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Document revision 00

# Data sheet

## Order No.: 1071100

## Type: SPTAF 1/ 4-5,0-IL-EXPROFINET 3

## PCB terminal block, Push-in spring connection


The figure shows the standard item (without EX marking)

## 1 Main features


- No. of pos. 4
- Conductor cross section 1.5 mm²
- Color green (6021)
- Pitch 5 mm
- Connection method Push-in spring connection
- Nominal current 16 A
- Nominal voltage 137 V
- Connection direction 45 °
- Type of packaging Tray

## 2 Your advantages

- Satisfies the requirements of the “Guideline for PROFINET” in the edition dated 05/2017
- Satisfies CAT5 requirements in accordance with EN 50173 and ISO/IEC 11801
- Satisfies the more stringent safety requirements of “Ex eb” protection according to IEC 60079-7 for potentially explosive areas
- 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
- Quick and convenient testing using integrated test option

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1071100

# 3 Table of contents

# 4 General Technical Data

## 4.1 item properties

| | |
|---|---|
| Order No. | 1071100 |
| Type | SPTAF 1/ 4-5,0-IL-EXPROFINET 3 |
| Product type | PCB terminal block |
| Range of articles | SPTAF 1/..-IL-EX PROFINET |
| Pitch | 5 mm |
| Range of positions | 4...4 |
| Number of positions | 4 |
| 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 |

## 4.2 Connection capacity

| | |
|---|---|
| Examination certificate | SEV 19 ATEX 0159 U |
| | 0344 Ex II 2G Ex eb IIC T6...T1 Gb |
| IECEx certificate | IECEx SEV 19.0026U |
| Conductor cross section, solid | 0.2 mm² ... 1.5 mm² (When connecting and possibly adjusting a solid conductor of 1.5 mm², the mechanical lateral forces, which can affect the terminal block, have to be absorbed by lateral support.) |
| Conductor cross section, flexible | 0.2 mm² ... 1.5 mm² |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 0.75 mm² |
| Conductor cross section flexible, with ferrule with plastic sleeve | 0.25 mm² ... 0.75 mm² |
| Stripping length | 8 mm |

## 4.3 Connection capacity AWG

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

# 5 Material properties

## 5.1 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 |

## 5.2 Material of plastic parts

## 1071100 SPTAF 1/ 4-5,0-IL-EXPROFINET 3

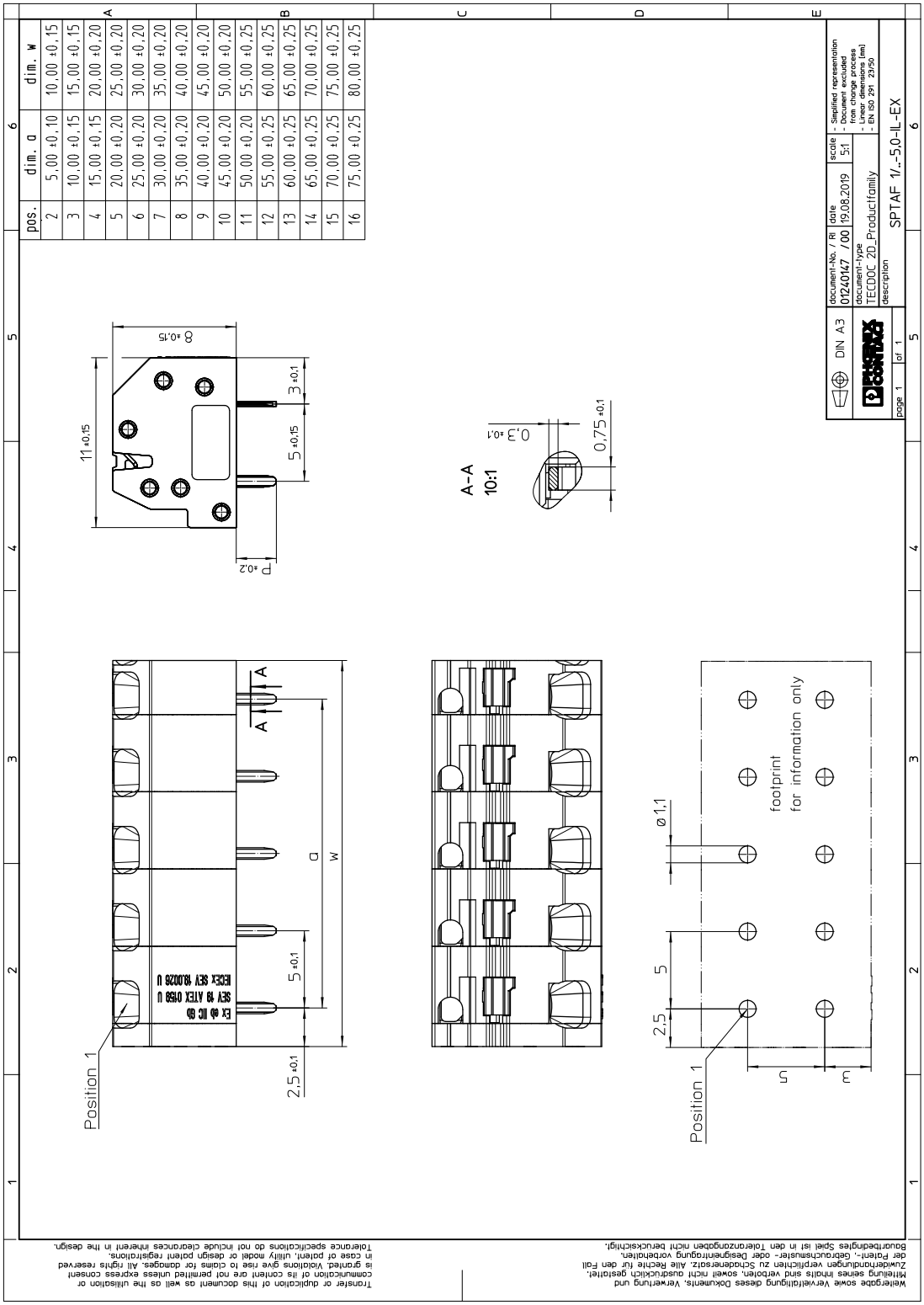
| | Housing | Actuation element |
|---|---|---|
| Color | green (6021) | orange (2003) |
| Insulating material | PA | PBT |
| Insulating material group | I | |
| CTI according to IEC 60112 | 600 | 275 |
| Flammability rating according to UL 94 | V0 | V0 |
| Glow wire flammability index GWFI according 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 | 11 mm |
| Width | 20 mm |
| Height (without solder pin) | 8 mm |
| Total height | 10.6 mm |
| Solder pin [P] | 2.6 mm |
| Dimension a | 15 mm |

