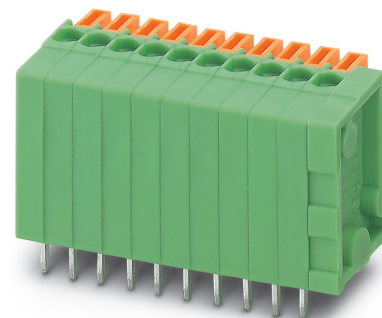


Order No.: 1789472

Type: FFKDSA1/V-2,54- 8

PCB terminal block, Push-in spring connection



The figure shows the 10-position version

## 1 Main features



- |                           |                           |                        |                     |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos.             | 8                         | • Nominal current      | 6 A                 |
| • Conductor cross section | 0.5 mm <sup>2</sup>       | • Nominal voltage      | 160 V               |
| • Color                   | green (6021)              | • Connection direction | 90 °                |
| • Pitch                   | 2.54 mm                   | • Type of packaging    | packed in cardboard |
| • Connection method       | Push-in spring connection |                        |                     |

## 2 Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Intuitive use through colour coded actuation lever
- ✓ 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



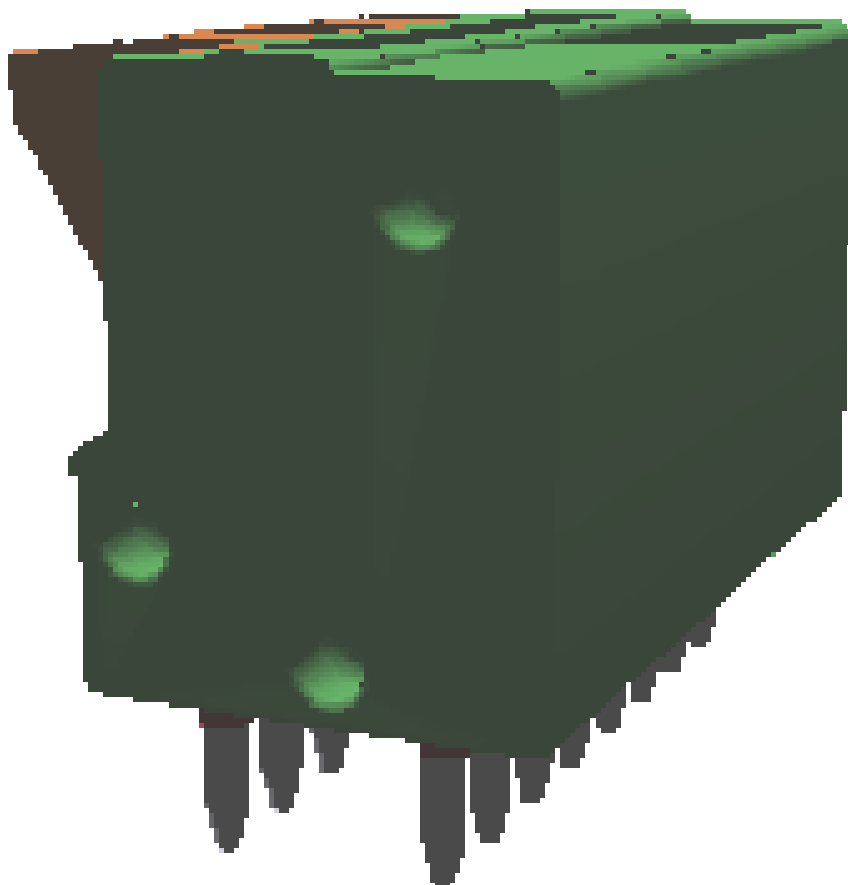
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1789472](https://phoenixcontact.net/product/1789472)

