

## PCB terminal block - SPTAF 1/ 4-3,5-IL - 1861959

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The figure shows a 10-position version of the product

PCB terminal block, nominal current: 16 A, rated voltage (III/2): 160 V, Nominal cross section: 1.5 mm<sup>2</sup>, pitch: 3.5 mm, number of positions: 4, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear double pinning, Solder pin [P]: 2.6 mm

### 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
- ✓ Quick and convenient testing using integrated test option



### Key Commercial Data

|                        |                                                                                      |
|------------------------|--------------------------------------------------------------------------------------|
| Packing unit           | 110 pc                                                                               |
| Minimum order quantity | 110 pc                                                                               |
| GTIN                   |  |
| GTIN                   | 4055626134093                                                                        |

### Technical data

#### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB terminal block        |
| Range of articles         | SPTAF 1/...-IL            |
| Pitch                     | 3.5 mm                    |
| Number of positions       | 4                         |
| Connection method         | Push-in spring connection |
| Mounting type             | Wave soldering            |
| Pin layout                | Linear double pinning     |
| Number of levels          | 1                         |
| Number of connections     | 4                         |

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## Technical data

### Item properties

|                      |   |
|----------------------|---|
| Number of potentials | 4 |
|----------------------|---|

### Electrical parameters

|              |       |
|--------------|-------|
| Nom. voltage | 160 V |
|--------------|-------|

### Connection capacity

|                                                                       |                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection method                                                     | Push-in spring connection                                                                                                                                                                                                                   |
| 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 AWG / kcmil                                   | 24 ... 16                                                                                                                                                                                                                                   |
| 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                                                                                                                                                                                                                                        |

### Material data - contact

|                                          |                                                                                   |
|------------------------------------------|-----------------------------------------------------------------------------------|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201 |
| Contact material                         | Cu alloy                                                                          |
| Surface characteristics                  | hot-dip tin-plated                                                                |
| Metal surface terminal point (top layer) | Tin (2 - 4 µm Sn)                                                                 |
| Metal surface soldering area (top layer) | Tin (2 - 4 µm Sn)                                                                 |

### Material data - housing

|                                        |     |
|----------------------------------------|-----|
| Insulating material                    | PA  |
| Insulating material group              | I   |
| CTI according to IEC 60112             | 600 |
| Flammability rating according to UL 94 | V0  |

### Dimensions for the product

|                             |               |
|-----------------------------|---------------|
| Length [ l ]                | 11 mm         |
| Width [ w ]                 | 15.5 mm       |
| Height [ h ]                | 10.6 mm       |
| Pitch                       | 3.5 mm        |
| Height (without solder pin) | 8 mm          |
| Solder pin [P]              | 2.6 mm        |
| Pin spacing                 | 5 mm          |
| Pin dimensions              | 0.75 x 0.3 mm |
| Dimension a                 | 10.5 mm       |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.1 mm |
| Pin spacing   | 5 mm   |

### Packaging information

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## Technical data

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 110                 |
| Denomination packing units | Pcs.                |

### General product information

|              |                                                                       |
|--------------|-----------------------------------------------------------------------|
| Type of note | Note on application                                                   |
| Note         | Maximum permissible outer diameter of the wire insulation $\leq 3$ mm |

### Processing notes

|               |                                  |
|---------------|----------------------------------|
| Process       | Wave soldering                   |
| Specification | Following IEC 61760-1:2006-04    |
|               | Following IEC 60068-2-54:2006-04 |

### Ambient conditions

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

### Termination and connection method

|                                          |                     |
|------------------------------------------|---------------------|
| Test – repeated connection and release   | IEC 60999-1:1999-11 |
|                                          | Test passed         |
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
|                                          | Test passed         |

### Pull-out test

|                                                          |                                          |
|----------------------------------------------------------|------------------------------------------|
| Pull-out test                                            | IEC 60999-1:1999-11                      |
|                                                          | Test passed                              |
| Conductor cross section / conductor type / tensile force | 0.2 mm <sup>2</sup> / solid / > 10 N     |
|                                                          | 0.25 mm <sup>2</sup> / flexible / > 10 N |
|                                                          | 1.5 mm <sup>2</sup> / solid / > 40 N     |
|                                                          | 1.5 mm <sup>2</sup> / flexible / > 40 N  |

### Electrical tests

|                             |                     |
|-----------------------------|---------------------|
| Rated current               | 16 A                |
| Conductor cross section     | 1.5 mm <sup>2</sup> |
| Rated voltage (III/2)       | 160 V               |
| Rated surge voltage (III/2) | 2.5 kV              |

