

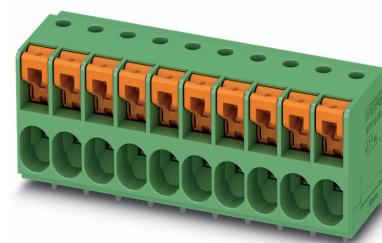
Data sheet

2020-01-31
Product version 00
Document revision 01

Order No.: 1017510

Type: TDPT 2,5/ 9-SP-5,08

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



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 9 | • Nominal current | 32 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 400 V |
| • Color | green (6021) | • Connection direction | 0 ° |
| • Pitch | 5.08 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



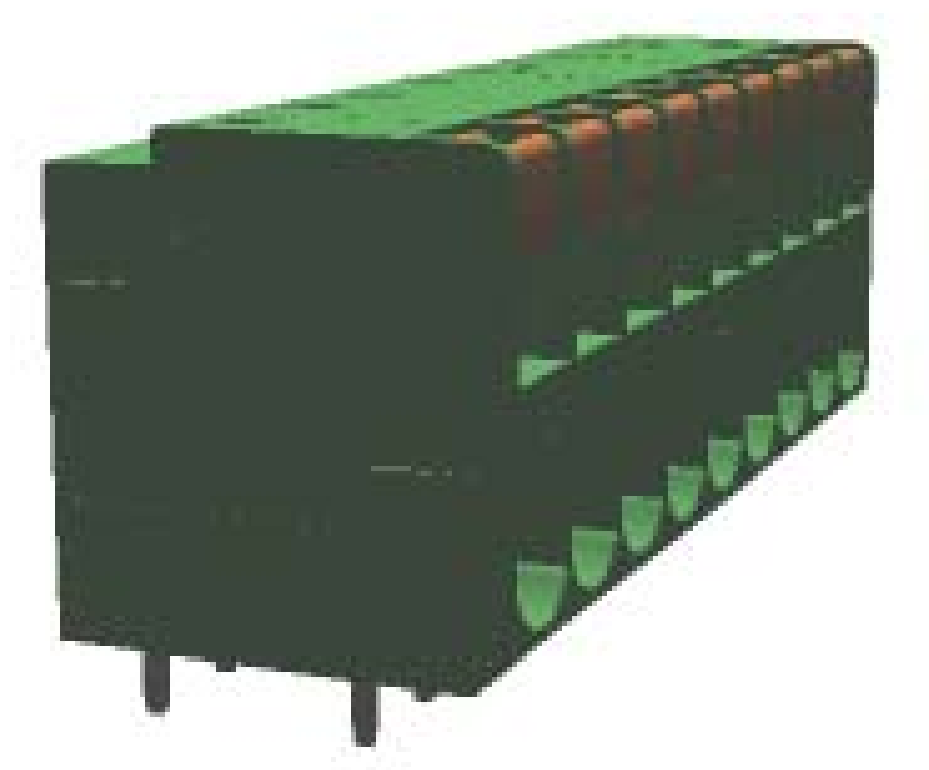
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1017510

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



1017510 TDPT 2,5/ 9-SP-5,08**5 General Technical Data****5.1 item properties**

Order No.	1017510
Type	TDPT 2,5/ 9-SP-5,08
Product type	PCB terminal block
Range of articles	TDPT 2,5/...-SP
Pitch	5.08 mm
Range of positions	2...12
Number of positions	9
Number of levels	1
Number of connections	9
Number of potentials	9
Connection method	Push-in spring connection
Mounting type	Wave soldering
Connection direction of the conductor to the PCB	0 °
Pin layout	Linear double pinning
Solder pins per potential	2

5.2 Connection capacity

Conductor cross section, solid	0.2 mm ² ... 4 mm ² (Conductor connection with open terminal point)
Conductor cross section, flexible	0.2 mm ² ... 4 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.2 mm ² ... 2.5 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² ... 0.75 mm ²
Stripping length	10 mm

5.3 Connection capacity AWG

Conductor cross section AWG	24 ... 12
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6 Material properties**6.1 Material of metal parts**

Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Tin (10 - 16 µm Sn)
Soldering area surface	Tin (10 - 16 µm Sn)
Surface characteristics	Tin-plated

