

# DFK-IPC 16/ 7-G-10,16 - Feed-through header



1702468

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Feed-through header, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Ag, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: DFK-IPC 16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.1 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Well-known mounting principle allows worldwide use
- Flange system enables secure fixing to the housing panel by means of tool-free snap-in locking or screws
- Inverted header with socket contacts for touch-proof device outputs or PCB/PCB connections
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1702468                        |
| Packing unit                         | 10 pc                          |
| Minimum order quantity               | 10 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA05                           |
| Product key                          | AAEWAA                         |
| GTIN                                 | 4046356031219                  |
| Weight per piece (including packing) | 34.63 g                        |
| Weight per piece (excluding packing) | 30.546 g                       |
| Customs tariff number                | 85366990                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                           |                        |
|---------------------------|------------------------|
| Product type              | Feed-through header    |
| Product family            | DFK-IPC 16/..-G        |
| Product line              | COMBICON Connectors XL |
| Type                      | Feed-through header    |
| Number of positions       | 7                      |
| Pitch                     | 10.16 mm               |
| Number of connections     | 7                      |
| Number of rows            | 1                      |
| Number of potentials      | 7                      |
| Mounting type             | without                |
| Pin layout                | Linear pinning         |
| Solder pins per potential | 3                      |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 76 A   |
| Nominal voltage $U_N$       | 1000 V |
| Contact resistance          | 0.3 mΩ |
| Rated voltage (III/3)       | 630 V  |
| Rated surge voltage (III/3) | 6 kV   |
| Rated voltage (III/2)       | 1000 V |
| Rated surge voltage (III/2) | 8 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Mounting

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

### 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                  | completely silver-plated                                                         |
| Metal surface contact area (top layer)   | Silver (4 - 8 μm Ag)                                                             |
| Metal surface soldering area (top layer) | Silver (4 - 8 μm Ag)                                                             |

#### Material data - housing

|                 |              |
|-----------------|--------------|
| Color (Housing) | green (6021) |
|-----------------|--------------|

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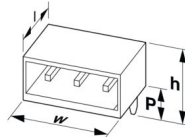
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|                                                                   |        |
|-------------------------------------------------------------------|--------|
| Insulating material                                               | PA     |
| Insulating 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

|                       |                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing   |  |
| Pitch                 | 10.16 mm                                                                            |
| Width [w]             | 95.24 mm                                                                            |
| Height [h]            | 21.9 mm                                                                             |
| Length [l]            | 46.95 mm                                                                            |
| Installed height      | 17.8 mm                                                                             |
| Solder pin length [P] | 4.1 mm                                                                              |
| Pin dimensions        | 0.8 x 1.2 mm                                                                        |

## PCB design

|               |          |
|---------------|----------|
| Pin spacing   | 10.16 mm |
| Hole diameter | 1.7 mm   |

## Mechanical tests

### Visual inspection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-1:2001-01 |
| Result        | Test passed         |

### Dimension check

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-1:2001-01 |
| Result        | Test passed         |

### Resistance of inscriptions

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

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## Polarization and coding

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

## Contact holder in insert

|                                                |                     |
|------------------------------------------------|---------------------|
| Specification                                  | IEC 60512-8:1993-01 |
| Contact holder in insert<br>Requirements >20 N | Test passed         |

## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 50          |
| Insertion strength per pos. approx. | 10 N        |
| Withdraw strength per pos. approx.  | 9 N         |

## Electrical tests

## Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 9                     |

## Insulation resistance

|                                              |                     |
|----------------------------------------------|---------------------|
| Specification                                | IEC 60512-2:1985-00 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$    |

## Air clearances and creepage distances | 1. Insulation coordination

|                                                        |                   |
|--------------------------------------------------------|-------------------|
| Specification                                          | IEC 61984:2008-10 |
| Insulating material group                              | I                 |
| Comparative tracking index (IEC 60112)                 | CTI 600           |
| Rated insulation voltage (III/3)                       | 630 V             |
| Rated surge voltage (III/3)                            | 6 kV              |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm            |
| minimum creepage distance (III/3)                      | 8 mm              |
| Rated insulation voltage (III/2)                       | 1000 V            |
| Rated surge voltage (III/2)                            | 8 kV              |
| minimum clearance value - non-homogenous field (III/2) | 8 mm              |
| minimum creepage distance (III/2)                      | 8 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            |

## Air clearances and creepage distances | 2. Insulation coordination

|                                        |                     |
|----------------------------------------|---------------------|
| Specification                          | IEC 60664-1:2020-05 |
| Insulating material group              | I                   |
| Comparative tracking index (IEC 60112) | CTI 600             |
| Rated insulation voltage (III/3)       | 630 V               |