**3 Table of contents**

|      |                                                                           |    |
|------|---------------------------------------------------------------------------|----|
| 1    | Main features .....                                                       | 1  |
| 2    | Your advantages .....                                                     | 1  |
| 3    | Table of contents .....                                                   | 2  |
| 4    | 3D model in PDF can be activated (Acrobat Reader only) .....              | 3  |
| 5    | General Technical Data .....                                              | 4  |
| 5.1  | item properties .....                                                     | 4  |
| 5.2  | Connection capacity .....                                                 | 4  |
| 5.3  | Connection capacity AWG .....                                             | 4  |
| 6    | Material properties .....                                                 | 4  |
| 6.1  | Material of metal parts .....                                             | 4  |
| 6.2  | Material of plastic parts .....                                           | 4  |
| 7    | Dimensions .....                                                          | 6  |
| 7.1  | Dimensions for the product .....                                          | 6  |
| 8    | Series drawing .....                                                      | 7  |
| 8.1  | Dimensions for PCB design .....                                           | 8  |
| 9    | Application .....                                                         | 8  |
| 10   | Packaging information .....                                               | 8  |
| 10.1 | Temperature limit values .....                                            | 8  |
| 11   | Mechanical tests .....                                                    | 9  |
| 11.1 | Pull-out test .....                                                       | 9  |
| 11.2 | Check for damage to conductor or loosening .....                          | 9  |
| 11.3 | Electrical performance test .....                                         | 9  |
| 12   | Electrical tests .....                                                    | 10 |
| 12.1 | Electrical data .....                                                     | 10 |
| 12.2 | Air and creepage distances .....                                          | 10 |
| 12.3 | Temperature rise test .....                                               | 10 |
| 13   | Current carrying capacity/derating curves .....                           | 11 |
| 13.1 | Vibration test .....                                                      | 11 |
| 13.2 | Shock protection .....                                                    | 11 |
| 13.3 | Testing in a saturated atmosphere in the presence of sulfur dioxide ..... | 11 |
| 14   | Approvals / Certificates .....                                            | 12 |
| 15   | Commercial Data .....                                                     | 13 |
| 16   | Accessories .....                                                         | 13 |

1789472 FFKDSA1/V-2,54- 8

#### 4 3D model in PDF can be activated (Acrobat Reader only)



**1789472 FFKDSA1/V-2,54- 8****5 General Technical Data****5.1 item properties**

|                                                  |                                                                   |
|--------------------------------------------------|-------------------------------------------------------------------|
| Order No.                                        | 1789472                                                           |
| Type                                             | FFKDSA1/V-2,54- 8                                                 |
| Product type                                     | PCB terminal block                                                |
| Range of articles                                | FFKDS(A) 0,5/...-V                                                |
| Pitch                                            | 2.54 mm                                                           |
| Range of positions                               | 1...20                                                            |
| Number of positions                              | 8                                                                 |
| Number of levels                                 | 1                                                                 |
| Number of connections                            | 8                                                                 |
| Number of potentials                             | 8                                                                 |
| Connection method                                | Push-in spring connection                                         |
| Mounting type                                    | Wave soldering                                                    |
| Connection direction of the conductor to the PCB | 90 °                                                              |
| Pin layout                                       | Linear double pinning                                             |
| Solder pins per potential                        | 2                                                                 |
| Product note                                     | The article can be aligned to create different nos. of positions! |
| Type                                             | PC terminal block can be aligned                                  |

**5.2 Connection capacity**

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| Conductor cross section, solid    | 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> |
| Stripping length                  | 11 mm                                        |

**5.3 Connection capacity AWG**

|                             |           |
|-----------------------------|-----------|
| Conductor cross section AWG | 26 ... 20 |
|-----------------------------|-----------|

**6 Material properties****6.1 Material of metal parts**

|                         |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| Note                    | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material        | Cu alloy                                                                |
| Terminal point surface  | Nickel (2 - 3 µm Ni) , Tin (5 - 7 µm Sn)                                |
| Soldering area surface  | Nickel (2 - 3 µm Ni) , Tin (5 - 7 µm Sn)                                |
| Surface characteristics | Tin-plated                                                              |

