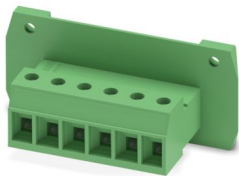


# DFK-PC 4/ 6-GF-7,62 - Feed-through plug

1840599

<https://www.phoenixcontact.com/us/products/1840599>

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Feed-through connector, nominal cross section: 4 mm<sup>2</sup>, color: green, nominal current: 20 A, rated voltage (III/2): 630 V, contact surface: Sn, contact connection type: Pin, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: DFK-PC 4/...-GF, pitch: 7.62 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Direct mounting, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON PC 4, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting method: Threaded flange, 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
- Screwable flange for superior mechanical stability
- Flexible side panels enable convenient panel mounting prewired from the inside

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1840599       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AA04          |
| Product key                          | AADWCA        |
| GTIN                                 | 4017918111748 |
| Weight per piece (including packing) | 26 g          |
| Weight per piece (excluding packing) | 24.802 g      |
| Customs tariff number                | 85366990      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                           |                        |
|---------------------------|------------------------|
| Product type              | Feed-through connector |
| Product family            | DFK-PC 4/..-GF         |
| Product line              | COMBICON Connectors L  |
| Type                      | Feed-through header    |
| Number of positions       | 6                      |
| Pitch                     | 7.62 mm                |
| Number of connections     | 6                      |
| Number of rows            | 1                      |
| Number of potentials      | 6                      |
| Mounting type             | Threaded flange        |
| Solder pins per potential | 1                      |

### Electrical properties

#### Properties

|                             |                |
|-----------------------------|----------------|
| Nominal current $I_N$       | 20 A           |
| Nominal voltage $U_N$       | 630 V          |
| Contact resistance          | 0.4 m $\Omega$ |
| Rated voltage (III/3)       | 400 V          |
| Rated surge voltage (III/3) | 6 kV           |
| Rated voltage (III/2)       | 630 V          |
| Rated surge voltage (III/2) | 6 kV           |
| Rated voltage (II/2)        | 1000 V         |
| Rated surge voltage (II/2)  | 6 kV           |

### Connection data

#### Connection technology

|                         |                     |
|-------------------------|---------------------|
| Type                    | Feed-through header |
| Connector system        | COMBICON PC 4       |
| Nominal cross section   | 4 mm <sup>2</sup>   |
| Contact connection type | Pin                 |

#### Interlock

|               |                         |
|---------------|-------------------------|
| Locking type  | Screw locking mechanism |
| Mounting type | Threaded flange         |

#### Conductor connection

|  |   |
|--|---|
| Connection method  | Screw connection with tension sleeve      |
| Connection direction of the conductor to plug-in direction | 0 °                                       |
| Conductor cross-section rigid                              | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Conductor cross-section flexible                           | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup> |

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|   |   |
|---|---|
| Conductor cross-section AWG   | 24 ... 10                                   |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve                   | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>  |
| 2 conductors with same cross section, rigid   | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Cylindrical gauge a x b / diameter  | 3.6 mm x 3.1 mm / 3.0 mm                    |
| Stripping length  | 7 mm  |
| Drive form screw head   | Slotted (L)                                 |
| Tightening torque   | 0.5 Nm ... 0.6 Nm                           |

## Mounting

|               |                 |
|---------------|-----------------|
| Mounting type | Direct mounting |
|---------------|-----------------|

## 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                  | hot-dip tin-plated   |
| Metal surface terminal point (top layer) | Tin (5 µm - 7 µm Sn)   |
| Metal surface contact area (top layer)   | Tin (5 µm - 7 µm Sn)   |

### 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       |

## Notes

|                    |  |
|--------------------|--|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|--|

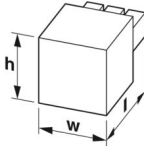
## Dimensions

# DFK-PC 4/ 6-GF-7,62 - Feed-through plug



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|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Pitch               | 7.62 mm  |
| Width [w]           | 67.34 mm   |
| Height [h]          | 30.5 mm  |
| Length [l]          | 32 mm  |
| Installed height    | 30.5 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 <sup>2</sup> / solid / > 10 N    |
|   | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|   | 4 mm <sup>2</sup> / solid / > 60 N      |
|   | 4 mm <sup>2</sup> / flexible / > 60 N   |

### Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 8 N         |
| Withdraw strength per pos. approx.  | 6 N         |

### Torque test

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

### Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

### Polarization and coding

|               |                                    |
|---------------|------------------------------------|
| Specification | IEC 60512-7:1993-08 (Polarization) |
| Result        | Test passed                        |

### Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

### Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
|---------------|-----------------------|

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| Result | Test passed |
|--------|-------------|
|--------|-------------|

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 12                    |

### Insulation resistance

|  |                       |
|--|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$      |

### 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)                       | 400 V               |
| Rated surge voltage (III/3)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm              |
| minimum creepage distance (III/3)                      | 5.5 mm              |
| Rated insulation voltage (III/2)                       | 630 V               |
| Rated surge voltage (III/2)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/2) | 5.5 mm              |
| minimum creepage distance (III/2)                      | 5.5 mm              |
| Rated insulation voltage (II/2)                        | 1000 V              |
| Rated surge voltage (II/2)                             | 6 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 mm              |
| minimum creepage distance (II/2)                       | 5.5 mm              |