# 7 Series drawing



### 7.1 Dimensions for PCB design

| | |
|---|---|
| Hole diameter | 1.1 mm |
| Pin dimensions | 0.75 x 0.3 mm |

## 8 Application

### 8.1 General information

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

## 9 Packaging information

| | |
|---|---|
| Type of packaging | Tray |
| Pieces per package | 80 |

### 9.1 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 |

# 10 Mechanical tests

## 10.1 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 | 0.25 $mm^2$ / flexible / > 10 N |
| Conductor cross section/conductor type/tractive force actual value | 1.5 $mm^2$ / solid / > 40 N |
| Conductor cross section/conductor type/tractive force actual value | 1.5 $mm^2$ / flexible / > 40 N |

## 10.2 Check for damage to conductor or loosening

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

# 11 Electrical tests

## 11.1 Electrical data

| | |
|---|---|
| Rated current / conductor cross section | 16 A / 1.5 mm² |
| Rated insulation voltage (III/2) | |
| Rated surge voltage (III/2) | |
| Contact resistance | |
| Degree of pollution | 2 |

## 11.2 Short-time withstand current test

| | |
|---|---|
| Specification | IEC 60947-7-4:2013-08 |
| Result | Test passed |
| Conductor cross section/short-time current | 1.5 mm² / 50.4 A |

## 11.3 Aging test (climatic impact and corrosion testing)

| | |
|---|---|
| Specification | IEC 60947-7-4:2013-08 |
| Result | Test passed |
| Contact resistance $R_1$ | 0.8 mΩ / 1.5 mm² |
| 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 $R_2$ | 0.9 mΩ / 1.5 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) | 2.2 kV |

## 11.4 Mechanical connection test for the PCB terminal block

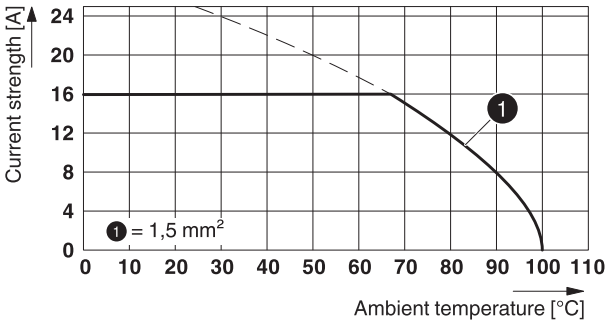
| | |
|---|---|
| Specification | IEC 60947-7-4:2013-08 |
| Result | Test passed |

## 11.5 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 mm² / 16 A / 33.5 K |

# 12 Current carrying capacity/derating curves

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



# 13 Environmental and durability tests

## 13.1 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. |

## 13.2 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 | | |

## 13.3 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 |

# 14 Approvals

## 15 Commercial Data

| | |
|---|---|
| Order No. | 1071100 |
| Type | SPTAF 1/ 4-5,0-IL-EXPROFINET 3 |
| Pieces per package | 80 |
| Net weight | 2.613 g |
| GTIN | 4063151101107 |
| | Information that applies locally, see link on page 1 |
| Country of origin | Information that applies locally, see link on page 1 |

## 16 Accessories

| Description | Order No. | Type |
|---|---|---|
| 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 $mm^2$ ... 6.0 $mm^2$, lateral entry, trapezoidal crimp | 1212034 | CRIMPFOX 6 |