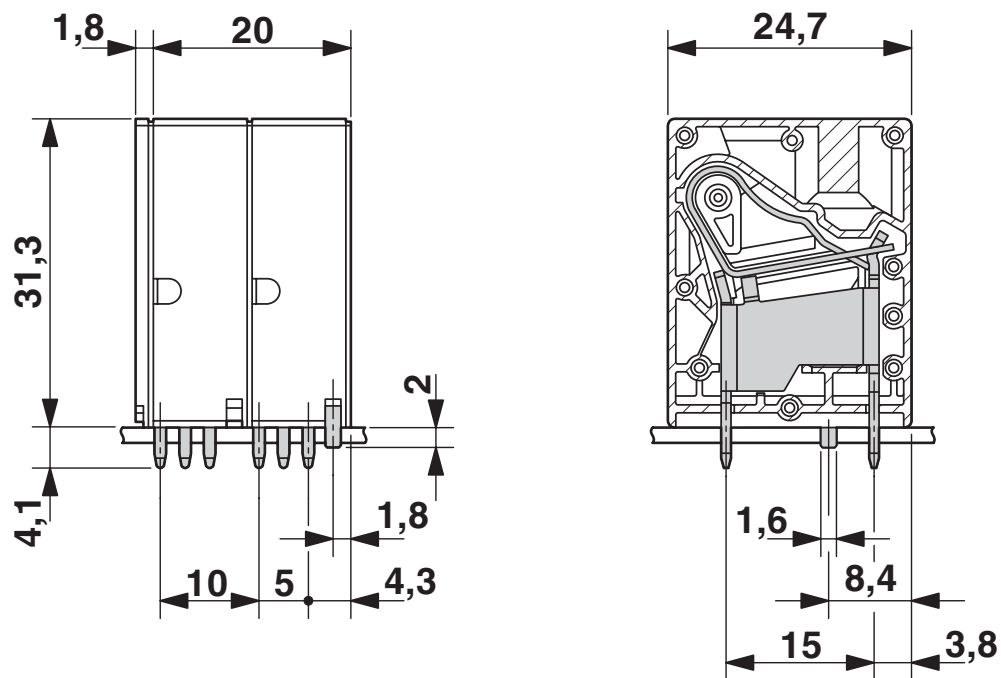
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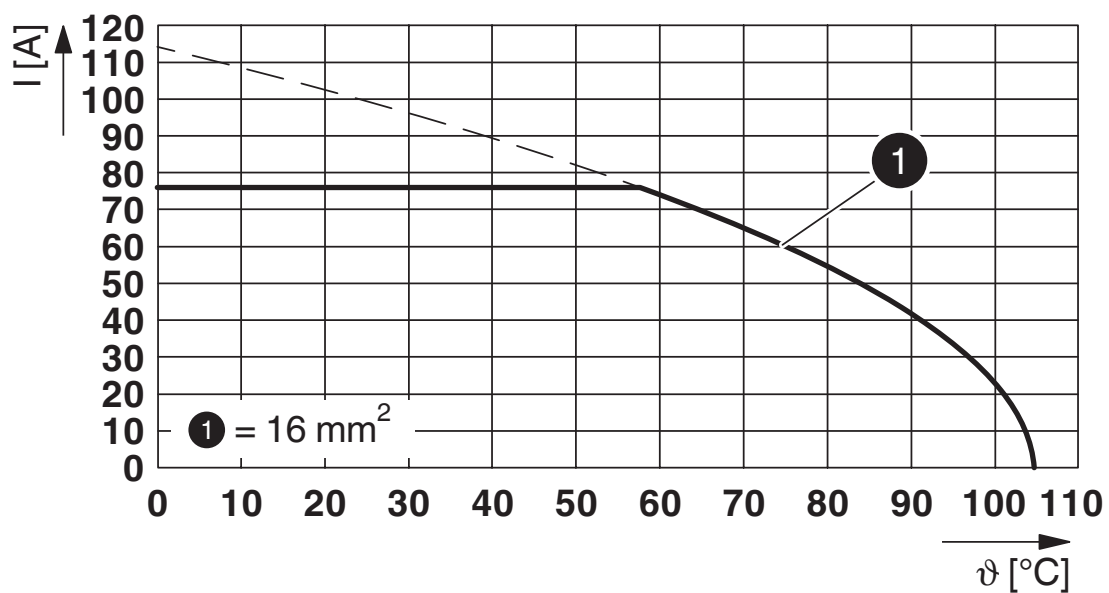
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Drawings

Dimensional drawing



Diagram



Type: SPT 16/...-V-10,0-ZB

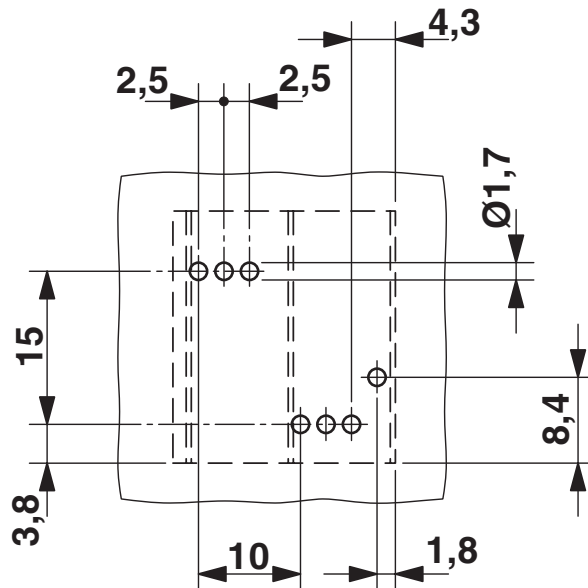
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Drilling plan/solder pad geometry



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Classifications

ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

ETIM

ETIM 9.0	EC002643
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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%
EF3.0 Climate Change	
CO2e kg	0.285 kg CO2e

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