## Environmental and real-life conditions

### Durability test

|  |                     |
|--|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 7.3 kV              |
| Contact resistance $R_1$               | 0.4 m $\Omega$      |
| Contact resistance $R_2$               | 0.6 m $\Omega$      |
| Insertion/withdrawal cycles            | 25                  |

### Climatic test

|                                   |                   |
|-----------------------------------|-------------------|
| Specification                     | ISO 6988:1985-02  |
| Corrosive stress                  | KFW 0.2 S/1 cycle |
| Thermal stress                    | 100 °C/168 h      |
| Power-frequency withstand voltage | 3.31 kV           |

### Vibration test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:1995-03 |
| Frequency     | 10 - 150 - 10 Hz      |

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|                        |                             |
|------------------------|-----------------------------|
| 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 (dependent on the derating curve) |

## Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the 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

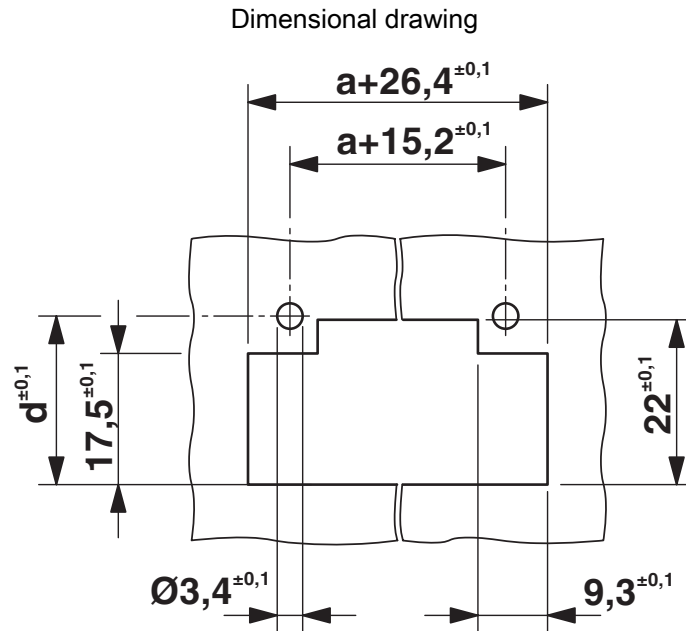
|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

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## Drawings



Dimension  $d$  depending on the wall thickness ( $W$ ) in mm:  $W=1$ :  $d=21.4$

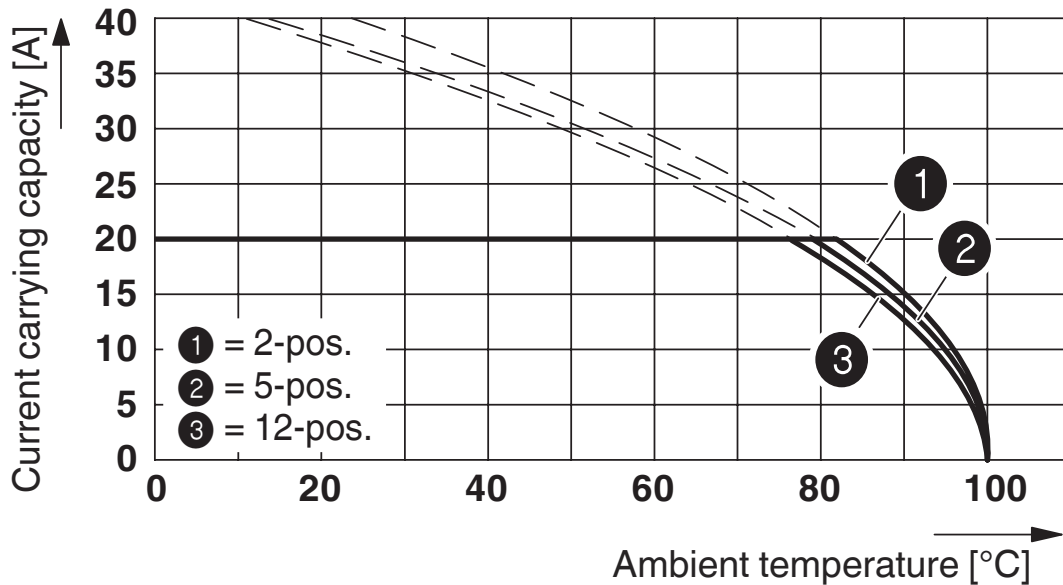
$W=2$ :  $d=21.9$

$W=3$ :  $d=22.5$

$W=4$ :  $d=23.1$

$W=5$ :  $d=23.7$

Diagram



Type: PC 4/...-STF-7,62 with DFK-PC 4/...-GF-7,62

# DFK-PC 4/ 6-GF-7,62 - Feed-through plug



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1840599>

|  <b>CSA</b><br>Approval ID: 2355836 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B  | 300 V                 | 20 A                  | 28 - 10           | -                           |
| C  | 300 V                 | 20 A                  | 28 - 10           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19920722 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   | 300 V                 | 35 A                  | 30 - 10           | -                           |
| C   | 300 V                 | 35 A                  | 30 - 10           | -                           |
| D   | 600 V                 | 5 A                   | 30 - 10           | -                           |

|  <b>DNV GL</b><br>Approval ID: TAE00001EZ |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002638 |
|-----------|----------|

### UNSPSC

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

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## Environmental product compliance

### EU RoHS

|   |      |
|---|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 6(c) |

### China RoHS

|  |   |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50   |
|  | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 5b7cb0a8-35f7-436e-a0e1-41ef189b7abd |

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.138 kg CO2e |
|---------|---------------|

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