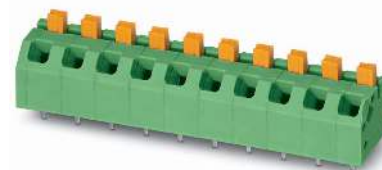


Order No.: 1071051

Type: SPTAF 1/ 7-5,0-EL-EX

PCB terminal block, Push-in spring connection



The figure shows 10-pos. standard item (without EX marking)

## 1 Main features



- |                           |                           |                        |       |
|---------------------------|---------------------------|------------------------|-------|
| • No. of pos.             | 7                         | • Nominal current      | 16 A  |
| • Conductor cross section | 1.5 mm <sup>2</sup>       | • Nominal voltage      | 137 V |
| • Color                   | green (6021)              | • Connection direction | 45 °  |
| • Pitch                   | 5 mm                      | • Type of packaging    | Tray  |
| • Connection method       | Push-in spring connection |                        |       |

## 2 Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Finger-operated release button for very convenient operation
- ✓ Small component size for applications where space is at a premium
- ✓ Satisfies the more stringent safety requirements of “Ex eb” protection according to IEC 60079-7 for potentially explosive areas
- ✓ Quick and convenient testing using integrated test option



Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1071051](https://phoenixcontact.net/product/1071051)

**1071051 SPTAF 1/ 7-5,0-EL-EX****3 Table of contents**

1	Main features.....	1
2	Your advantages .....	1
3	Table of contents .....	2
4	3D model in PDF can be activated (Acrobat Reader only).....	3
5	General Technical Data .....	4
	5.1 item properties .....	4
	5.2 Connection capacity .....	4
	5.3 Connection capacity AWG .....	4
6	Material properties.....	4
	6.1 Material of metal parts.....	4
	6.2 Material of plastic parts .....	4
7	Dimensions.....	6
	7.1 Dimensions for the product .....	6
8	Series drawing.....	7
	8.1 Dimensions for PCB design.....	8
9	Application.....	8
	9.1 General information.....	8
10	Packaging information .....	8
	10.1 Temperature limit values .....	8
11	Mechanical tests.....	9
	11.1 Pull-out test .....	9
	11.2 Check for damage to conductor or loosening .....	9
12	Electrical tests .....	10
	12.1 Electrical data .....	10
	12.2 Short-time withstand current test .....	10
	12.3 Aging test (climatic impact and corrosion testing).....	10
	12.4 Mechanical connection test for the PCB terminal block .....	10
	12.5 Temperature rise test.....	10
13	Current carrying capacity/derating curves .....	11
14	Environmental and durability tests .....	12
	14.1 Vibration test .....	12
	14.2 Assessment of fire risk (glow wire test).....	12
	14.3 Shock protection .....	12
15	Approvals .....	12
16	Commercial Data.....	13
17	Accessories.....	13

1071051 SPTAF 1/ 7-5,0-EL-EX


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



**1071051 SPTAF 1/ 7-5,0-EL-EX****5 General Technical Data****5.1 item properties**

Order No.	1071051
Type	SPTAF 1/ 7-5,0-EL-EX
Product type	PCB terminal block
Range of articles	SPTAF 1/...-EL-EX
Pitch	5 mm
Range of positions	2...16
Number of positions	7
Number of levels	1
Connection method	Push-in spring connection
Mounting type	Wave soldering
Connection direction of the conductor to the PCB	45 °
Pin layout	Linear double pinning
Solder pins per potential	2

**5.2 Connection capacity**

Examination certificate	SEV 19 ATEX 0159 U
	0344  II 2G Ex eb IIC T6...T1 Gb
IECEX certificate	IECEX SEV 19.0026U
Conductor cross section, solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (When connecting and possibly adjusting a solid conductor of 1.5 mm <sup>2</sup> , the mechanical lateral forces, which can affect the terminal block, have to be absorbed by lateral support.)
Conductor cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
Stripping length	8 mm