**6.2 Material of plastic parts**

|                            | Housing      | Actuation element |
|----------------------------|--------------|-------------------|
| Color                      | green (6021) |                   |
| Insulating material        | PA           | PA                |
| Insulating material group  | I            | I                 |
| CTI according to IEC 60112 | 600          | 600               |

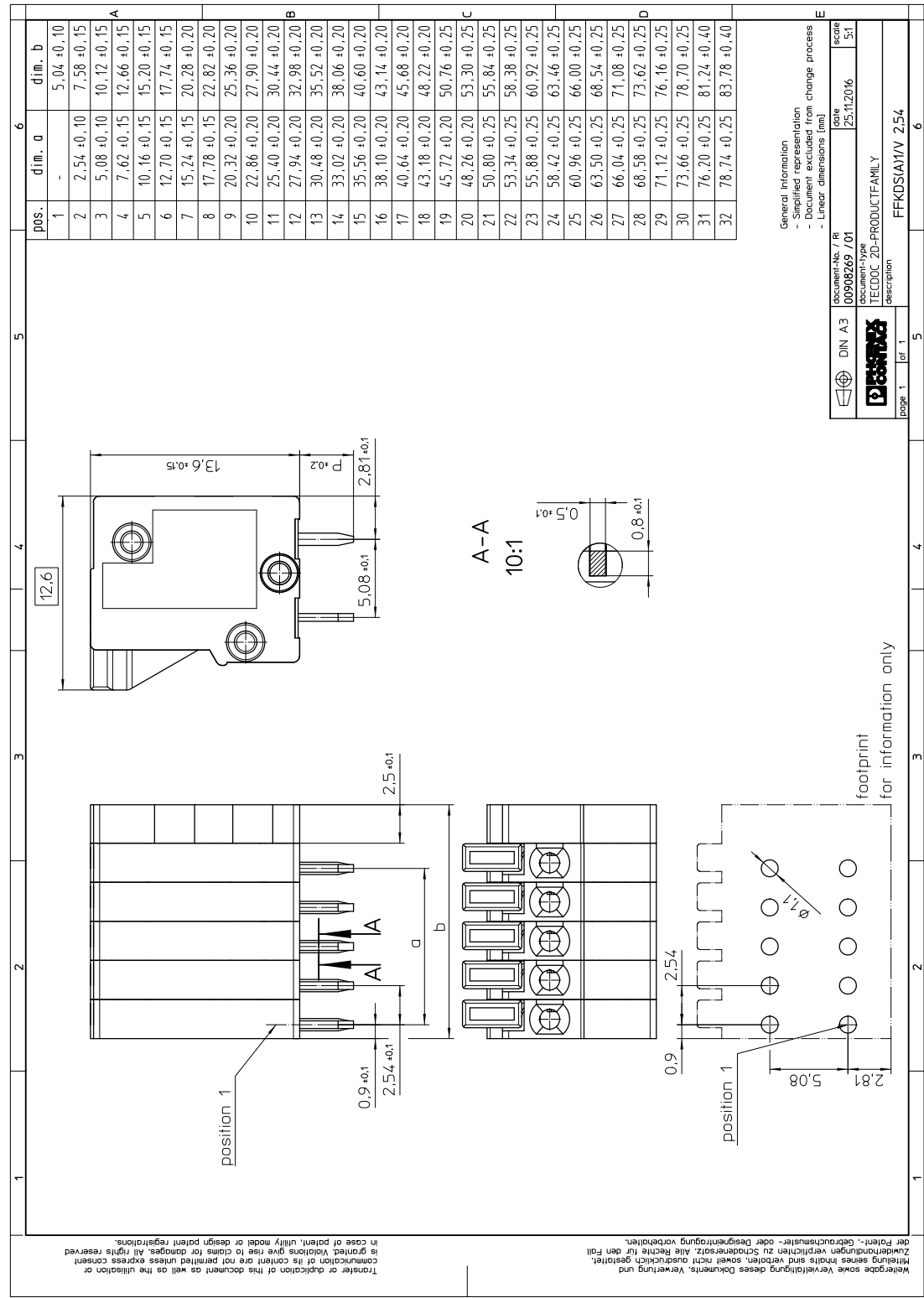
**1789472 FFKDSA1/V-2,54- 8**

|                                                                   | Housing | Actuation element |
|-------------------------------------------------------------------|---------|-------------------|
| Flammability rating according to UL 94                            | V0      | 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  |                   |

