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Product version 00
Document revision 01

Data sheet

Order No.: 1071179

Type: SPTA-THR 1,5/ 3-3,81 R32

PCB terminal block, Reflow/wave soldering, Push-in spring connection

The figure shows the 10-position version

1 Main features

- No. of pos. 3
- Conductor cross section 1.5 mm²
- Color black (9005)
- Pitch 3.81 mm
- Connection method Push-in spring connection
- Nominal current 13.5 A
- Nominal voltage 160 V
- Connection direction 45 °
- Type of packaging 32 mm wide tape

2 Your advantages

- 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
- Angled connection enables multi-row arrangement on the PCB
- Designed for integration into the SMT soldering process

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1071179

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

5 General Technical Data

5.1 item properties

Order No.	1071179
Type	SPTA-THR 1,5/ 3-3,81 R32
Product type	PCB terminal block
Range of articles	SPTA 1,5/..-THR
Pitch	3.81 mm
Range of positions	2...12
Number of positions	3
Number of levels	1
Connection method	Push-in spring connection
Mounting type	THR soldering
Connection direction of the conductor to the PCB	45 °
Solder pins per potential	1

5.2 Connection capacity

Conductor cross section, solid	0.2 mm² ... 1.5 mm² (Conductor connection with open terminal point)
Conductor cross section, flexible	without
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm² ... 1.5 mm²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm² ... 0.75 mm²
Stripping length	10 mm

5.3 Information on aluminum conductors

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 (2 - 4 µm Sn)
Soldering area surface	Tin (2 - 4 µm Sn)
Surface characteristics	hot-dip tin-plated

6.2 Material Kunststoffteile

	Housing	Actuation element
Color	black (9005)	white (9003)
Insulating material	LCP GF	PA GF
Insulating material group	III	I
CTI according to IEC 60112	175	600

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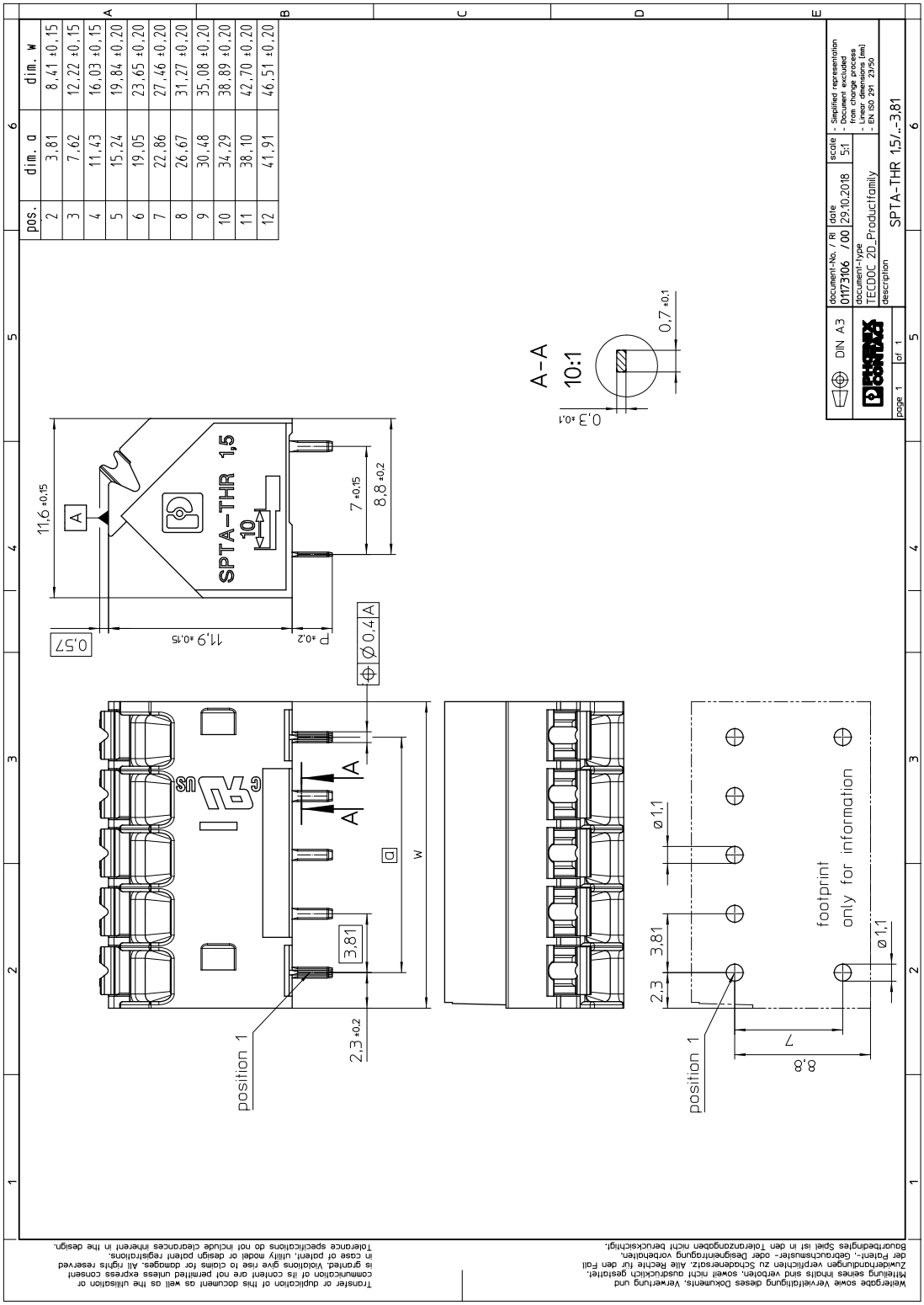
	Housing	Actuation element
Flammability rating according to UL 94	V0	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850	
Glow wire ignition temperature GWIT according to EN 60695-2-13	775	
Temperature for the ball pressure test according to EN 60695-10-2	125 °C	