**5.3 Connection capacity AWG**

Conductor cross section AWG	24 ... 16
-----------------------------	-----------

**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 of plastic parts**

**1071051 SPTAF 1/ 7-5,0-EL-EX**

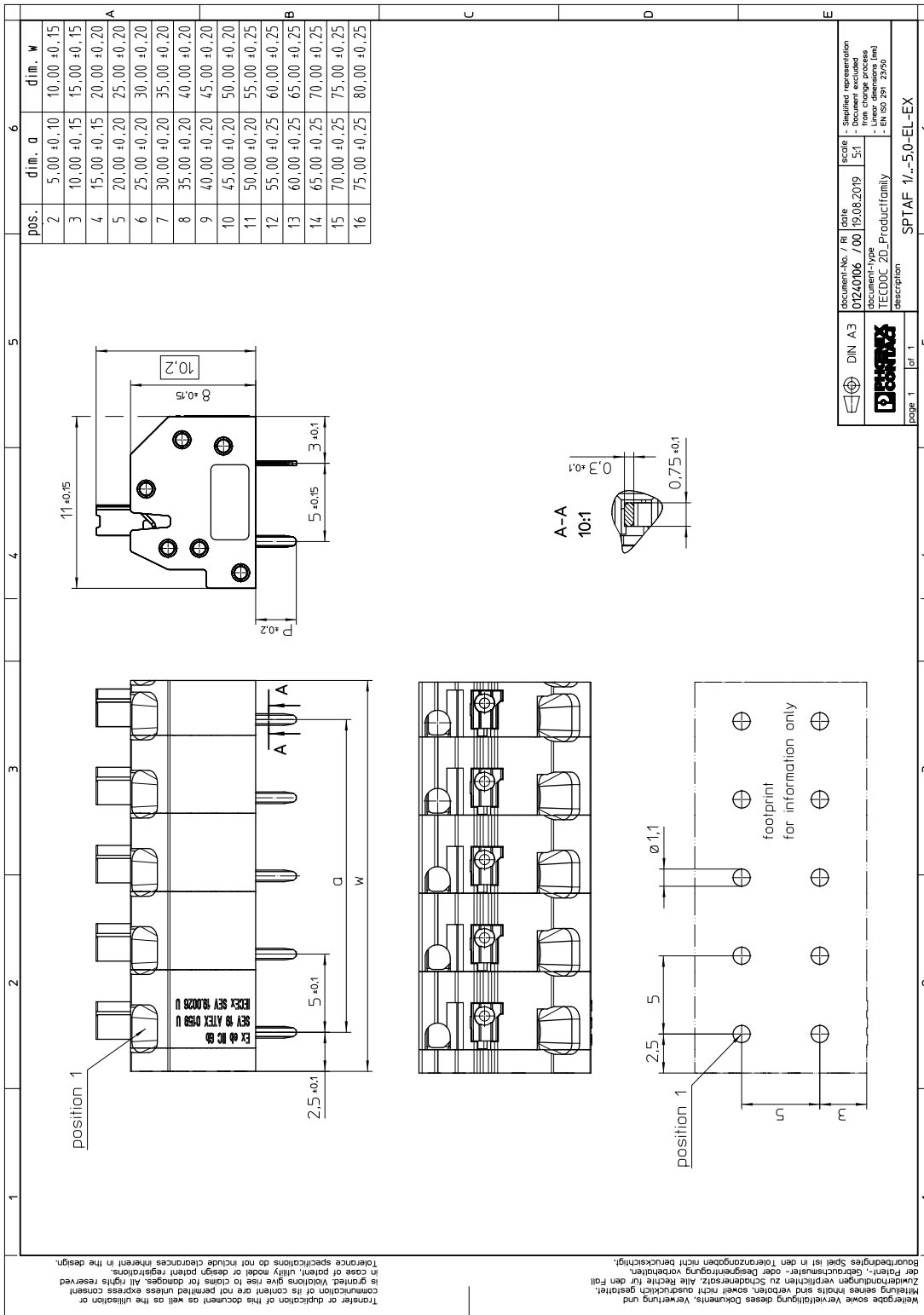
	Housing	Actuation element
Color	green (6021)	orange (2003)
Insulating material	PA	PBT
Insulating material group	I	
CTI according to IEC 60112	600	275
Flammability rating according to UL 94	V0	V0