**1789472 FFKDSA1/V-2,54- 8****7 Dimensions****7.1 Dimensions for the product**

|                             |          |
|-----------------------------|----------|
|                             |          |
| Length                      | 12.6 mm  |
| Width                       | 22.82 mm |
| Height (without solder pin) | 13.6 mm  |
| Total height                | 17 mm    |
| Solder pin [P]              | 3.4 mm   |
| Dimension a                 | 17.78 mm |

8 Series drawing



**1789472 FFKDSA1/V-2,54- 8****8.1 Dimensions for PCB design**

|                |              |
|----------------|--------------|
| Hole diameter  | 1.1 mm       |
| Pin dimensions | 0.5 x 0.8 mm |
| Pin spacing    | 5.08 mm      |

**9 Application****10 Packaging information**

|                    |                     |
|--------------------|---------------------|
| Type of packaging  | packed in cardboard |
| Pieces per package | 50                  |

**10.1 Temperature limit values**

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



**1789472 FFKDSA1/V-2,54- 8****11 Mechanical tests****11.1 Pull-out test**

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

**11.2 Check for damage to conductor or loosening**

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

**11.3 Electrical performance test**

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

**1789472 FFKDSA1/V-2,54- 8****12 Electrical tests****12.1 Electrical data**

|                                         |                           |
|-----------------------------------------|---------------------------|
| Rated current / conductor cross section | 6 A / 0.5 mm <sup>2</sup> |
| Rated insulation voltage (III/2)        | 160 V                     |
| Rated surge voltage (III/2)             | 2.5 kV                    |
| Contact resistance                      |                           |
| Degree of pollution                     | 2                         |

**12.2 Air and creepage distances**

|                                                                   |                     |        |        |
|-------------------------------------------------------------------|---------------------|--------|--------|
| Component                                                         | PCB terminal block  |        |        |
| Specification                                                     | IEC 60664-1:2007-04 |        |        |
| Mains type                                                        | unearthed mains     |        |        |
| Insulating material group                                         | I                   |        |        |
| Comparative tracking index (IEC 60112:2003-01)                    | CTI 600             |        |        |
| Rated insulation voltage                                          | 63 V                | 160 V  | 320 V  |
| Rated surge voltage                                               | 2.5 kV              | 2.5 kV | 2.5 kV |
| Degree of pollution                                               | 3                   | 2      | 2      |
| Overvoltage category                                              | III                 | III    | II     |
| Minimum clearance case A (inhomogeneous field)                    | 1.5 mm              | 1.5 mm | 1.5 mm |
| Minimum value of the creepage path requirement in acc. with table | 1.6 mm              | 1.5 mm | 1.6 mm |

**12.3 Temperature rise test**

|                                                       |                                  |
|-------------------------------------------------------|----------------------------------|
| Specification                                         | IEC 60998-1:1990-04              |
| Result                                                | Test passed                      |
| Requirement temperature-rise test                     | Increase in temperature ≤ 45 K   |
| Conductor cross section/test current/temperature rise | 0.5 mm <sup>2</sup> / 6 A / 18 K |

