

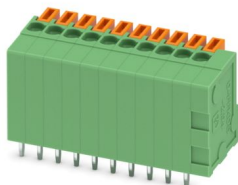
# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

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: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of potentials: 10, number of rows: 1, number of positions per row: 10, product range: FFKDS(A) 0,5/..-V, pitch: 2.54 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, 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. The article can be aligned to create different nos. of positions!

## 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
- Vertical connection enables multi-row arrangement on the PCB

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1789401       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | AA11          |
| Product key                          | AAKBBC        |
| GTIN                                 | 4017918233402 |
| Weight per piece (including packing) | 5.65 g        |
| Weight per piece (excluding packing) | 3.8 g         |
| Customs tariff number                | 85369010      |
| Country of origin                    | CZ            |

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

## Technical data

### Product properties

|                           |                                  |
|---------------------------|----------------------------------|
| Product type              | Printed circuit board terminal   |
| Product family            | FFKDS(A) 0,5/..-V                |
| Product line              | COMBICON Terminals XS            |
| Type                      | PC terminal block can be aligned |
| Number of positions       | 10                               |
| Pitch                     | 2.54 mm                          |
| Number of connections     | 10                               |
| Number of rows            | 1                                |
| Number of potentials      | 10                               |
| 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

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

## 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]           | 27.9 mm |
| Height [h]          | 17 mm   |
| Length [l]          | 12.6 mm |
| Installed height    | 13.6 mm |

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

|                       |              |
|-----------------------|--------------|
| 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    |
|   | 0.14 mm <sup>2</sup> / flexible / > 7 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              |

1789401

<https://www.phoenixcontact.com/us/products/1789401>

## 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 |
|-------------------|---------------------|

# FFKDSA1/V-2,54-10 - PCB terminal block

1789401

<https://www.phoenixcontact.com/us/products/1789401>

## Drawings

Dimensional drawing



Diagram



Type: FFKDS/V-2,54

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

Reduction factor = 1

Number of positions: 5

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

Drilling plan/solder pad geometry



# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1789401>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                      |
|--|-----------------------|-----------------------|-------------------|----------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| 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 $mm^2$ |
| B   |                       |                       |                   |                      |
|   | 150 V                 | 6 A                   | 26 - 20           | -                    |

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

# FFKDSA1/V-2,54-10 - PCB terminal block



1789401

<https://www.phoenixcontact.com/us/products/1789401>

## 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 | 0.372 kg CO2e |
|---------|---------------|

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](mailto:info@phoenixcon.com)