### Air clearances and creepage distances

|                                   |                                  |
|-----------------------------------|----------------------------------|
| Clearances and creepage distances | IEC 60947-1:2007-06 + A1:2010-12 |
| Specification                     | IEC 60947-1:2007-06 + A1:2010-12 |
| Rated insulation voltage (III/3)  | 160 V                            |
| Rated insulation voltage (III/2)  | 160 V                            |
| Rated insulation voltage (II/2)   | 320 V                            |
| Rated surge voltage (III/3)       | 2.5 kV                           |

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### Technical data

#### Air clearances and creepage distances

|                                                 |        |
|-------------------------------------------------|--------|
| Rated surge voltage (III/2)                     | 2.5 kV |
| Rated surge voltage (II/2)                      | 2.5 kV |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm |
| Minimum clearance - inhomogeneous field (II/2)  | 1.5 mm |
| Minimum creepage distance value (III/3)         | 2 mm   |
| Minimum creepage distance value (III/2)         | 0.8 mm |
| Minimum creepage distance value (II/2)          | 1.6 mm |

#### 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                  |

#### Standards and Regulations

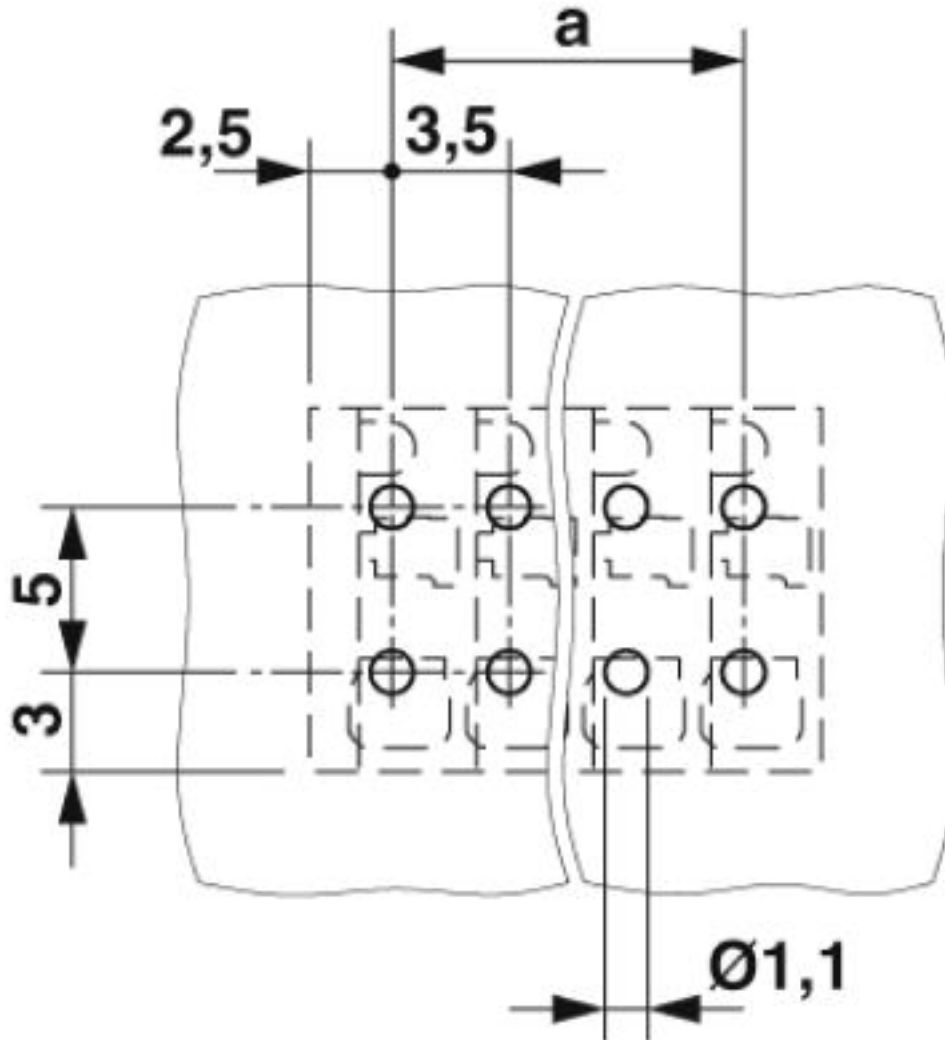
|                                        |        |
|----------------------------------------|--------|
| Connection in acc. with standard       | EN-VDE |
| Flammability rating according to UL 94 | V0     |

