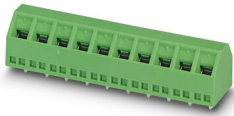


# PCB terminal block - SMKDSN 1,5/ 3-5,08

1869224

<https://www.phoenixcontact.com/de/produkte/1869224>

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 400 V, nominal cross section: 1.5 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: SMKDSN 1,5, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Angled connection enables multi-row arrangement on the PCB
- Extremely small design for the respective conductor cross section

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## Commercial Data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1869224                        |
| Packing unit                         | 250 pc                         |
| Minimum order quantity               | 250 pc                         |
| Note                                 | Made to Order (non-returnable) |
| Sales Key                            | E1 - Leiterplattenanschl.      |
| Product Key                          | AALFHI                         |
| Catalog Page                         | Page 91 (C-1-2013)             |
| GTIN                                 | 4017918149192                  |
| Weight per Piece (including packing) | 3,36 g                         |
| Weight per Piece (excluding packing) | 3,202 g                        |
| Customs tariff number                | 85369010                       |
| Country of origin                    | DE                             |

## Technical Data

### Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Type                  | PC termination block           |
| Product line          | COMBICON Terminals S           |
| Product type          | Printed circuit board terminal |
| Number of positions   | 3                              |
| Pitch                 | 5.08 mm                        |
| Number of connections | 3                              |
| Number of rows        | 1                              |
| Number of potentials  | 3                              |
| Pin layout            | Linear pinning                 |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 13.5 A |
| Nominal voltage $U_N$       | 400 V  |
| Pollution degree            | 3      |
| Rated voltage (III/3)       | 250 V  |
| Rated surge voltage (III/3) | 4 kV   |
| Rated voltage (III/2)       | 400 V  |
| Rated surge voltage (III/2) | 4 kV   |

### Connection data

#### Connection technology

|                       |                      |
|-----------------------|----------------------|
| Type                  | PC termination block |
| Nominal cross section | 1.5 mm <sup>2</sup>  |

#### Conductor connection

|   |   |
|---|---|
| Connection method   | Screw connection with tension sleeve          |
| Conductor cross section solid   | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross section flexible  | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross section AWG   | 26 ... 16                                     |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, solid   | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible  | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>  |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>     |
| Stripping length  | 6 mm  |
| Torque  | 0.5 Nm ... 0.6 Nm                             |

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## Mounting

|                              |                |
|------------------------------|----------------|
| Mounting type Wave soldering | Wave soldering |
| Mounting type                | Wave soldering |
| Drive form screw head        | Slotted (L)    |

## 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 (5 - 7 $\mu\text{m}$ Sn)   |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 $\mu\text{m}$ Ni)  |
| Metal surface soldering area (top layer)    | Tin (5 - 7 $\mu\text{m}$ Sn)   |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 $\mu\text{m}$ Ni)  |

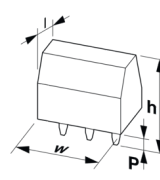
### Material data - housing

|   |              |
|---|--------------|
| Housing color   | 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       |

## Notes

|                     |  |
|---------------------|--|
| Note on application | For safe conductor connection, always adhere to a defined tightening torque. Particularly in the case of PCB terminal blocks with two or three positions, the individual solder pin for each contact point cannot compensate for this. That is why the terminal blocks must be supported during conductor connection (held with one hand, support on the housing). |
|---------------------|--|

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Pitch               | 5.08 mm  |
| Width [w]           | 16.24 mm   |
| Height [h]          | 14.5 mm  |

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|                       |        |
|-----------------------|--------|
| Length [I]            | 12 mm  |
| Installed height      | 11 mm  |
| Solder pin length [P] | 3.5 mm |

## Mechanical tests

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60998-1:1990-04 |
| Result        | Test passed         |

### Pull-out test

|   |  |
|---|--|
| Specification   | IEC 60998-1:1990-04                      |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.14 mm <sup>2</sup> / solid / > 10 N    |
|   | 0.14 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  |

### Torque test

|               |                     |
|---------------|---------------------|
| Specification | IEC 60998-1:1990-04 |
|---------------|---------------------|

## Electrical tests

### Temperature-rise test

|                                   |                                |
|-----------------------------------|--------------------------------|
| Specification                     | IEC 60998-1:1990-04            |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

