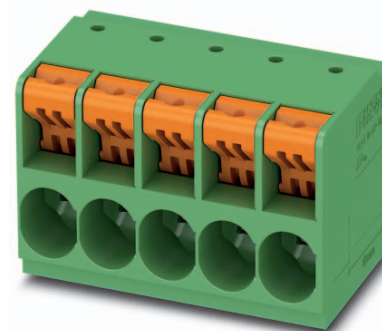


# Data sheet

Order No.: 1017531

Type: TDPT 16/ 2-SP-10,16-ZB

PCB terminal block, Wave soldering, Push-in spring connection



The figure shows a 5-pos. version of the product

## 1 Main features



- |                           |                           |                        |                     |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos.             | 2                         | • Nominal current      | 76 A                |
| • Conductor cross section | 16 mm <sup>2</sup>        | • Nominal voltage      | 1000 V              |
| • Color                   | green                     | • Connection direction | 0°                  |
| • Pitch                   | 10.16 mm                  | • Type of packaging    | packed in cardboard |
| • Connection method       | Push-in spring connection |                        |                     |

## 2 Your advantages

- ✓ Easy to adapt, thanks to their identical size and the same pinning for Push-in spring connections as for screw connections
- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Intuitive use through colour coded actuation lever



Make sure you always use the latest documentation.

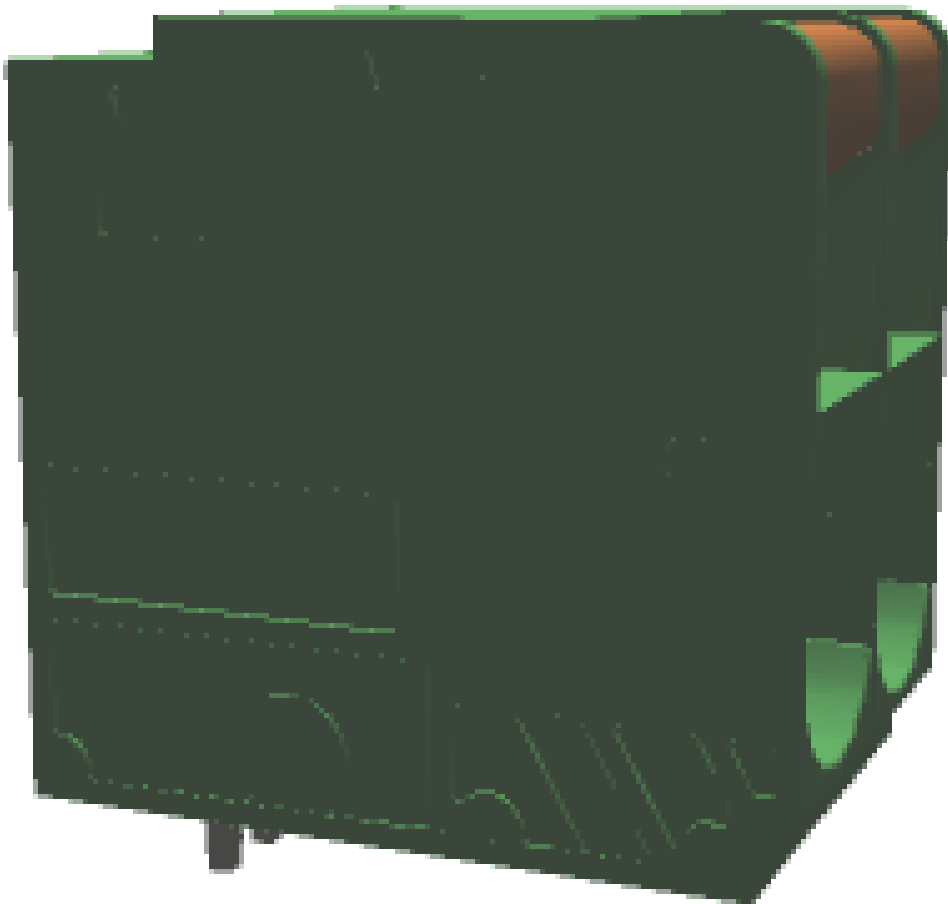
It can be downloaded at: [phoenixcontact.net/product/1017531](https://phoenixcontact.net/product/1017531)

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4 3D model in PDF can be activated (Acrobat Reader only)



**1017531 TDPT 16/ 2-SP-10,16-ZB****5 item properties**

Order No.	1017531
Type	TDPT 16/ 2-SP-10,16-ZB
Range of articles	TDPT 16/...-SP
Pitch	10.16 mm
Number of positions	2
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Zigzag pinning W

**5.1 Connection capacity**

Conductor cross section, solid	0.75 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section, multi-stranded	0.75 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section, flexible	0.75 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section AWG/kcmil	20 to 6
Conductor cross section flexible, with ferrule without plastic sleeve	0.75 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.75 mm <sup>2</sup> to 16 mm <sup>2</sup>
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.75 mm <sup>2</sup> to 6 mm <sup>2</sup>
Stripping length	18 mm

