

SPTA 16/ 3-10,0-ZB - PCB terminal block



1819215

<https://www.phoenixcontact.com/us/products/1819215>

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Printed circuit board terminal, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 16 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: SPTA 16/, pitch: 10 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 60 °, color: green, Pin layout: Zigzag pinning W, Solder pin [P]: 4.1 mm, number of solder pins per potential: 3, 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
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- Angled connection enables multi-row arrangement on the PCB

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1819215 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA15 |
| Product key | AAOBCD |
| GTIN | 4046356788243 |
| Weight per piece (including packing) | 29.76 g |
| Weight per piece (excluding packing) | 28.76 g |
| Customs tariff number | 85369010 |
| Country of origin | IN |

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Technical data

Product properties

| | |
|---------------------------|--------------------------------|
| Product type | Printed circuit board terminal |
| Product family | SPTA 16/ |
| Product line | COMBICON Terminals XL |
| Number of positions | 3 |
| Pitch | 10 mm |
| Number of connections | 3 |
| Number of rows | 1 |
| Number of potentials | 3 |
| Pin layout | Zigzag pinning W |
| Solder pins per potential | 3 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 76 A |
| Nominal voltage U_N | 1000 V |
| Rated voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| Rated voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| Rated voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

Connection data

Connection technology

| | |
|-----------------------|--------------------|
| Nominal cross section | 16 mm ² |
|-----------------------|--------------------|

Conductor connection

| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor cross-section rigid | 0.75 mm ² ... 10 mm ² (Conductor connection with open terminal point) |
| | 2.5 mm ² ... 10 mm ² (Push-in connection) |
| Single-conductor/terminal point multi-stranded | 0.75 mm ² ... 16 mm ² |
| Conductor cross-section flexible | 0.75 mm ² ... 16 mm ² |
| Conductor cross-section AWG | 18 ... 4 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.75 mm ² ... 16 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.75 mm ² ... 10 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.75 mm ² ... 4 mm ² |
| Stripping length | 18 mm |

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1819215

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Mounting

| | |
|---------------|------------------|
| Mounting type | Wave soldering |
| Pin layout | Zigzag pinning W |

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 | Tin-plated |
| Metal surface terminal point (top layer) | Tin (10 µm - 16 µm Sn) |
| Metal surface soldering area (top layer) | Tin (10 µm - 16 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 |

Dimensions

| | |
|-----------------------|------------|
| Dimensional drawing | |
| Pitch | 10 mm |
| Width [w] | 30 mm |
| Height [h] | 42.23 mm |
| Length [l] | 32.7 mm |
| Installed height | 38.13 mm |
| Solder pin length [P] | 4.1 mm |
| Pin dimensions | 1.2 x 1 mm |

PCB design

| | |
|---------------|--------|
| Pin spacing | 15 mm |
| Hole diameter | 1.7 mm |

Mechanical tests

SPTA 16/ 3-10,0-ZB - PCB terminal block



1819215

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Conductor connection

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

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 | 0.75 mm ² / solid / > 30 N |
| | 16 mm ² / stranded / > 100 N |
| | 0.75 mm ² / flexible / > 30 N |
| | 16 mm ² / flexible / > 100 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 + A2:2014-09 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| minimum clearance value - non-homogenous field (III/3) | 8 mm |
| minimum creepage distance (III/3) | 12.5 mm |
| Rated insulation voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| minimum clearance value - non-homogenous field (III/2) | 8 mm |
| minimum creepage distance (III/2) | 8 mm |
| Rated insulation voltage (II/2) | 1000 V |

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1819215

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| | |
|---|--------|
| Rated surge voltage (II/2) | 6 kV |
| minimum clearance value - non-homogenous field (II/2) | 5.5 mm |
| minimum creepage distance (II/2) | 5.5 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 60695-2-10:2000-10 |
| 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 (Depending on the current carrying capacity/derating curve) |