#### Environmental Product Compliance

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

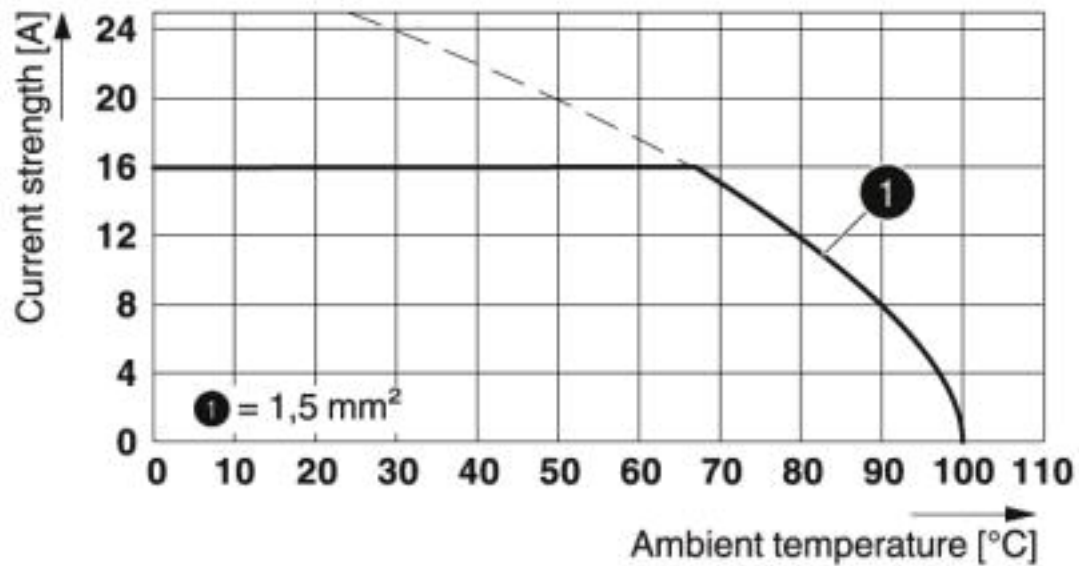
### Drawings

### Drilling diagram



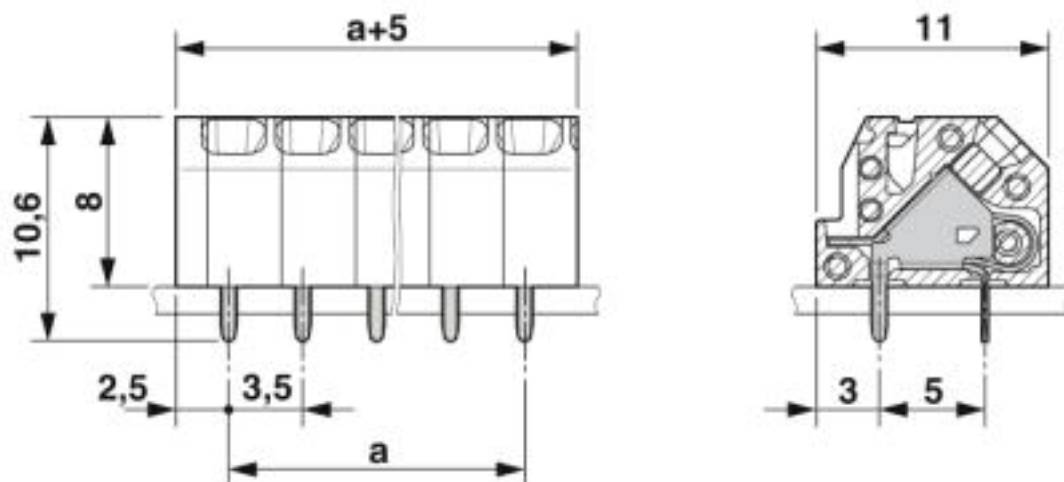
## PCB terminal block - SPTAF 1/ 4-3,5-IL - 1861959

Diagram



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

Dimensional drawing



Approvals

Approvals

Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / cULus Recognized

Ex Approvals

## PCB terminal block - SPTAF 1/ 4-3,5-IL - 1861959

### Approvals

#### Approval details

|                    |                                                                                   |                                                           |           |
|--------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-----------|
| IECEE CB Scheme    |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-61914 |
| Nominal voltage UN | 160 V                                                                             |                                                           |           |
| Nominal current IN | 16 A                                                                              |                                                           |           |
| mm²/AWG/kcmil      | 0.2-1.5                                                                           |                                                           |           |

|                        |                                                                                   |                                                                                                                                                                                                           |          |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| VDE Zeichengenehmigung |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40047107 |
| Nominal voltage UN     | 160 V                                                                             |                                                                                                                                                                                                           |          |
| Nominal current IN     | 16 A                                                                              |                                                                                                                                                                                                           |          |
| mm²/AWG/kcmil          | 0.2-1.5                                                                           |                                                                                                                                                                                                           |          |

|                    |                                                                                     |                                                                                                                                                       |                 |
|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| cULus Recognized   |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-20061129 |
|                    | B                                                                                   | D                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V                                                                               | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 8 A                                                                                 | 8 A                                                                                                                                                   |                 |
| mm²/AWG/kcmil      | 24-16                                                                               | 24-16                                                                                                                                                 |                 |

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