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|                                                        |           |
|--------------------------------------------------------|-----------|
| Rated surge voltage (III/3)                            | 6 kV      |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm    |
| minimum creepage distance (III/3)                      | 8 mm      |
| Rated insulation voltage (III/2)                       | 1250 V DC |
| Rated surge voltage (III/2)                            | 8 kV      |
| minimum clearance value - non-homogenous field (III/2) | 8 mm      |
| minimum creepage distance (III/2)                      | 8 mm      |
| Rated insulation voltage (II/2)                        | 1500 V DC |
| Rated surge voltage (II/2)                             | 8 kV      |
| minimum clearance value - non-homogenous field (II/2)  | 8 mm      |
| minimum creepage distance (II/2)                       | 8 mm      |

## 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 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           |

### Durability test

|                                        |                     |
|----------------------------------------|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 9.8 kV              |
| Contact resistance R <sub>1</sub>      | 0.3 mΩ              |
| Contact resistance R <sub>2</sub>      | 0.4 mΩ              |
| Insertion/withdrawal cycles            | 50                  |

### 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 | 4.26 kV           |

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

## Packaging specifications

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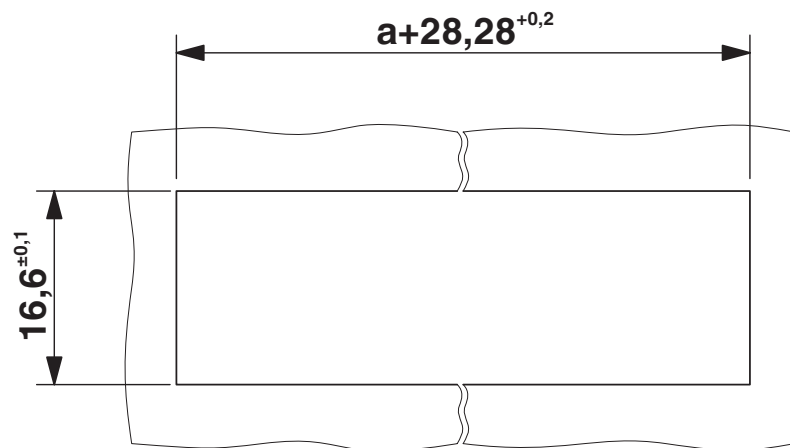
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|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

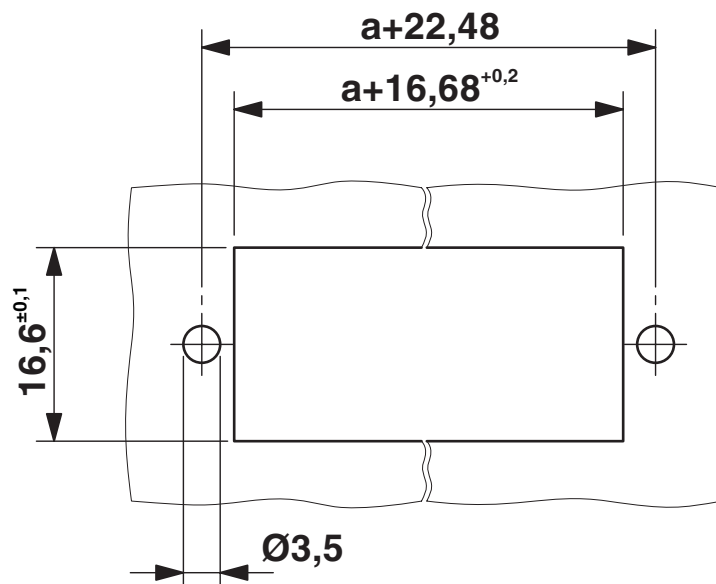
## Drawings

Dimensional drawing



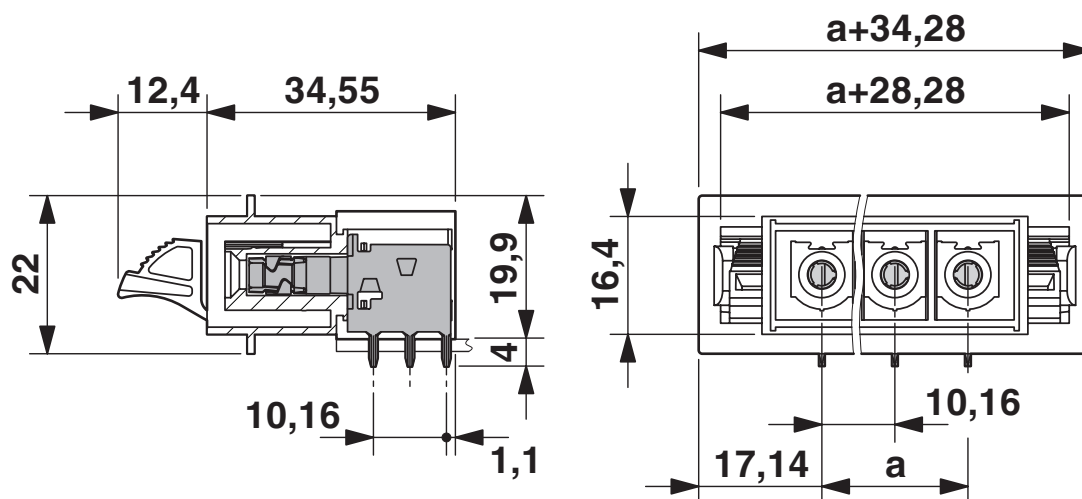
Sheet metal cutout for snap-on.

