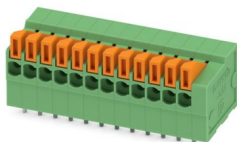


# FFKDSA1/H-2,54-12 - PCB terminal block

1871306

<https://www.phoenixcontact.com/us/products/1871306>

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Printed circuit board terminal, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of potentials: 12, number of rows: 1, number of positions per row: 12, product range: FFKDS(A) 0,5/...-H, pitch: 2.54 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.4 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
- Intuitive operation due to color-coded actuating push button
- 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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1871306       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | AA11          |
| Product key                          | AAKBBA        |
| GTIN                                 | 4017918267155 |
| Weight per piece (including packing) | 6.747 g       |
| Weight per piece (excluding packing) | 4.847 g       |
| Customs tariff number                | 85369010      |
| Country of origin                    | CZ            |

## Technical data

### Product properties

|                           |                                  |
|---------------------------|----------------------------------|
| Product type              | Printed circuit board terminal   |
| Product family            | FFKDS(A) 0,5/..-H                |
| Product line              | COMBICON Terminals XS            |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 12                               |
| Pitch                     | 2.54 mm                          |
| Number of connections     | 12                               |
| Number of rows            | 1                                |
| Number of potentials      | 12                               |
| Pin layout                | Linear pinning                   |
| Solder pins per potential | 2                                |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 6 A    |
| Nominal voltage $U_N$       | 160 V  |
| Rated voltage (III/3)       | 63 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

|                       |                                  |
|-----------------------|----------------------------------|
| Type                  | PC terminal block can be aligned |
| Nominal cross section | 0.5 mm <sup>2</sup>              |

#### Conductor connection

|                                  |  |
|----------------------------------|--|
| Connection method                | Push-in spring connection                    |
| Conductor cross-section rigid    | 0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 26 ... 20                                    |
| Stripping length                 | 11 mm  |

### Mounting

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

### Material specifications

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## 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 µm - 7 µm Sn)   |
| Metal surface terminal point (middle layer) | Nickel (2 µm - 3 µm Ni)  |
| Metal surface soldering area (top layer)    | Tin (5 µm - 7 µm Sn)   |
| Metal surface soldering area (middle layer) | Nickel (2 µm - 3 µm Ni)  |

## 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   | 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               | 2.54 mm  |
| Width [w]           | 32.98 mm |
| Height [h]          | 16 mm    |
| Length [l]          | 13.6 mm  |
| Installed height    | 12.6 mm  |

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|                       |              |
|-----------------------|--------------|
| Solder pin length [P] | 3.4 mm       |
| Pin dimensions        | 0.5 x 0.8 mm |

## PCB design

|               |         |
|---------------|---------|
| Pin spacing   | 5.08 mm |
| Hole diameter | 1.1 mm  |

## Mechanical tests

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1990-05 |
| Result        | Test passed         |

### Pull-out test

|   |   |
|---|---|
| Specification   | IEC 60999-1:1990-05                     |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.14 mm <sup>2</sup> / solid / > 7 N    |
|   | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|   | 0.5 mm <sup>2</sup> / solid / > 30 N    |
|   | 0.5 mm <sup>2</sup> / flexible / > 30 N |

## Electrical tests

### Temperature-rise test

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

### Insulation resistance

|  |                     |
|--|---------------------|
| Specification                                | IEC 60512-2:1985-00 |
| Insulation resistance, neighboring positions | 10 <sup>12</sup> Ω  |

### Air clearances and creepage distances |

|  |                     |
|--|---------------------|
| Specification  | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 63 V                |
| Rated surge voltage (III/3)                            | 2.5 kV              |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm              |
| minimum creepage distance (III/3)                      | 1.6 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)                      | 1.5 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              |

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## Environmental and real-life conditions

### Vibration test

|                        |                                 |
|------------------------|---------------------------------|
| Specification          | IEC 60068-2-6:1982 + AMD 2:1985 |
| 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               |

### 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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## Drawings

Dimensional drawing



Diagram



Type: FFKDS/H-2,54

Test following DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5

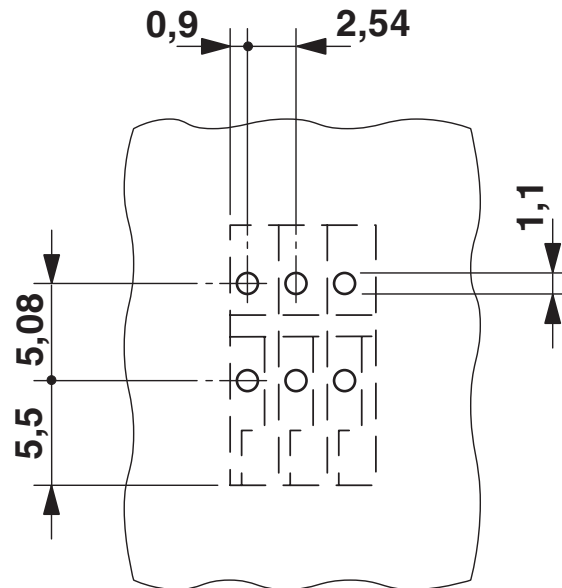
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Drilling plan/solder pad geometry



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1871306>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B  |                       |                       |                   |                             |
| Only rigid conductors  | 150 V                 | 6 A                   | - 20              | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19870330 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   |                       |                       |                   |                             |
|   | 150 V                 | 6 A                   | 26 - 20           | -                           |

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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 | 0.455 kg CO2e |
|---------|---------------|

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