

FK-MPT 0,5/ 7-3,5 - PCB terminal block

1891111

<https://www.phoenixcontact.com/us/products/1891111>

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The figure shows a 10-position version of the product

PCB terminal block, nominal current: 4 A, rated voltage (III/2): 250 V, nominal cross section: 0.5 mm², number of potentials: 7, number of rows: 1, number of positions per row: 7, product range: FK-MPT 0,5/..-V, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard

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
- Potentials can be easily looped through – ideal for BUS applications
- Small component size for applications where space is at a premium
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1891111 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA11 |
| Product key | AAKBCB |
| GTIN | 4017918169633 |
| Weight per piece (including packing) | 2.762 g |
| Weight per piece (excluding packing) | 2.652 g |
| Customs tariff number | 85369010 |
| Country of origin | IN |

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Technical data

Product properties

| | |
|---------------------------|-----------------------|
| Product type | PCB terminal block |
| Product family | FK-MPT 0,5/..-V |
| Product line | COMBICON Terminals XS |
| Type | PC termination block |
| Number of positions | 7 |
| Pitch | 3.5 mm |
| Number of connections | 14 |
| Number of rows | 1 |
| Number of potentials | 7 |
| Mounting type | without |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 4 A |
| Nominal voltage U_N | 250 V |
| Rated voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 250 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 250 V |
| Rated surge voltage (II/2) | 2.5 kV |

Connection data

Conductor connection

| | |
|-------------------------------|--|
| Connection method | Push-in spring connection |
| Conductor cross-section rigid | 0.12 mm ² ... 0.5 mm ² |
| Conductor cross-section AWG | 26 ... 20 |
| Stripping length | 6.5 mm |

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

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| | |
|---|-------------------------|
| Contact material | Steel/copper |
| Surface characteristics | Tin-plated |
| Metal surface terminal point (top layer) | Tin (5 µm - 7 µm Sn) |
| Metal surface terminal point (middle layer) | Copper (2 µm - 3 µm Cu) |
| Metal surface soldering area (top layer) | Tin (5 µm - 7 µm Sn) |
| Metal surface soldering area (middle layer) | Copper (2 µm - 3 µm Cu) |

Material data - housing

| | |
|--|--------------|
| Color (Housing) | green (6021) |
| Insulating material | PBT |
| Insulating material group | IIIa |
| CTI according to IEC 60112 | 225 |
| Flammability rating according to UL 94 | V0 |

Material data – actuating element

| | |
|--|---------------|
| Color (Actuating element) | orange (2003) |
| Insulating material | POM |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | HB |

Dimensions

| | |
|-----------------------|---------------|
| Dimensional drawing | |
| Pitch | 3.5 mm |
| Width [w] | 25 mm |
| Height [h] | 13 mm |
| Length [l] | 7 mm |
| Installed height | 9.5 mm |
| Solder pin length [P] | 3.5 mm |
| Pin dimensions | 0.35 x 0.9 mm |

PCB design

| | |
|---------------|------|
| Hole diameter | 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 |
|---------------|---------------------|

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| | |
|---|---------------------------------------|
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.14 mm ² / solid / > 10 N |
| | 0.5 mm ² / solid / > 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 ¹² Ω |

Air clearances and creepage distances |

| | |
|--|---------------------|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | IIIa |
| Comparative tracking index (IEC 60112) | CTI 225 |
| Rated insulation voltage (III/3) | 160 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) | 2.5 mm |
| Rated insulation voltage (III/2) | 250 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) | 2.5 mm |
| Rated insulation voltage (II/2) | 250 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) | 2.5 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 |

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) |

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Packaging specifications

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

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Drawings

Dimensional drawing



Drilling plan/solder pad geometry



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Approvals

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|  cULus Recognized Approval ID: E60425-19991118 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 300 V | 4 A | 28 - 20 | - |
| D | 300 V | 4 A | 28 - 20 | - |

|  VDE approval of drawings Approval ID: 40055523 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 250 V | 4 A | - | 0.2 - 0.5 |

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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 | 0.085 kg CO2e |
|---------|---------------|

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