

FRONT 2,5-V/SA10-EX- 6 SO BK - PCB terminal block



1906475

<https://www.phoenixcontact.com/us/products/1906475>

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

Printed circuit board terminal, nominal current: 21 A, nominal cross section: 2.5 mm², number of potentials: 6, number of rows: 1, number of positions per row: 6, product range: FRONT 2,5-V-EX, pitch: 5 mm, connection method: Front screw connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined
- Allows connection of two conductors
- Satisfies the more stringent safety requirements of "Ex eb" protection according to IEC 60079-7 for potentially explosive areas

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1906475 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Note | Made to order (non-returnable) |
| Product key | AAMFDC |
| GTIN | 4017918471859 |
| Weight per piece (including packing) | 25.44 g |
| Weight per piece (excluding packing) | 23.073 g |
| Country of origin | PL |

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Technical data

Product properties

| | |
|---------------------------|----------------------------------|
| Product type | Printed circuit board terminal |
| Product family | FRONT 2,5-V-EX |
| Product line | COMBICON Terminals M |
| Type | PC terminal block can be aligned |
| Number of positions | 6 |
| Pitch | 5 mm |
| Number of connections | 6 |
| Number of rows | 1 |
| Number of potentials | 6 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|---|--------------------------|
| Nominal current I_N | 21 A |
| Nominal voltage U_N | 176 V |
| Rated current / conductor cross-section | 21 A/2.5 mm ² |

Ex data

Ex approval

| | |
|---------------------------------|---|
| Identification | 0344 [Ⓢ] II 2GD / Ex eb IIC Gb |
| EU-type examination certificate | KEMA 00ATEX2053 U |
| IECEx certificate | IECEx KEM 07.0023 U |

Connection data

Connection technology

| | |
|-----------------------|----------------------------------|
| Type | PC terminal block can be aligned |
| Nominal cross section | 2.5 mm ² |

Conductor connection

| | |
|---|---|
| Connection method | Front screw connection |
| Conductor cross-section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 14 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, rigid | 0.2 mm ² ... 0.75 mm ² |
| 2 conductors with same cross section, flexible | 0.2 mm ² ... 0.75 mm ² |
| 2 conductors with same cross section, flexible, with ferrule | 0.25 mm ² ... 0.34 mm ² |

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| | |
|------------------------|-------------------|
| without plastic sleeve | |
| Stripping length | 9 mm |
| Tightening torque | 0.4 Nm ... 0.5 Nm |

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 | Tin-plated |
| Metal surface terminal point (top layer) | Tin (4 µm - 8 µm Sn) |
| Metal surface soldering area (top layer) | Tin (4 µm - 8 µm Sn) |

Material data - housing

| | |
|---|--------------|
| Color (Housing) | black (9005) |
| 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 | 5 mm |
| Width [w] | 32.5 mm |
| Height [h] | 24.5 mm |
| Length [l] | 18.5 mm |
| Installed height | 19.5 mm |
| Solder pin length [P] | 5 mm |
| Pin dimensions | 0.8 x 0.8 mm |

PCB design

| | |
|-------------|------|
| Pin spacing | 5 mm |
|-------------|------|

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| | |
|---------------|--------|
| Hole diameter | 1.2 mm |
|---------------|--------|

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|---------------------|
| 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 |
| | 0.2 mm ² / flexible / > 10 N |
| | 2.5 mm ² / flexible / > 50 N |
| | 2.5 mm ² / solid / > 50 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 |

| | |
|---------------------------|---|
| Insulating material group | I |
|---------------------------|---|

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 |

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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) | -50 °C ... 110 °C |

Packaging specifications

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

Drawings



Type: FRONT 2,5-V/SA 5/..

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1906475>

|  cULus Recognized Approval ID: E192998-20200414 | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| with pitch spacer | 275 V | 17 A | 30 - 12 | - |
| Standard | 176 V | 10 A | 30 - 12 | - |

|  ATEX Approval ID: KEMA 00ATEX2053 U | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 176 V | 21 A | - | - 2.5 |
| with pitch spacer | 275 V | 21 A | - | - 2.5 |
| with 2 pitch spacers | 440 V | 21 A | - | - 2.5 |

|  IECEx Approval ID: IECEx KEM 07.0023U | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 176 V | 21 A | - | - 2.5 |
| with pitch spacer | 275 V | 21 A | - | - 2.5 |
| with 2 pitch spacers | 440 V | 21 A | - | - 2.5 |

|  CCC Approval ID: 2021322313003649 | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

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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 | 0.299 kg CO2e |
|---------|---------------|

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