Packaging specifications

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

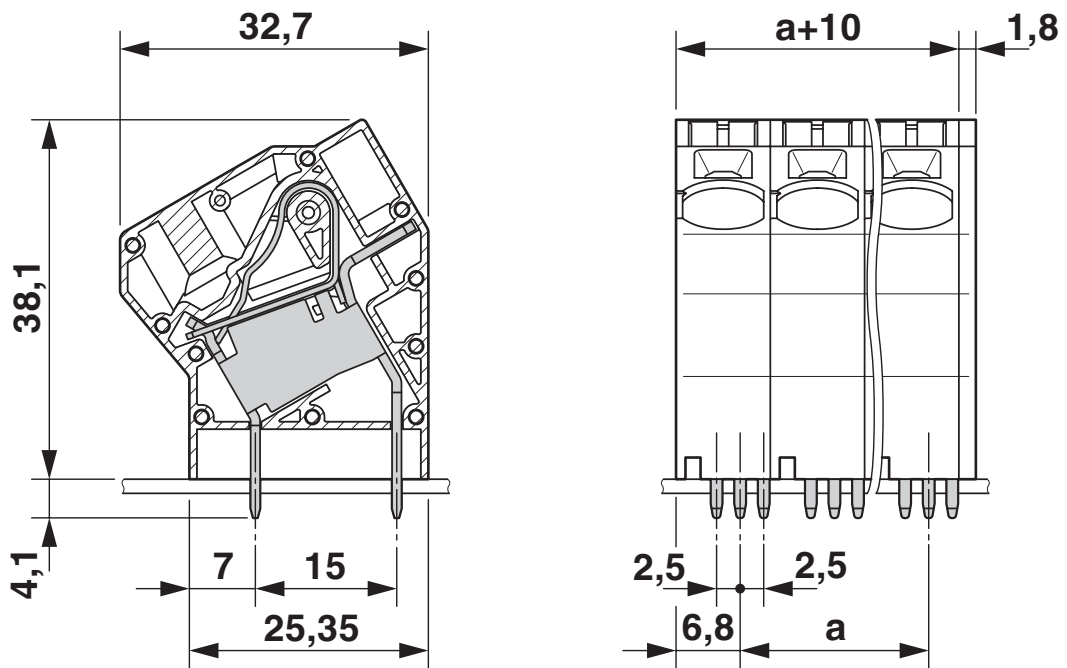
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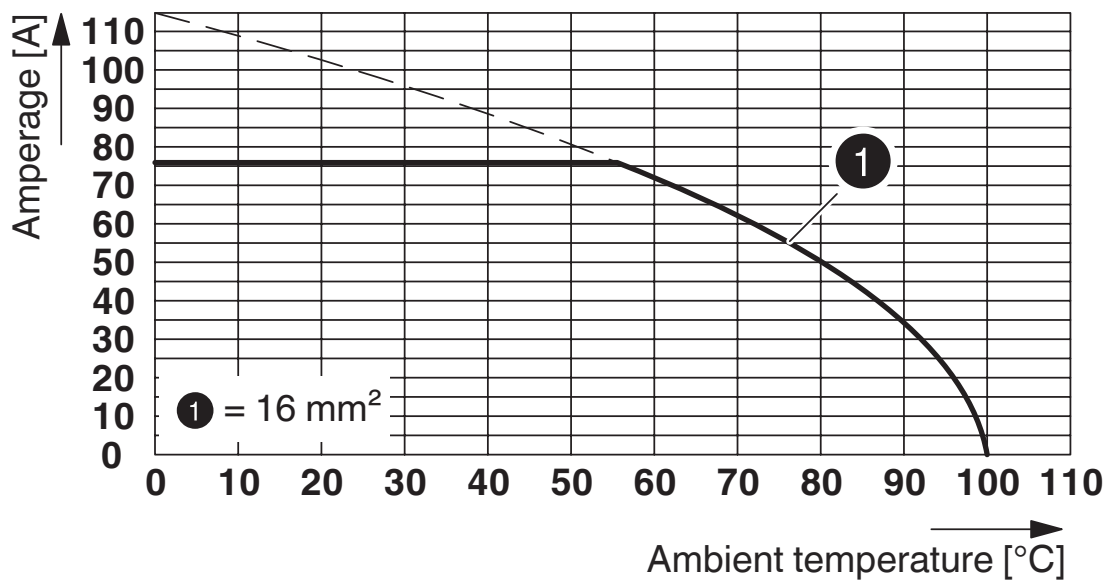
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Drawings

Dimensional drawing



Diagram



Type: SPTA 16/...-10,0(-ZB)

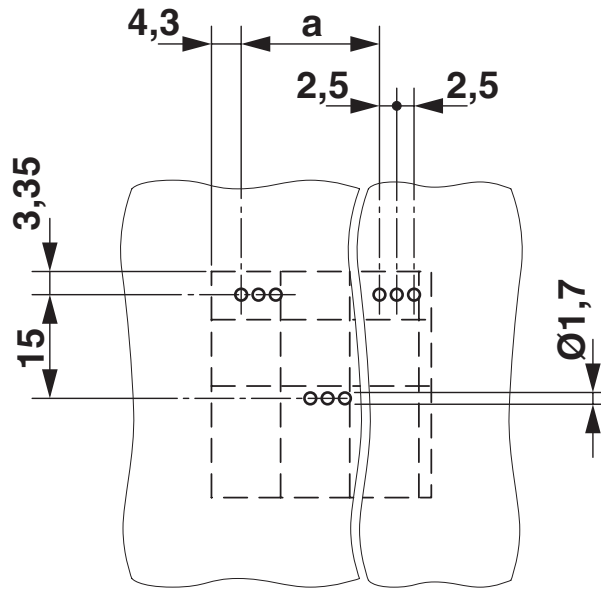
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Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1819215>

|  cULus Recognized Approval ID: E60425-20061129 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 600 V | 51 A | 18 - 4 | - |
| C | 600 V | 51 A | 18 - 4 | - |

|  VDE approval of drawings Approval ID: 40041641 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1000 V | 76 A | - | 0.75 - 16 |

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Classifications

ECLASS

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

ETIM

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

UNSPSC

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

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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% |
|-------------------------------------|----------------------------|

EF3.1 Climate Change

| | |
|---------|--------------|
| CO2e kg | 0.11 kg CO2e |
|---------|--------------|

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