

# Data sheet

Order No.: 1071020

Type: SPTAF 1/12-3,5-IL-EX

PCB terminal block, Push-in spring connection



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

## 1 Main features



- |                           |                           |                        |      |
|---------------------------|---------------------------|------------------------|------|
| • No. of pos.             | 12                        | • Nominal current      | 16 A |
| • Conductor cross section | 1.5 mm <sup>2</sup>       | • Nominal voltage      | 44 V |
| • Color                   | green (6021)              | • Connection direction | 45 ° |
| • Pitch                   | 3.5 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
- ✓ Intuitive use through colour coded actuation lever
- ✓ 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



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It can be downloaded at: [phoenixcontact.net/product/1071020](https://phoenixcontact.net/product/1071020)

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**1071020 SPTAF 1/12-3,5-IL-EX**

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



**1071020 SPTAF 1/12-3,5-IL-EX****5 General Technical Data****5.1 item properties**

Order No.	1071020
Type	SPTAF 1/12-3,5-IL-EX
Product type	PCB terminal block
Range of articles	SPTAF 1/..-IL-EX
Pitch	3.5 mm
Range of positions	2...18
Number of positions	12
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 <sup>(Ex)</sup> 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
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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 (2 - 4 μm Sn)
Soldering area surface	Tin (2 - 4 μm Sn)
Surface characteristics	hot-dip tin-plated

**6.2 Material of plastic parts**

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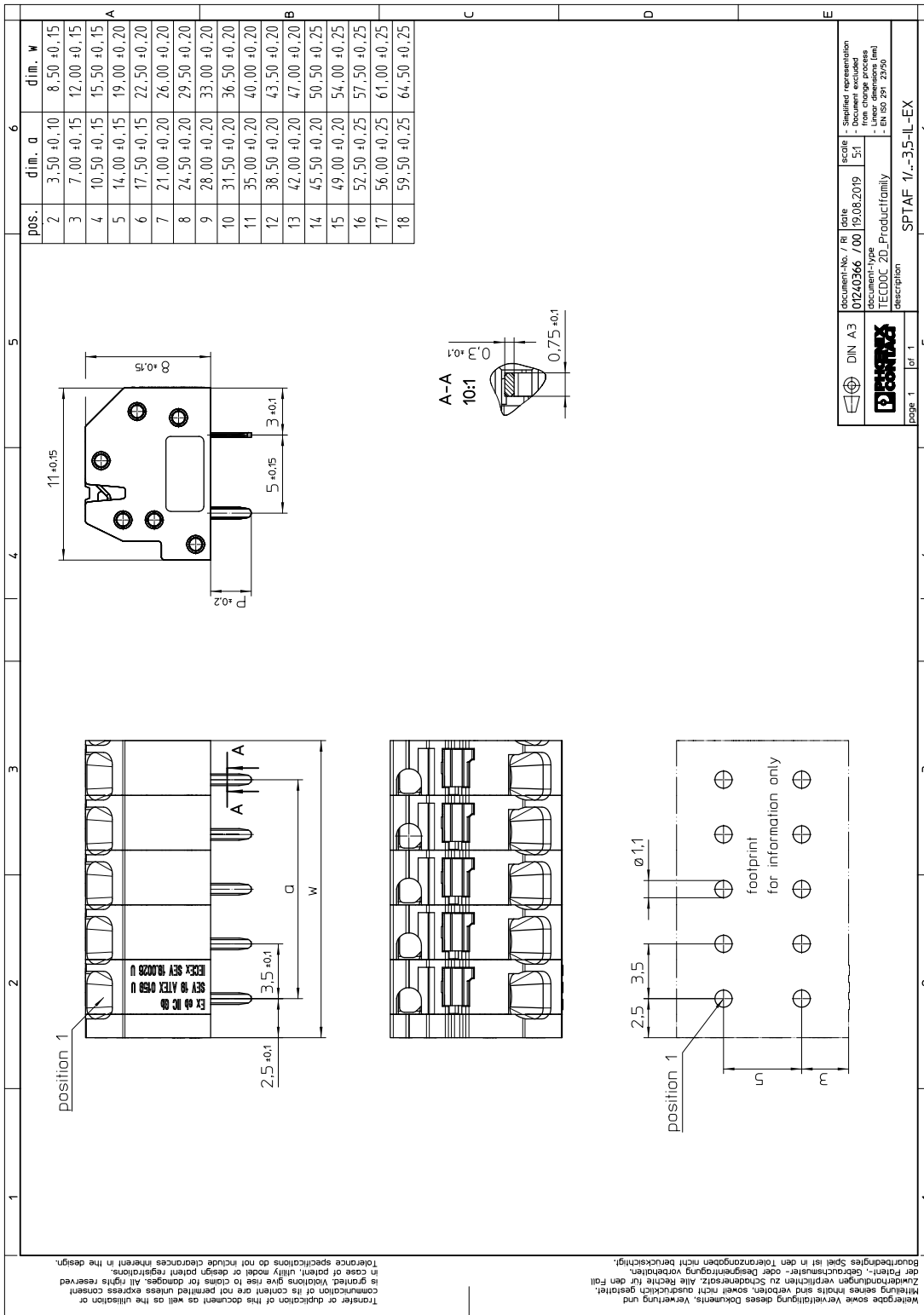
	Housing	Actuation element
Color	green (6021)	orange (2003)
Insulating material	PA	PBT
Insulating material group	I	
CTI according to IEC 60112	600	275
Flammability rating according to UL 94	V0	V0

**1071020 SPTAF 1/12-3,5-IL-EX****7 Dimensions****7.1 Dimensions for the product**

Length	11 mm
Width	43.5 mm
Height (without solder pin)	8 mm
Total height	10.6 mm
Solder pin [P]	2.6 mm
Dimension a	38.5 mm

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8 Series drawing



**1071020 SPTAF 1/12-3,5-IL-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
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**10 Packaging information**

Type of packaging	Tray
Pieces per package	80

**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



**1071020 SPTAF 1/12-3,5-IL-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

**1071020 SPTAF 1/12-3,5-IL-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)	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.4 kV

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

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

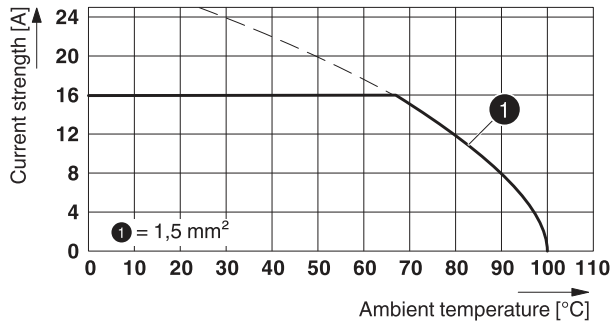
**12.5 Temperature rise test**

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

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13 Current carrying capacity/derating curves

Type: SPTAF 1/...-3,5-IL(EL)



**1071020 SPTAF 1/12-3,5-IL-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	

**15 Approvals**

**1071020 SPTAF 1/12-3,5-IL-EX****16 Commercial Data**

Order No.	1071020
Type	SPTAF 1/12-3,5-IL-EX
Pieces per package	80
Net weight	5.3 g
GTIN	4063151100872
	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