**5.2 Material data**

<b>Material of metal parts</b>		
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201	
Contact material	Cu alloy	
Terminal point surface	Sn 10 µm ... 16 µm	
Soldering area surface	Sn 10 µm ... 16 µm	
Surface characteristics	Tin-plated	
<b>Insulating material data</b>	<b>Housing</b>	<b>Actuation element</b>
Insulating material	PA	PA
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Color	green (6021)	
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	

**6 Dimensions****6.1 Dimensions for the product**

Length	31.9 mm
Width	17.74 mm
Height (without solder pin)	31.2 mm

**1017531 TDPT 16/ 2-SP-10,16-ZB**

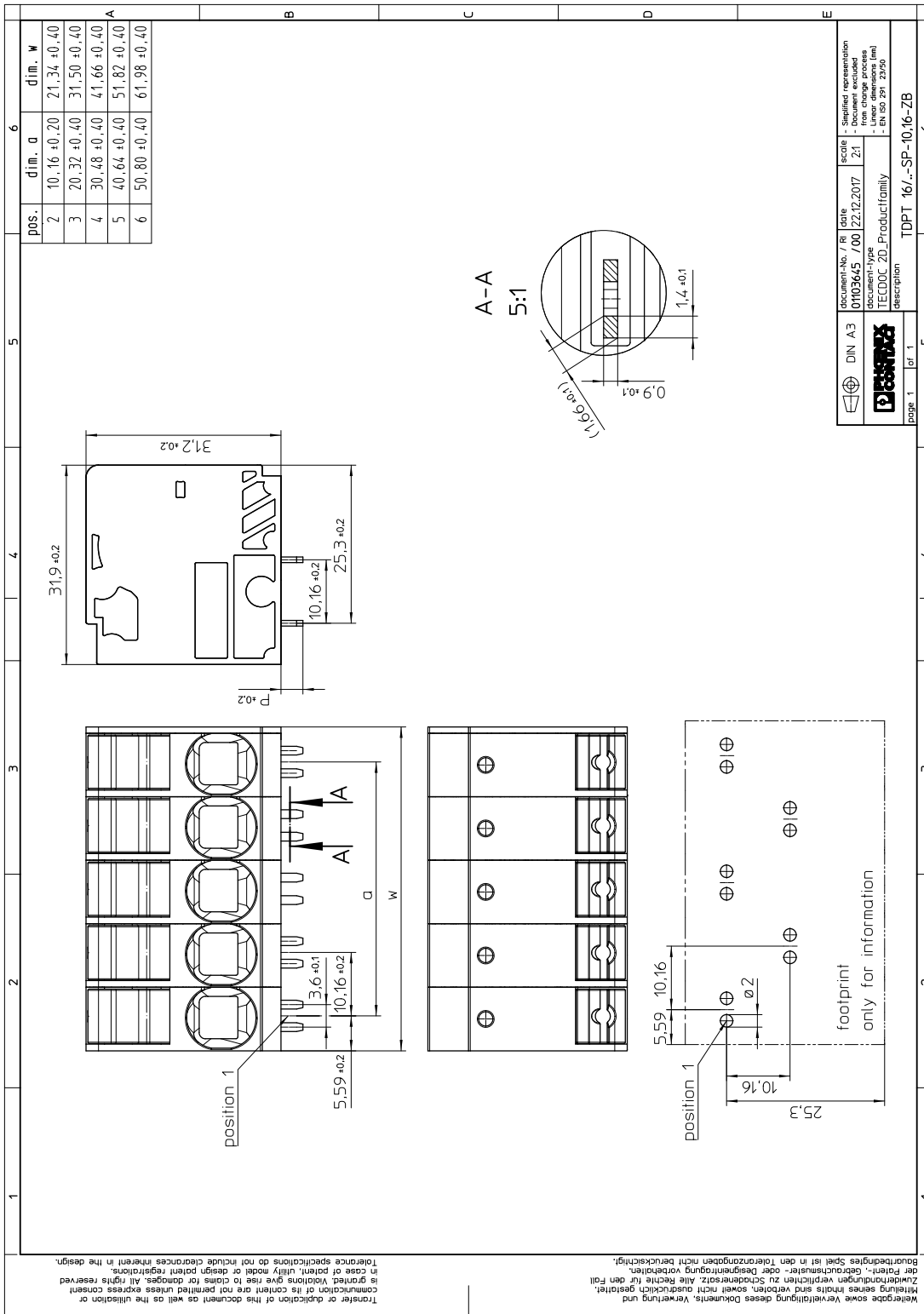
Total height	34.7 mm
Solder pin [P]	3.5 mm
Dimension a	10.16 mm