### Insulation resistance

|  |                     |
|--|---------------------|
| Specification                                | IEC 60998-1:1990-04 |
| Insulation resistance, neighboring positions | 10 <sup>9</sup> Ω   |

### 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)                       | 250 V   |
| Rated surge voltage (III/3)                            | 4 kV  |
| minimum clearance value - non-homogenous field (III/3) | 3 mm  |
| minimum creepage distance (III/3)                      | 3.2 mm  |
| Rated insulation voltage (III/2)                       | 400 V   |
| Rated surge voltage (III/2)                            | 4 kV  |
| minimum clearance value - non-homogenous field (III/2) | 3 mm  |
| minimum creepage distance (III/2)                      | 3 mm  |
| Rated insulation voltage (II/2)                        | 630 V   |
| Rated surge voltage (II/2)                             | 4 kV  |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm  |
| minimum creepage distance (II/2)                       | 3.2 mm  |

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## Environmental and real-life conditions

### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:1995-03  |
| Frequency              | 10 - 150 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Sweep speed            | 5g (60.1 - 150 Hz)     |
| Test duration per axis | 2.5 h                  |

### Glow-wire test

|                  |                     |
|------------------|---------------------|
| Specification    | IEC 60998-1:1990-04 |
| Temperature      | 850 °C              |
| Time of exposure | 5 s                 |

### Ambient conditions

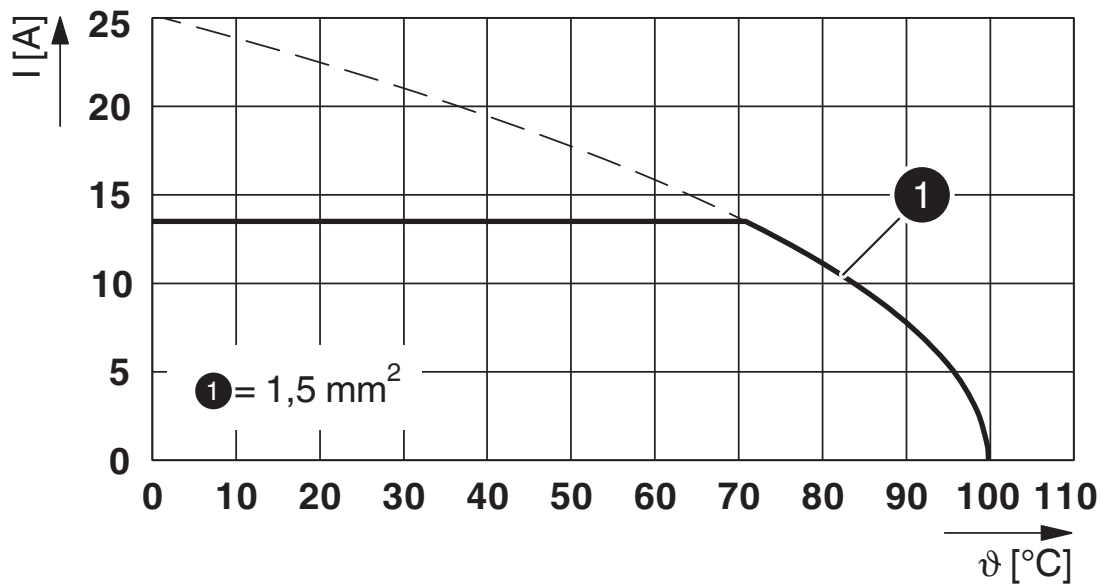
|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Relative humidity (storage/transport)   | 30 % ... 70 %   |
| Ambient temperature (assembly)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

## Packaging specifications

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

## Drawings

Diagram



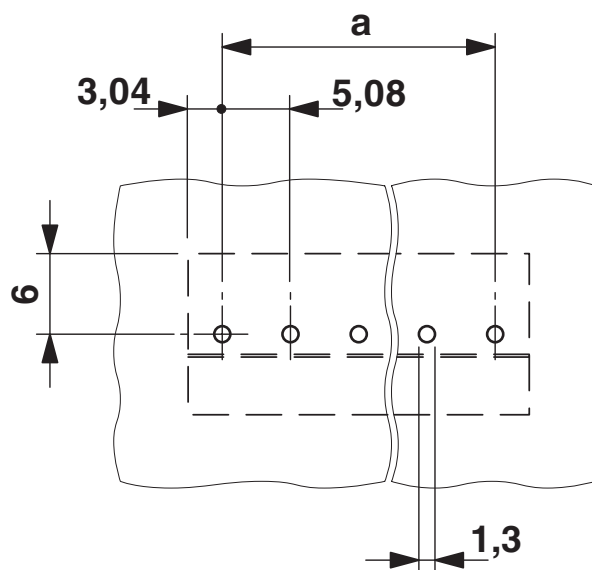
Type: SMKDSN 1,5/...(-5,08)