6.2 Material of plastic parts

	Housing	Actuation element
Color	green (6021)	orange (2003)
Insulating material	PA	PA
Insulating material group	I	I

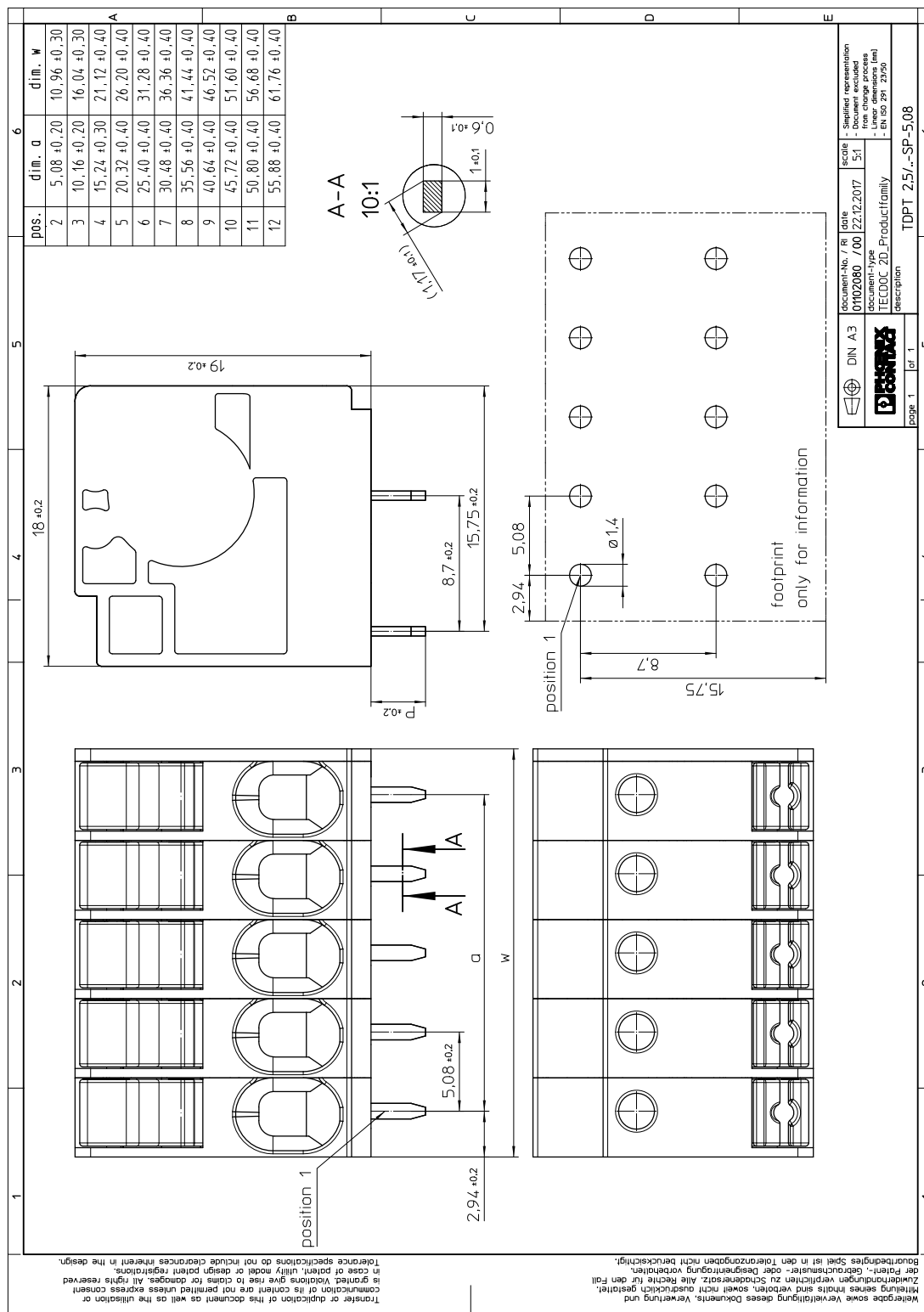
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	Housing	Actuation element
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C	125 °C

