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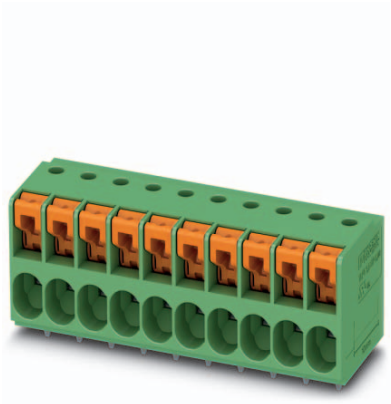
2018-04-23
Product version 00
Document revision 00

Data sheet

Order No.: 1017504

Type: TDPT 2,5/ 3-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. 3
- Conductor cross section 2.5 mm²
- Color green
- Pitch 5.08 mm
- Connection method Push-in spring connection
- Nominal current 32 A
- Nominal voltage 400 V
- Connection direction 0 °
- Type of packaging packed in cardboard

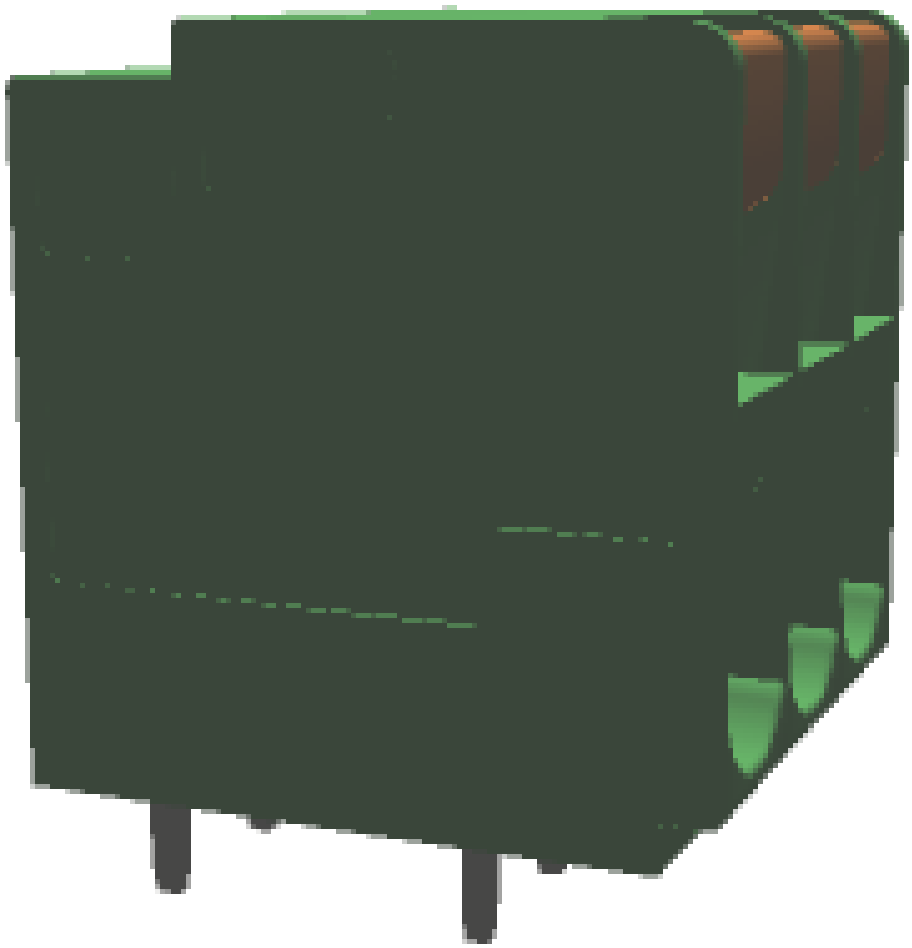
2 Your advantages

- 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/1017504

3 Table of contents

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



5 item properties

Order No.	1017504
Type	TDPT 2,5/ 3-SP-5,08
Range of articles	TDPT 2,5/..-SP
Pitch	5.08 mm
Number of positions	3
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear double pinning

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 4 mm²
Conductor cross section, flexible	0.2 mm² to 4 mm²
Conductor cross section AWG/kcmil	24 to 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² to 2.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.2 mm² to 2.5 mm²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm² to 0.75 mm²
Stripping length	10 mm

5.2 Material data

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	Sn 10 µm ... 16 µm
Soldering area surface	Sn 10 µm ... 16 µm
Surface characteristics	Tin-plated

Insulating material data	Housing	Actuation element
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

