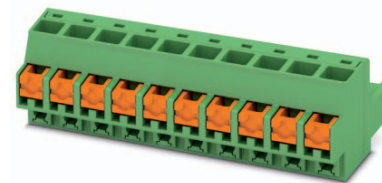


Data sheet

Order No.: 1860730

Type: FKCOV 2,5/21-ST-5,08

Plug component, Push-in spring connection



The figure shows a 10-position version

1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 21 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green | • Connection direction | 90 ° |
| • Pitch | 5.08 mm | • Type of packaging | packed in cardboard |
| • Connection method | Push-in spring connection | | |

2 Your advantages

- ✓ The conductor connection orthogonal to the direction of operation simplifies the cabling of DIN-rail-mountable devices
- ✓ Time saving push-in connection, tools not required
- ✓ Intuitive use through colour coded actuation lever
- ✓ Quick and convenient testing using integrated test option
- ✓ Can be combined with the MSTB 2',5 range



Make sure you always use the latest documentation.

It can be downloaded at: phoenixcontact.net/product/1860730

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1860730 FKCOW 2,5/21-ST-5,08

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



1860730 FK COW 2,5/21-ST-5,08**5 item properties**

| | |
|---------------------|---------------------------|
| Order No. | 1860730 |
| Type | FKCOW 2,5/21-ST-5,08 |
| Type of contact | Female connector |
| Range of articles | FKCOW 2,5/...-ST |
| Pitch | 5.08 mm |
| Number of positions | 21 |
| Connection method | Push-in spring connection |

5.1 Connection capacity

| | |
|-----------------------------------|--|
| Conductor cross section, solid | 0.2 mm ² to 2.5 mm ² |
| Conductor cross section, flexible | 0.2 mm ² to 2.5 mm ² |
| Conductor cross section AWG/kcmil | 24 to 12 |
| Stripping length | 10 mm |

5.2 Specifications for ferrules

| | |
|--|--|
| Ferrules without insulating collar, according to DIN 46228-1 | Cross section: 0.25 mm ² ; Length: 7 mm Cross section: 0.34 mm ² ; Length: 7 mm Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm Cross section: 1 mm ² ; Length: 8 mm ... 10 mm Cross section: 1.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 2.5 mm ² ; Length: 8 mm ... 10 mm |
| Ferrules with insulating collar, according to DIN 46228-4 | Cross section: 0.14 mm ² ; Length: 8 mm Cross section: 0.25 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.34 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm Cross section: 1.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 2.5 mm ² ; Length: 10 mm |

5.3 Material data

| | | |
|--|---|-----|
| 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 | Sn 4 µm ... 8 µm | |
| Surface contact area | Sn 4 µm ... 8 µm | |
| Surface characteristics | hot-dip tin-plated | |
| Insulating material data | | |
| Insulating material | PA | PBT |
| CTI according to IEC 60112 | 600 | 275 |
| Flammability rating according to UL 94 | V0 | V0 |
| Color | green (6021) | |

6 Dimensions**6.1 Dimensions for the product**

1860730 FKCOW 2,5/21-ST-5,08

| | |
|--------------|-----------|
| Length | 23.7 mm |
| Width | 106.55 mm |
| Total height | 16.8 mm |
| Dimension a | 101.60 mm |

1860730 FKOW 2,5/21-ST-5,08**7 Series drawing****8 Packaging information**

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

9 Application**9.1 Temperature limit values**

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

1860730 FKOW 2,5/21-ST-5,08**10 Mechanical tests**

| Mechanical test group A | |
|-------------------------------------|------------------------|
| Specification | IEC 61984:2008-10 |
| Visual test | Test passed |
| Specification | IEC 60512-1-1:2002-02 |
| Dimensional test | Test passed |
| Specification | IEC 60512-1-2:2002-02 |
| Resistance of marking | Test passed |
| Specification | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | Test passed |
| Specification | IEC 60512-13-2:2006-02 |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 11 N |
| Polarization and coding | Test passed |
| Specification | IEC 60512-13-5:2006-02 |
| Test force | 20 N |
| Contact retention in insert | Test passed |
| Specification | IEC 60512-15-1:2008-05 |
| Test force per pos. | 20 N |

10.1 Termination and connection method

| | |
|--|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Check for damage to conductor or loosening | Test passed |

10.2 Pull-out test

| Termination and connection method: pull-out test | |
|--|---|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |
| Conductor cross section/conductor type/tractive force actual value | 0.2 mm ² / solid / > 10 N |
| Conductor cross section/conductor type/tractive force actual value | 0.2 mm ² / stranded / > 10 N |
| Conductor cross section/conductor type/tractive force actual value | 2.5 mm ² / solid / > 50 N |
| Conductor cross section/conductor type/tractive force actual value | 2.5 mm ² / stranded / > 50 N |
| Conductor cross section/conductor type/tractive force actual value | AWG 12 / stranded / > 60 N |

1860730 FKOW 2,5/21-ST-5,08**11 Electrical tests****11.1 Electrical data**

| | |
|---|----------------------------|
| Rated current / conductor cross section | 12 A / 2.5 mm ² |
| Rated insulation voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| Contact resistance | 1.3 mΩ |
| Degree of pollution | 2 |