## 1789472 FFKDSA1/V-2,54- 8

## 13 Current carrying capacity/derating curves

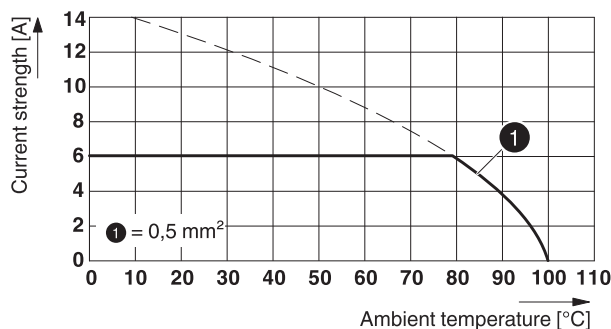
|                         |                                 |
|-------------------------|---------------------------------|
| Specification           | Following IEC 60512-5-2:2002-02 |
| Reduction factor        | 1                               |
| Number of positions     | 5                               |
| Conductor cross section | 0.5 mm <sup>2</sup>             |

**Type: FFKDS/V-2,54**

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

**Reduction factor = 1**

**Number of positions: 5**



### 13.1 Vibration test

|                        |                                 |
|------------------------|---------------------------------|
| Specification          | IEC 60068-2-6:1982 + AMD 2:1985 |
| Result                 | Test passed                     |
| Frequency              | 10 - 150 - 10 Hz                |
| Sweep speed            | 1 octave/min                    |
| Amplitude              | 0.35 mm (10 - 60.1 Hz)          |
| Acceleration           | 5 g (60.1 - 150 Hz)             |
| Test duration per axis | 2.5 h                           |
| Test directions        | X-, Y- and Z-axis               |

Note

### 13.2 Shock protection

|                                         |                                                                                                                                           |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Specification                           | DIN VDE 0106-100:1983-03                                                                                                                  |
| Back of the hand protection (Ball ø 50) | guaranteed                                                                                                                                |
| Finger protection (movable test finger) | guaranteed                                                                                                                                |
| Note                                    | unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB |

### 13.3 Testing in a saturated atmosphere in the presence of sulfur dioxide

|                         |                        |
|-------------------------|------------------------|
| Specification           | DIN 50018:1988-06      |
| Result                  | Test passed            |
| Corrosive stress        | KFW 0.2 S/1 cycle      |
| Conductor cross section | to 0.5 mm <sup>2</sup> |

1789472 FFKDSA1/V-2,54- 8

## 14 Approvals / Certificates

| CSA               | Voltage<br>[V] | Current<br>[A] | Cross section<br>[AWG] | Cross section<br>[mm <sup>2</sup> ] |
|----------------------------------------------------------------------------------------------------|----------------|----------------|------------------------|-------------------------------------|
| <b>Usegroup B</b>                                                                                  |                |                |                        |                                     |
| Nur starre Leiter                                                                                  | 150 V          | 6 A            | - 20                   | -                                   |
| EAC               |                |                |                        |                                     |
| cULus Recognized  | Voltage<br>[V] | Current<br>[A] | Cross section<br>[AWG] | Cross section<br>[mm <sup>2</sup> ] |
| <b>Usegroup B</b>                                                                                  |                |                |                        |                                     |
| Nur starre Leiter                                                                                  | 150 V          | 6 A            | 26 - 20                | -                                   |

**1789472 FFKDSA1/V-2,54- 8****15 Commercial Data**

|                    |                                                      |
|--------------------|------------------------------------------------------|
| Order No.          | 1789472                                              |
| Type               | FFKDSA1/V-2,54- 8                                    |
| Pieces per package | 50                                                   |
| Net weight         | 3.86 g                                               |
| GTIN               | 4017918231347                                        |
|                    | Information that applies locally, see link on page 1 |
| Country of origin  | Information that applies locally, see link on page 1 |

**16 Accessories**

| Description                                                                                                 | Order No. | Type                     |
|-------------------------------------------------------------------------------------------------------------|-----------|--------------------------|
|                                                                                                             | 0805205   | SK 2,8 WH:REEL           |
|                                                                                                             | 0803883   | SK U/2,8 WH:UNBEDRUCKT   |
|                                                                                                             | 0804853   | SK 2,54/2,8:FORTL.ZAHLEN |
|                                                                                                             | 0804879   | SK 2,54/2,8:SO           |
| Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm | 1051993   | B-STIFT                  |
|                                                                                                             | 3241128   | AI 0,25-10 YE            |