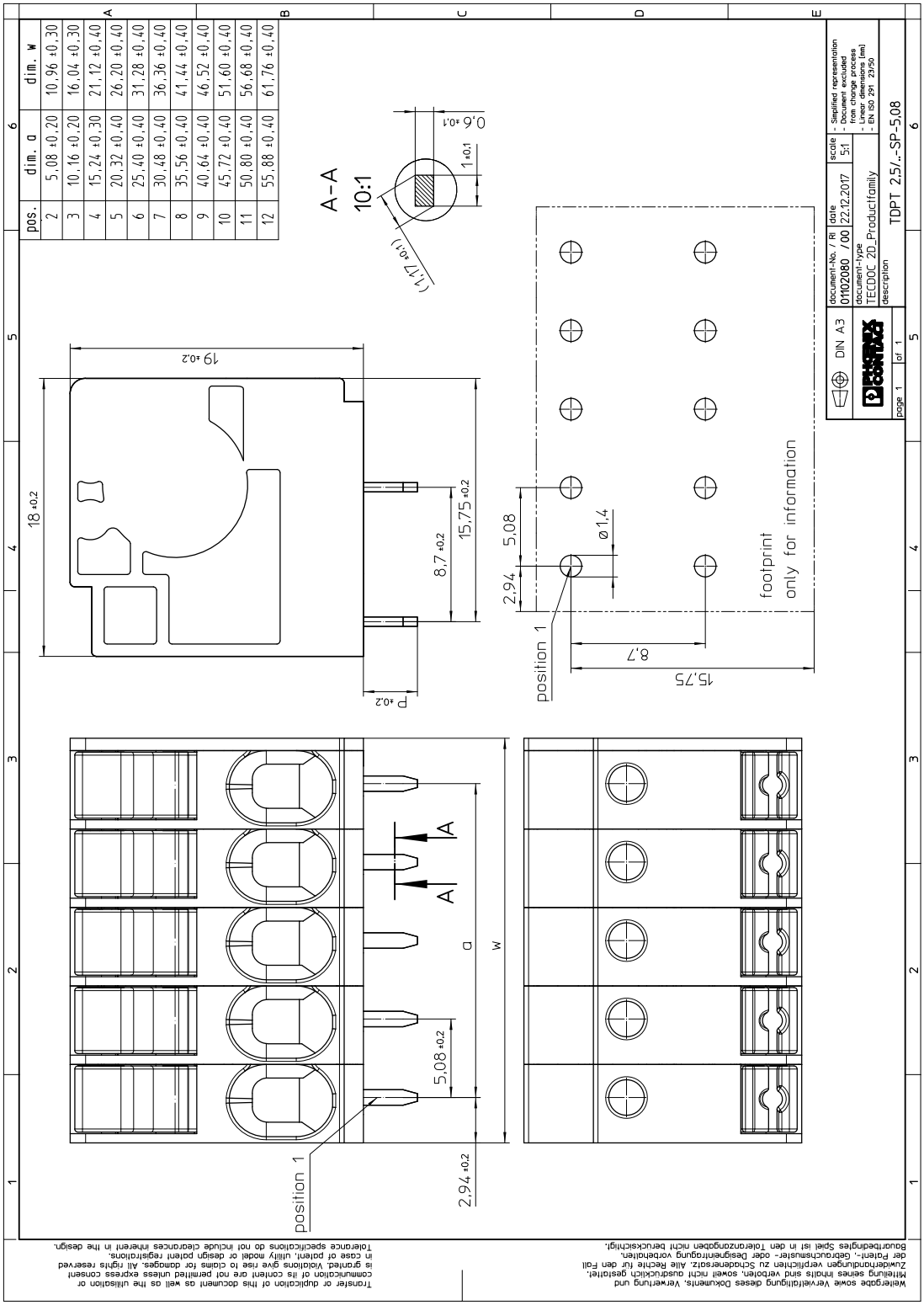
6.1 Dimensions for the product

Length	18 mm
Width	16.04 mm
Height (without solder pin)	19 mm
Total height	22.5 mm
Solder pin [P]	3.5 mm
Dimension a	10.16 mm

6.2 Dimensions for PCB design

Hole diameter	1.4 mm
Pin dimensions	1 x 0,6 mm
Pin spacing	8.7 mm

7 Series drawing



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	0.2 mm^2 / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm^2 / stranded / > 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 / stranded / > 60 N

10 Electrical tests

10.1 Electrical data

Rated current / conductor cross section	32 A / 2.5 mm²
Rated insulation voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV
Contact resistance	1.13 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	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

10.3 Short-time withstand current test

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Conductor cross section/short-time current	4 mm² / 144 A

10.4 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 mm²
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 mm²
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

10.5 Insulation resistance

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

10.6 Mechanical connection test for the PCB terminal block

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

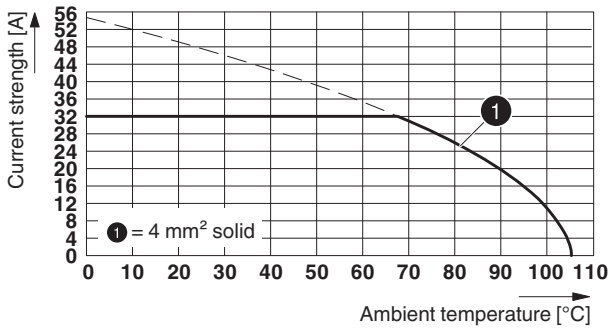
10.7 Temperature-rise test

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

11 Current carrying capacity/derating curves

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

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



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
Specification	
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

14 Commercial Data

Order No.	1017504
Type	TDPT 2,5/ 3-SP-5,08
Pieces per package	50
Net weight	3.92 g
GTIN	4055626501383
	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
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