1017510 TDPT 2,5/ 9-SP-5,08**7 Dimensions****7.1 Dimensions for the product**

Length	18 mm
Width	46.52 mm
Height (without solder pin)	19 mm
Total height	22.5 mm
Solder pin [P]	3.5 mm
Dimension a	40.64 mm

8 Series drawing



1017510 TDPT 2,5/ 9-SP-5,08**8.1 Dimensions for PCB design**

Pin dimensions	0.8 x 0.8 mm
Pin spacing	8.7 mm

9 Application**10 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

10.1 Processing notes

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

10.2 Temperature limit values

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

1017510 TDPT 2,5/ 9-SP-5,08**11 Mechanical tests****11.1 Pull-out test**

Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / flexible / > 10 N
Conductor cross section/conductor type/tractive force actual value	4 mm ² / solid / > 60 N
Conductor cross section/conductor type/tractive force actual value	4 mm ² / flexible / > 60 N

11.2 Check for damage to conductor or loosening

Specification	IEC 60999-1:1999-11
Result	Test passed

1017510 TDPT 2,5/ 9-SP-5,08**12 Electrical tests****12.1 Electrical data**

Rated current / conductor cross section	32 A / 2.5 mm ²
Rated insulation voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV
Contact resistance	
Degree of pollution	2

12.2 Air and creepage distances

Component	PCB terminal block		
Specification	IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	320 V	400 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	4 mm	3 mm	3.2 mm

12.3 Short-time withstand current test

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Conductor cross section/short-time current	4 mm ² / 144 A

12.4 Aging test (climatic impact and corrosion testing)

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Contact resistance R ₁	1.13 mΩ / 4 mm ²
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 ₂	1.13 mΩ / 4 mm ²
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	3.1 kV

12.5 Mechanical connection test for the PCB terminal block

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

1017510 TDPT 2,5/ 9-SP-5,08**12.6 Temperature rise test**

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.
Conductor cross section/test current/temperature rise	4 mm ² / 32 A / 37.4 K

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13 Current carrying capacity/derating curves

Specification

IEC 60947-7-4:2013-08

Note

Representation based on IEC 60512-5-2:2002-02

Reduction factor

1

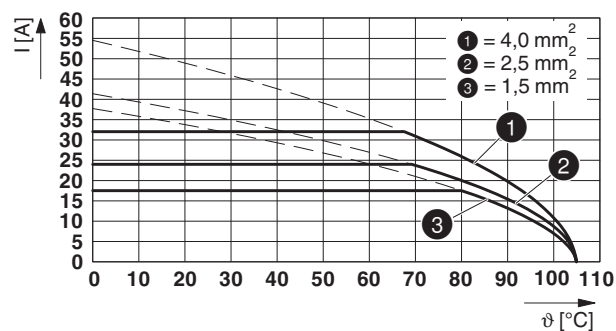
Number of positions

4

Conductor cross section

2.5 mm²

Type: TDPT 2,5/...-SP-5,08



1017510 TDPT 2,5/ 9-SP-5,08**14 Environmental and durability tests****14.1 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
Note	The connected conductor loops were guided to the test sample at a distance of approx. 10 cm.

14.2 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		

14.3 Shock protection

Specification	IEC 60529:1989-11 + AMD 1:1999-11 + AMD 2:2013-08
Back of the hand protection (Ball ø 50)	guaranteed
Finger protection (movable test finger)	guaranteed
Note	

14.4 Test for substances that would hinder coating with paint or varnish

Specification	WN-CS 21-1:2010-09
Result	Test passed

1017510 TDPT 2,5/ 9-SP-5,08

15 Approvals / Certificates

IECEE CB Scheme 				
VDE Zeichengenehmigung 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	400 V	32 A	-	0.2 - 4
cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
	300 V	20 A	24 - 12	-
Usegroup C				
	150 V	20 A	24 - 12	-
Usegroup D				
	300 V	10 A	24 - 12	-

1017510 TDPT 2,5/ 9-SP-5,08**16 Commercial Data**

Order No.	1017510
Type	TDPT 2,5/ 9-SP-5,08
Pieces per package	50
Net weight	19.11 g
GTIN	4055626501444
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 Accessories

Description	Order No.	Type
Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.8 x 4.0 x 100 mm, 2-component grip, with non-slip grip	1204520	SZF 2-0,8X4,0