Dimensional drawing

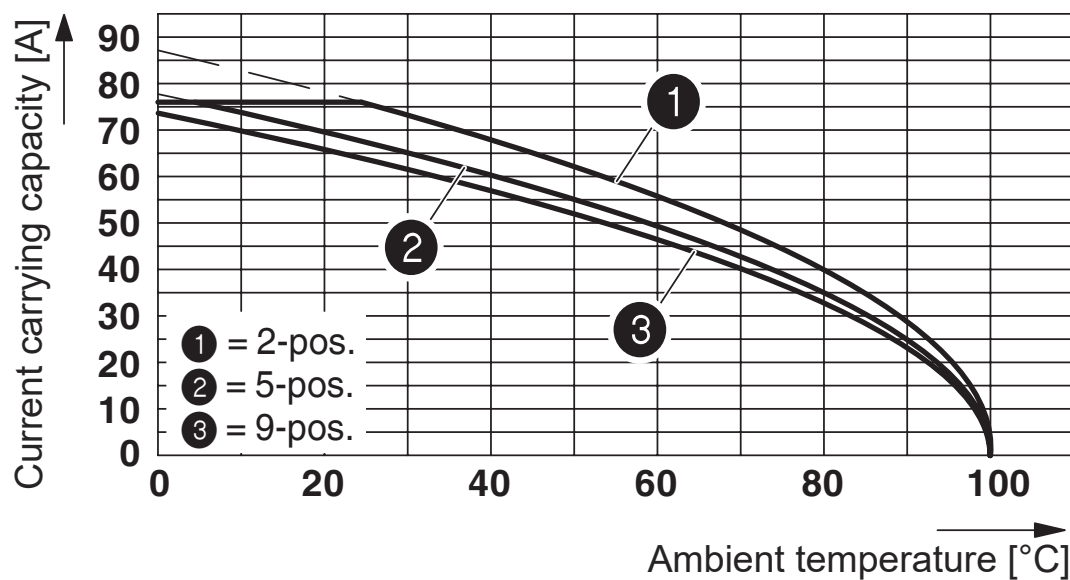


Sheet metal cutout for screw connection.

Dimensional drawing



Diagram



Type: IPC 16/..-ST-10,16 with DFK-IPC 16/..-G-10,16

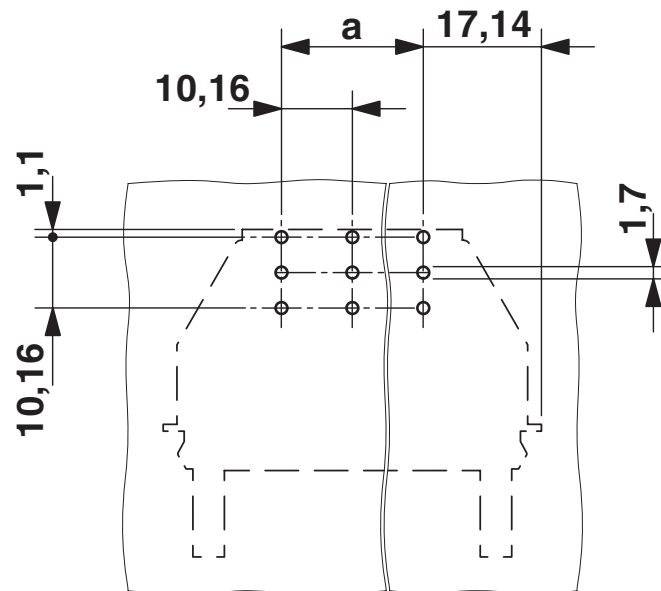
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Drilling plan/solder pad geometry



# DFK-IPC 16/ 7-G-10,16 - Feed-through header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1702468>

| <div> <b>cULus Recognized</b><br/>Approval ID: E60425-20040202</div> |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                                     | 300 V                 | 55 A                  | -                 | -                           |
| C                                                                                                                                                     | 300 V                 | 55 A                  | -                 | -                           |
| D                                                                                                                                                     | 600 V                 | 5 A                   | -                 | -                           |

| <div> <b>VDE approval of drawings</b><br/>Approval ID: 40055586</div> |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                                        | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                                  | 1000 V                | 76 A                  | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002637 |
|----------|----------|

### 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%               |

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