**6.2 Dimensions for PCB design**

Hole diameter	2 mm
Pin dimensions	1,4 x 0,9 mm

1017531 TDPT 16/ 2-SP-10,16-ZB

7 Series drawing



**1017531 TDPT 16/ 2-SP-10,16-ZB****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

**9 Application****9.1 Processing notes**

Process	Wave soldering
Specification	Following IEC 61760-1:2006-04
Specification	Following IEC 60068-2-54:2006-04

**9.2 Temperature limit values**

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 105 °C
Ambient temperature (operation)	-40 °C (Depending on the current carrying capacity/derating curve)

**9.3 Termination and connection method**

Specification	IEC 60999-1:1999-11
Check for damage to conductor or loosening	Test passed

**9.4 Pull-out test**

Termination and connection method: pull-out test

Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.75 mm <sup>2</sup> / solid / > 30 N
Conductor cross section/conductor type/tractive force actual value	0.75 mm <sup>2</sup> / stranded / > 30 N
Conductor cross section/conductor type/tractive force actual value	16 mm <sup>2</sup> / solid / > 100 N
Conductor cross section/conductor type/tractive force actual value	16 mm <sup>2</sup> / stranded / > 100 N

**1017531 TDPT 16/ 2-SP-10,16-ZB****10 Electrical tests****10.1 Electrical data**

Rated current / conductor cross section	76 A / 16 mm <sup>2</sup>
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Contact resistance	0.39 mΩ
Degree of pollution	2

**10.2 Air clearances and creepage distances**

Specification	IEC 60947-1:2007-06 + A1:2010-12		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	800 V	1000 V	1000 V
Rated surge voltage	8 kV	8 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	8 mm	8 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	10 mm	8 mm	5.5 mm

**10.3 Short-time withstand current test**

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Conductor cross section/short-time current	16 mm <sup>2</sup> / 302.4 A

**10.4 Aging test (climatic impact and corrosion testing)**

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Contact resistance R <sub>1</sub>	0.39 mΩ / 16 mm <sup>2</sup>
Test sequence 1: low temperature storage	-40 °C / 2 h
Test sequence 2: heat storage	168 h/105 °C
Test sequence 3: noxious gas storage (ISO 6988)	KFW 0.2 S/1 cycle
Contact resistance R <sub>2</sub>	0.19 mΩ / 16 mm <sup>2</sup>
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	9.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	4.2 kV

**10.5 Insulation resistance**

Specification	IEC 60512-3-1:2002-02
Result	Test passed



**1017531 TDPT 16/ 2-SP-10,16-ZB**

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**10.6 Mechanical connection test for the PCB terminal block**

Specification	
Result	IEC 60947-7-4:2013-08
	Test passed

**10.7 Temperature-rise test**

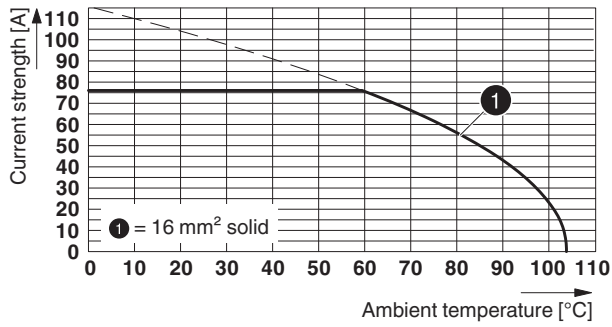
Specification	
Result	IEC 60947-7-4:2013-08
	Test passed

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11 Current carrying capacity/derating curves

Specification	IEC 60512-5-2:2002-02
Reduction factor	1
Number of positions	4

Type: TDPT 16/...-SP-10,16-ZB



**1017531 TDPT 16/ 2-SP-10,16-ZB****12 Environmental and durability tests****12.1 Assessment of fire risk (glow wire test)**

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


**12.2 Vibration test**

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Contact interruption	

Shock	
Specification	IEC 60068-2-27:2008-02
Result	Test passed
Pulse shape	Semi-sinusoidal
Peak acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Contact interruption	

Test for materials that impair paint application	
Specification	WN-CS 21-1:2010-09
Result	Test passed
Testing	Inspection for substances that impair surface wetting according to VW/AUDI test specification 3.10.7 February 2005

**13 Approvals**

cULus Recognized 				
Use group	B	C	D	
mm <sup>2</sup> /AWG/kcmil	20-6	20-6	20-6	
Voltage	600 V	600 V	300 V	
Current	58 A	58 A	10 A	

**1017531 TDPT 16/ 2-SP-10,16-ZB****14 Commercial Data**

Order No.	1017531
Type	TDPT 16/ 2-SP-10,16-ZB
Pieces per package	50
Net weight	23.456 g
GTIN	4055626501635
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**15 Accessories**

Description	Order No.	Type
Screwdriver, slot-headed, VDE insulated, size: 1.2 x 8.0 x 175 mm, 2-component grip, with non-slip grip	1205082	SZS 1,2X8,0 VDE