7 Dimensions

7.1 Dimensions for the product

Length	11.6 mm
Width	12.22 mm
Height (without solder pin)	12.47 mm
Total height	15.07 mm
Solder pin [P]	2.6 mm
Dimension a	

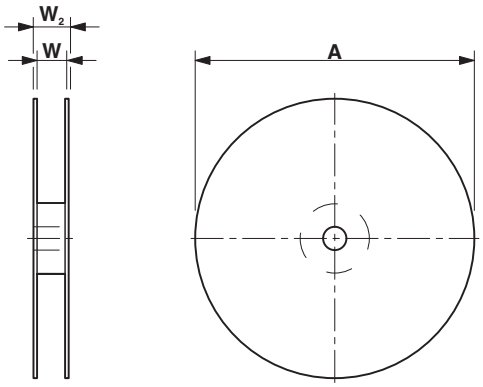
8 Series drawing



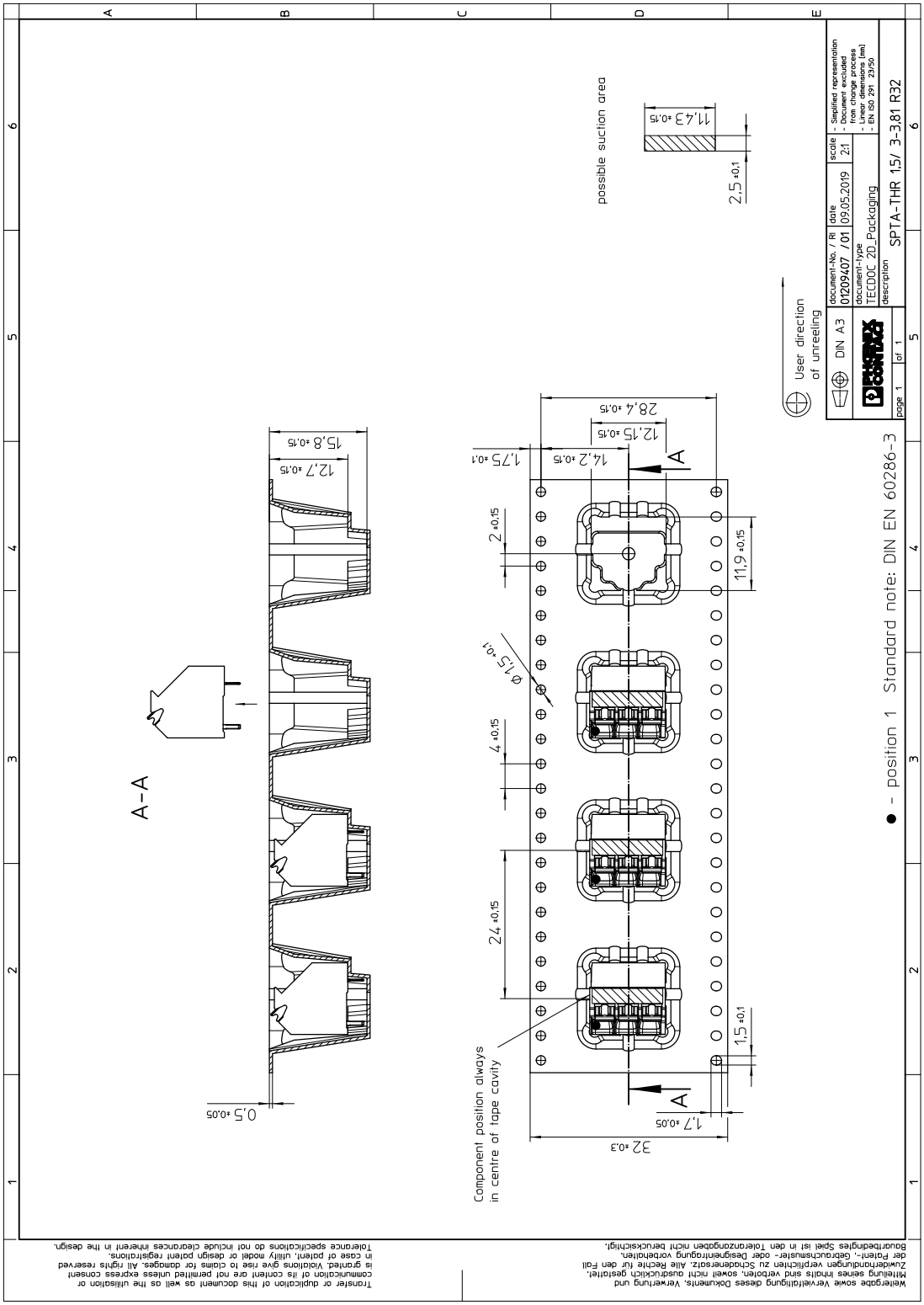
9 Application

10 Packaging information

Type of packaging	32 mm wide tape
Pieces per package	145
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07
[W] tape width	32 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	38.4 mm
Number of products per coil	145



11 Blister drawing



11.1 Processing notes

Process	Reflow/wave soldering
Specification	Following IPC/JEDEC J-STD-020E:2014-12
Specification	Following IEC 61760-1:2006-04
Specification	Follwing IEC 60068-2-58:2015-03
Moisture Sensitive Level	MSL 1
Classification temperature T_c	max. 260 °C
Solder cycles in the reflow	3
swash circumference	see dimensional drawing

11.2 Temperature limit values

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

12 Mechanical tests

12.1 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	1.5 mm^2 / solid / > 40 N

12.2 Check for damage to conductor or loosening

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

13 Electrical tests

13.1 Electrical data

Rated current / conductor cross section	13.5 A 1.5 mm²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.2 mΩ
Degree of pollution	2

13.2 Air and creepage distances

Component	PCB terminal block		
Specification	IEC 60947-7-4:2013-08		
Mains type	unearthed mains		
Insulating material group	III		
Comparative tracking index (IEC 60112:2003-01)	CTI 175		
Rated insulation voltage	160 V	160 V	250 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2.5 mm	1.6 mm	2.5 mm