Tested according to DIN EN 60512-5-2:2003-01

Reduction factor = 1

Number of positions: 5

Drilling plan/solder pad geometry

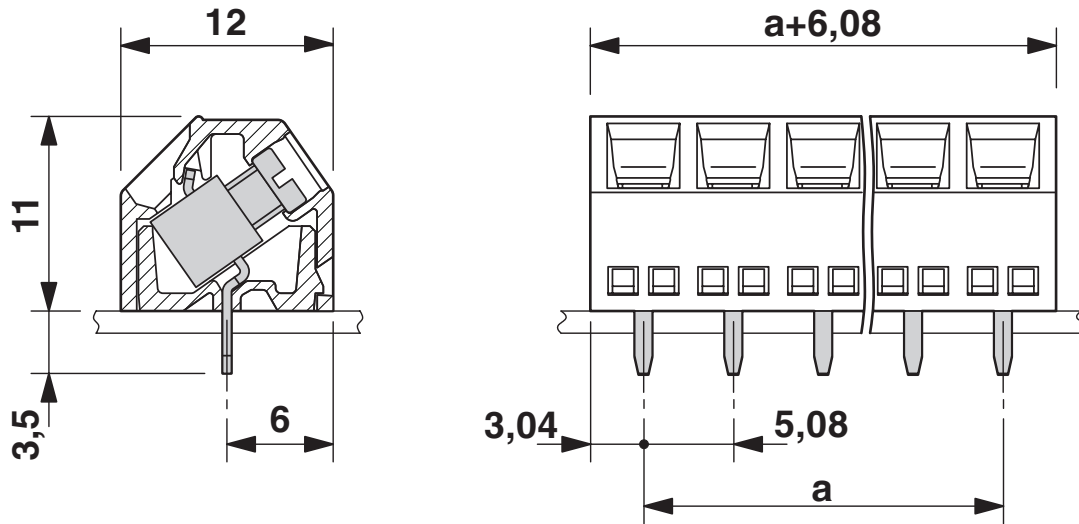


# PCB terminal block - SMKDSN 1,5/ 3-5,08

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Dimensional drawing






# PCB terminal block - SMKDSN 1,5/ 3-5,08





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## Approvals

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $mm^2$ |
| Use group B  | 150 V                 | 10 A                  | 28 - 14           | -                    |
| Use group D  | 300 V                 | 10 A                  | 28 - 14           | -                    |

|  <b>EAC</b><br>Approval ID: B.01687 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425-19770427 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $mm^2$ |
| Use group B   | 300 V                 | 10 A                  | 30 - 14           | -                    |
| Multi-conductor connection  | 300 V                 | 10 A                  | 2x - 18           | -                    |
| Use group D   | 300 V                 | 10 A                  | 30 - 14           | -                    |
| Multi-conductor connection  | 300 V                 | 10 A                  | 2x - 18           | -                    |

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## Classifications

### ECLASS

|               |          |
|---------------|----------|
| ECLASS-9.0    | 27440401 |
| ECLASS-10.0.1 | 27440401 |
| ECLASS-11.0   | 27460101 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002643 |
|----------|----------|

### UNSPSC

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

# PCB terminal block - SMKDSN 1,5/ 3-5,08



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## Environmental Product Compliance

|            |  |
|------------|--|
| REACH SVHC | Lead 7439-92-1   |
| China RoHS | Environmentally Friendly Use Period = 50 years   |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

# PCB terminal block - SMKDSN 1,5/ 3-5,08



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## Accessories

### Marker card

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183

<https://www.phoenixcontact.com/de/produkte/0804183>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

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### Marker card

Marker card - SK 5/3,8:UNBEDRUCKT - 0805409

<https://www.phoenixcontact.com/de/produkte/0805409>



Marker card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

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