

GKDS - PCB terminal block

1706028

<https://www.phoenixcontact.com/us/products/1706028>

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Printed circuit board terminal, nominal current: 24 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: GKDS, pitch: 7.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 5 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

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Quick and convenient testing using integrated test option
- 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 | 1706028 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA13 |
| Product key | AAMFGB |
| GTIN | 4017918023324 |
| Weight per piece (including packing) | 4.36 g |
| Weight per piece (excluding packing) | 3.894 g |
| Customs tariff number | 85369010 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|---------------------------|----------------------------------|
| Product type | Printed circuit board terminal |
| Product family | GKDS |
| Product line | COMBICON Terminals M |
| Type | PC terminal block can be aligned |
| Number of positions | 1 |
| Pitch | 7.5 mm |
| Number of connections | 1 |
| Number of rows | 1 |
| Number of potentials | 1 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 24 A |
| Nominal voltage U_N | 630 V |
| Rated voltage (III/3) | 500 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 | PC terminal block can be aligned |
| Nominal cross section | 2.5 mm ² |

Conductor connection

| | |
|---|--|
| Connection method | Screw connection with tension sleeve |
| Conductor cross-section rigid | 0.2 mm ² ... 4 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| 2 conductors with same cross section, rigid | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, flexible | 0.2 mm ² ... 1 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 0.5 mm ² |

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| | |
|---|---|
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 1 mm ² |
| Stripping length | 9 mm |
| Drive form screw head | Slotted (L) |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

Mounting

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

Material specifications

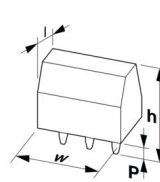
Material data - contact

| | |
|---|--|
| Note | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface characteristics | 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 | V2 |

Dimensions

| | |
|-----------------------|--|
| Dimensional drawing |  |
| Pitch | 7.5 mm |
| Width [w] | 7.5 mm |
| Height [h] | 19.5 mm |
| Length [l] | 19 mm |
| Installed height | 20 mm |
| Solder pin length [P] | 5 mm |
| Pin dimensions | 1.1 x 0.8 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 1.4 mm |
|---------------|--------|

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Result | Test passed |

Pull-out test

| | |
|---|---|
| Specification | IEC 60998-2-1:1990-04 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 4 mm ² / solid / > 60 N |
| | 2.5 mm ² / flexible / > 50 N |

Torque test

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
|---------------|-----------------------|

Electrical tests

Temperature-rise test

| | |
|-----------------------------------|--------------------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Insulation resistance, neighboring positions | 10 ⁹ 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) | 500 V |
| Rated surge voltage (III/3) | 6 kV |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm |
| minimum creepage distance (III/3) | 6.3 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

Vibration test

| | |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:1995-03 |
|---------------|-----------------------|

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| | |
|------------------------|-----------------------------|
| 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 |

Glow-wire test

| | |
|------------------|-----------------------|
| Specification | IEC 60998-2-1:1990-04 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

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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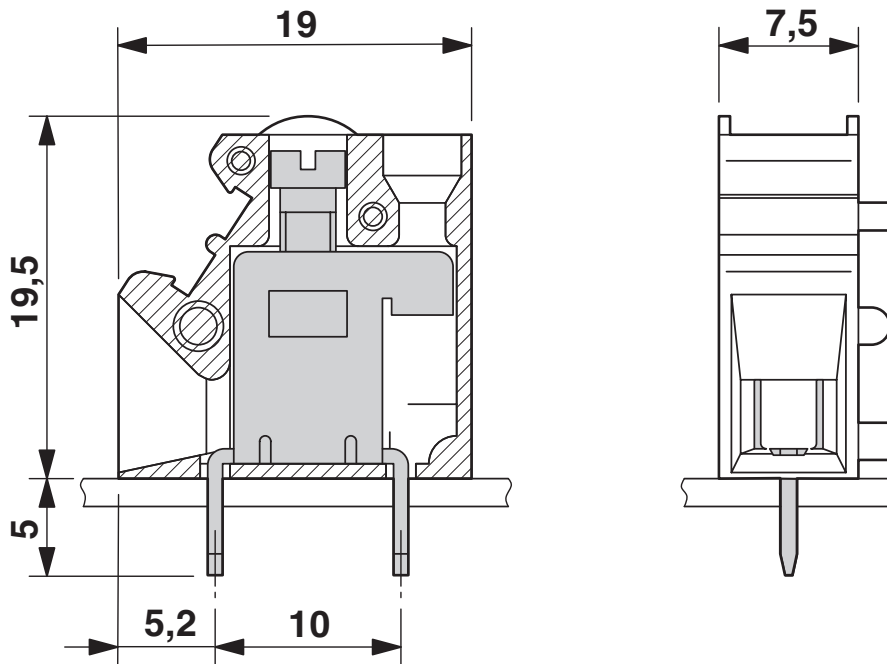
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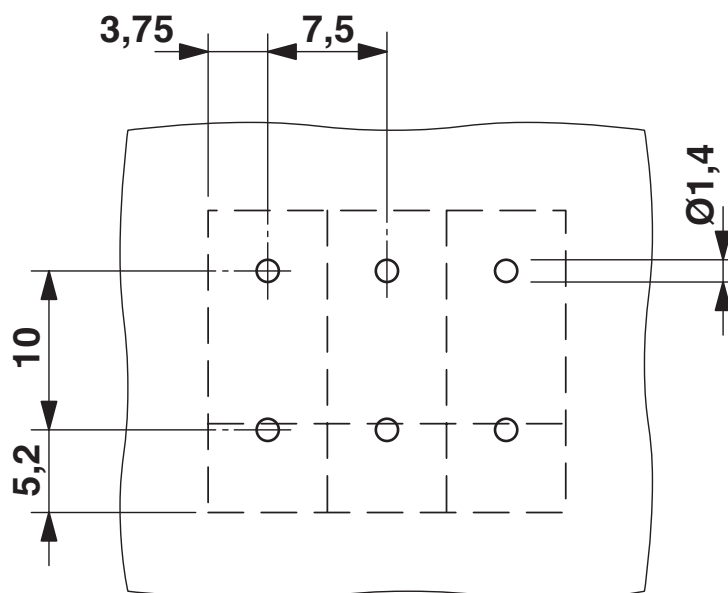


Drawings

Dimensional drawing



Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1706028>

|  CSA Approval ID: 13631 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 300 V | 10 A | 22 - 12 | - |

|  UL Recognized Approval ID: FILE E 60425 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| | 250 V | 15 A | 30 - 14 | - |
| C | | | | |
| | 50 V | 15 A | 30 - 14 | - |
| D | | | | |
| | 300 V | 10 A | 30 - 14 | - |

|  VDE approval of drawings Approval ID: 40055394 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 630 V | 32 A | - | 0.2 - 4 |

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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 | 0.051 kg CO2e |
|---------|---------------|

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