13.3 Short-time withstand current test

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Conductor cross section/short-time current	1.5 mm² / 25.2 A

13.4 Aging test (climatic impact and corrosion testing)

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Contact resistance R_1	1.2 mΩ / 1.5 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 mΩ / 1.5 mm²
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.4 kV

13.5 Mechanical connection test for the PCB terminal block

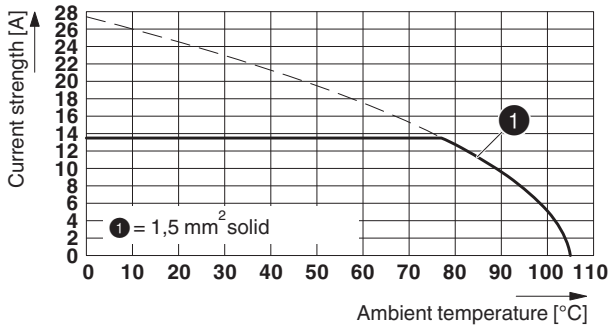
Specification	IEC 60947-7-4:2013-08
Result	Test passed

13.6 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	1.5 mm^2 / 13.5 A / 28.2 K

14 Current carrying capacity/derating curves

Type: SPTA-THR 1,5/...-3,81 R...



15 Environmental and durability tests

15.1 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.

15.2 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		

15.3 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)	conditional guaranteed (installation dependent)
Note	When using a PCB that extends beyond the footprint of the PCB connection terminal block by 4 mm on all sides.

16 Approvals

cULus Recognized
Use group	B
Voltage	300 V
Current	10 A

17 Commercial Data

Order No.	1071179
Type	SPTA-THR 1,5/ 3-3,81 R32
Pieces per package	145
Net weight	1.6 g
GTIN	4055626771038
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

18 Accessories

Description	Order No.	Type
Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip	1205037	SZS 0,4X2,5 VDE
Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp	1212034	CRIMPFOX 6
Test plug, consisting of 1.0 mm Ø test pin and 2.0 mm Ø socket	1944372	MPS-MT 1-S
	1982800	MPS-MT 1-S4-B RD