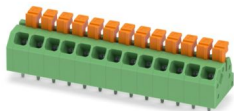


SPTAF 1/13-3,5-LL - PCB terminal block

1864396

<https://www.phoenixcontact.com/us/products/1864396>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Printed circuit board terminal, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm², number of potentials: 13, number of rows: 1, number of positions per row: 13, product range: SPTAF 1/..-LL, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 2.6 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Finger-operated and fixable release button for very convenient operation
- Small component size for applications where space is at a premium
- Quick and convenient testing using integrated test option

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1864396 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA12 |
| Product key | AALBGL |
| GTIN | 4055626246574 |
| Weight per piece (including packing) | 6.972 g |
| Weight per piece (excluding packing) | 6.568 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

Technical data

Product properties

| | |
|---------------------------|--------------------------------|
| Product type | Printed circuit board terminal |
| Product family | SPTAF 1/...-LL |
| Product line | COMBICON Terminals S |
| Number of positions | 13 |
| Pitch | 3.5 mm |
| Number of connections | 13 |
| Number of rows | 1 |
| Number of potentials | 13 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 13.5 A |
| Nominal voltage U_N | 160 V |
| Rated voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |

Connection data

Connection technology

| | |
|-----------------------|-------------------|
| Nominal cross section | 1 mm ² |
|-----------------------|-------------------|

Conductor connection

| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor cross-section rigid | 0.2 mm ² ... 0.75 mm ² (When connecting and positioning a rigid 0.75 mm ² conductor, the mechanical transverse forces that can act on the terminal block must be absorbed by lateral support.) 0.34 mm ² ... 0.75 mm ² (Push-in connection) |
| Conductor cross-section flexible | 0.2 mm ² ... 1 mm ² |
| Conductor cross-section AWG | 24 ... 18 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 0.5 mm ² (Conductor connection with open terminal point) 0.5 mm ² ... 0.5 mm ² (Push-in connection) |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.5 mm ² (Conductor connection with open terminal point) 0.5 mm ² ... 0.5 mm ² (Push-in connection) |
| Stripping length | 8 mm |

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

Mounting

| | |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |

Material specifications

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 μm - 4 μm Sn) |
| Metal surface soldering area (top layer) | Tin (2 μm - 4 μm Sn) |

Material data - housing

| | |
|---|--------------|
| Color (Housing) | green (6021) |
| Insulating material | PA |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | 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 |

Material data – actuating element

| | |
|--|---------------|
| Color (Actuating element) | orange (2003) |
| Insulating material | PBT |
| Insulating material group | IIIa |
| CTI according to IEC 60112 | 275 |
| Flammability rating according to UL 94 | V0 |

Notes

| | |
|---------------------|---|
| Note on application | Maximum permissible outer diameter of the wire insulation ≤ 3 mm |
|---------------------|---|

Dimensions

| | |
|---------------------|--------|
| Dimensional drawing | |
| Pitch | 3.5 mm |
| Width [w] | 47 mm |

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

| | |
|-----------------------|---------------|
| Height [h] | 13.5 mm |
| Length [l] | 11 mm |
| Installed height | 10.9 mm |
| Solder pin length [P] | 2.6 mm |
| Pin dimensions | 0.75 x 0.3 mm |

PCB design

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

Mechanical tests

Test for conductor damage and slackening

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

Repeated connection and disconnection

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

Pull-out test

| | |
|---|--|
| Specification | IEC 60999-1:1999-11 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm ² / solid / > 10 N |
| | 0.25 mm ² / flexible / > 10 N |
| | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / flexible / > 40 N |

Electrical tests

Temperature-rise test

| | |
|-----------------------------------|--|
| Specification | IEC 60947-7-4:2013-08 |
| Requirement temperature-rise test | The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature. |

Short-time withstand current

| | |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
|---------------|-----------------------|

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Air clearances and creepage distances |

| | |
|--|----------------------------------|
| Specification | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm |

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

| | |
|--|--------|
| minimum creepage distance (III/3) | 2 mm |
| Rated insulation voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm |
| minimum creepage distance (III/2) | 0.8 mm |
| Rated insulation voltage (II/2) | 320 V |
| Rated surge voltage (II/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 1.5 mm |
| minimum creepage distance (II/2) | 1.6 mm |

Environmental and real-life conditions

Vibration test

| | |
|------------------------|-----------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |

Glow-wire test

| | |
|------------------|------------------------|
| Specification | IEC 60695-2-10:2013-04 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

Aging

| | |
|---------------|-----------------------|
| Specification | IEC 60947-7-4:2013-08 |
|---------------|-----------------------|

Ambient conditions

| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

Packaging specifications

| | |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

1864396

<https://www.phoenixcontact.com/us/products/1864396>

Drawings



Type: SPTAF 1/...-3,5-LL

Drilling plan/solder pad geometry



SPTAF 1/13-3,5-LL - PCB terminal block




1864396

<https://www.phoenixcontact.com/us/products/1864396>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1864396>

|  cULus Recognized Approval ID: E60425-20061129 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| Field wiring | 300 V | 7 A | 24 - 18 | - |
| D | | | | |
| Field wiring | 300 V | 7 A | 24 - 18 | - |

|  VDE approval of drawings Approval ID: 40047107 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 160 V | 13.5 A | - | 0.2 - 1 |

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460101 |
| ECLASS-15.0 | 27460101 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002643 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

SPTAF 1/13-3,5-LL - PCB terminal block



1864396

<https://www.phoenixcontact.com/us/products/1864396>

Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

China RoHS

| | |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

Phoenix Contact 2026 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com