**1071051 SPTAF 1/ 7-5,0-EL-EX****7 Dimensions****7.1 Dimensions for the product**

Length	11 mm
Width	35 mm
Height (without solder pin)	10.2 mm
Total height	12.8 mm
Solder pin [P]	2.6 mm
Dimension a	30 mm

1071051 SPTAF 1/ 7-5,0-EL-EX

8 Series drawing



**1071051 SPTAF 1/ 7-5,0-EL-EX****8.1 Dimensions for PCB design**

Hole diameter	1.1 mm
Pin dimensions	0.75 x 0.3 mm

**9 Application****9.1 General information**

Note on application	Maximum permissible outer diameter of the wire insulation $\leq 3$ mm
Note on Ex protection	Konformitätsbescheinigung und EX-Zertifikate auf Anfrage erhältlich
Note on Ex protection	

**10 Packaging information**

Type of packaging	Tray
Pieces per package	70

**10.1 Temperature limit values**

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C



**1071051 SPTAF 1/ 7-5,0-EL-EX****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 <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.25 mm <sup>2</sup> / flexible / > 10 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm <sup>2</sup> / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm <sup>2</sup> / flexible / > 40 N

**11.2 Check for damage to conductor or loosening**

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

**1071051 SPTAF 1/ 7-5,0-EL-EX****12 Electrical tests****12.1 Electrical data**

Rated current / conductor cross section	16 A / 1.5 mm <sup>2</sup>
Rated insulation voltage (III/2)	
Rated surge voltage (III/2)	
Contact resistance	
Degree of pollution	2

**12.2 Short-time withstand current test**

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Conductor cross section/short-time current	1.5 mm <sup>2</sup> / 50.4 A

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

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Contact resistance R <sub>1</sub>	0.8 mΩ / 1.5 mm <sup>2</sup>
Test sequence 1: low temperature storage	-40 °C / 2 h
Test sequence 2: heat storage	168 h/100°C
Test sequence 3: noxious gas storage (ISO 6988)	KFW 0.2 S/1 cycle
Contact resistance R <sub>2</sub>	0.9 mΩ / 1.5 mm <sup>2</sup>
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.2 kV

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

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

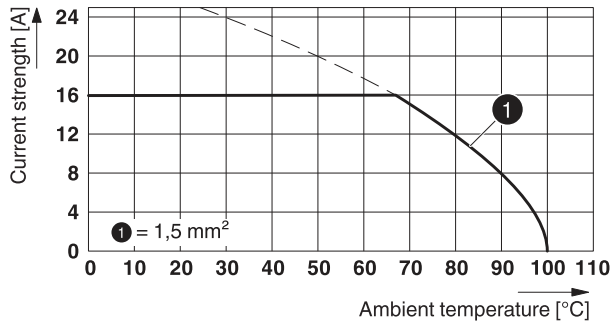
**12.5 Temperature rise test**

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 <sup>2</sup> / 16 A / 33.5 K

1071051 SPTAF 1/ 7-5,0-EL-EX

13 Current carrying capacity/derating curves

Type: SPTAF 1/...-5,0-IL(EL)



**1071051 SPTAF 1/ 7-5,0-EL-EX****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)
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	unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB

**15 Approvals**

**1071051 SPTAF 1/ 7-5,0-EL-EX****16 Commercial Data**

Order No.	1071051
Type	SPTAF 1/ 7-5,0-EL-EX
Pieces per package	70
Net weight	4.56 g
GTIN	4063151100933
	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: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip	1204504	SZF 0-0,4X2,5