11.2 Air and creepage distances

| | | | |
|---|---------------------|-------|--------|
| Component | Plug component | | |
| Specification | IEC 60664-1:2007-04 | | |
| Mains type | unearthed mains | | |
| Insulating material group | | | |
| Comparative tracking index (IEC 60112:2003-01) | CTI 600 | | |
| Rated insulation voltage | 250 V | 320 V | 630 V |
| Rated surge voltage | 4 kV | 4 kV | 4 kV |
| Degree of pollution | 3 | 2 | 2 |
| Overvoltage category | III | III | II |
| Minimum clearance case A (inhomogeneous field) | 3 mm | 3 mm | 3 mm |
| Minimum value of the creepage path requirement in acc. with table | 3.2 mm | 3 mm | 3.2 mm |

1860730 FKCOW 2,5/21-ST-5,08**12 Current carrying capacity/derating curves**

| | |
|-------------------------|---|
| Specification | IEC 61984:2008-10 |
| Note | Representation based on IEC 60512-5-2:2002-02 |
| Reduction factor | 0.8 |
| Number of positions | See diagram |
| Conductor cross section | 2.5 mm ² |

Type: FKCO(R/W) 2,5/...-ST-5,08-LR with MSTBA(R/W) 2,5/...-G-5,08-LR

81345_1000_en

Type: FKCO(R/W) 2,5/...-ST-5,08(-LR) with MSTBVA 2,5/...-ST-5,08(-LR)

81491_1000_en


1860730 FKOW 2,5/21-ST-5,08**13 Environmental and durability tests****13.1 Vibration test**

| | |
|------------------------|------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| 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 |

14 Classification for connectors

| | |
|-----------------------------------|--|
| Specification | IEC 61984:2008-10 |
| Main features | Connectors without switching capacity (COC) |
| Construction form | Fixed connectors |
| Strain relief elements | without strain relief |
| Connection method | Can be reconnected |
| Protection against electric shock | Not encapsulated - touch-proof when inserted |
| Protective conductor | without PE |
| Lock | no |
| Connection method | Screwless terminal points |

15 Approvals

| | | | | |
|--|-------|-------|--|--|
| cULus Recognized  | | | | |
| Use group | B | D | | |
| mm ² /AWG/kcmil | 26-12 | 26-12 | | |
| Voltage | 300 V | 300 V | | |
| Current | 12 A | 10 A | | |

1860730 FKCOW 2,5/21-ST-5,08**16 Commercial Data**

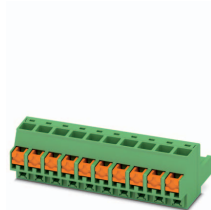
| | |
|--------------------|--|
| Order No. | 1860730 |
| Type | FKCOW 2,5/21-ST-5,08 |
| Pieces per package | 50 |
| Net weight | 2.22 g |
| GTIN | 4055626124483 |
| | Information that applies locally, see link on page 1 |
| Country of origin | Information that applies locally, see link on page 1 |

17 Accessories

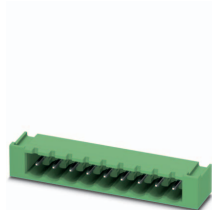
| Description | Order No. | Type |
|--|-----------|--------------------------|
| Coding profile, is inserted into the slot on the plug or inverted header, red insulating material | 1734634 | CP-MSTB |
| | 0201744 | MPS-MT |
| | 0201647 | RPS |
| Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip | 1205053 | SZS 0,6X3,5 |
| | 0804293 | SK 5,08/3,8:FORTL.ZAHLEN |

1860730 FKOW 2,5/21-ST-5,08

18 Combination tests



FKOW 2,5/..-ST



MSTBA 2,5/..-G-LR



MSTBVA 2,5/..-G-LR

| Specification | IEC 61984 | IEC 61984 | | |
|--|---|---|--|--|
| Mechanical tests (A) | | | | |
| Insertion/withdrawal force per position | approx. 8 N / 11 N | approx. 10 N / 12 N | | |
| Polarization when inserted Requirement > 20 N | Test passed | Test passed | | |
| Contact holder in insert Requirements > 20 N | Test passed | Test passed | | |
| Endurance tests (B) | | | | |
| Contact resistance R_1 | 1.3 m Ω | 2.5 m Ω | | |
| Insertion/withdrawal cycles | 25 | 25 | | |
| Contact resistance R_2 | 1.3 m Ω | 2.4 m Ω | | |
| Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu\text{s})$ | 4.8 kV | 4.8 kV | | |
| Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$ | 2.21 kV | 2.21 kV | | |
| Insulation resistance Requirements > 5 M Ω | > 1.5 T Ω | > 1 T Ω | | |
| Thermal tests (C) | | | | |
| Tested number of positions | 24 | 24 | | |
| Tested conductor cross section | 2.5 mm ² | 2.5 mm ² | | |
| Test current | 12 A | 12 A | | |
| Upper limiting temperature Requirements < 100°C | Test passed | Test passed | | |
| Climatic tests (D) | | | | |
| Test sequence 1: low temperature storage | -40 °C/2 h | -40 °C/2 h | | |
| Test sequence 2: heat storage | 100 °C/168 h | 100 °C/168 h | | |
| Test sequence 3: noxious gas storage (ISO 6988) | 0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle | 0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle | | |
| Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu\text{s})$ | 4.8 kV | 4.8 kV | | |
| Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$ | 2.21 kV | 2.21 kV | | |
| Environmental and endurance tests (E) | | | | |
| Specification | IEC 61984:2008-10 | IEC 61984:2008-10 | | |
| Degree of protection | Finger safety with IP20 test finger | Finger safety with IP20 test finger | | |