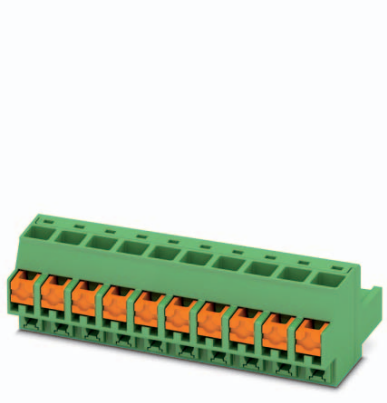
2017-07-06
Product version 00
Document revision 1

Data sheet

Order No.: 1860769

Type: FKCOW 2,5/24-ST-5,08

Plug component, Push-in spring connection



The figure shows a 10-position version

1 Main features



- No. of pos. 24
- Conductor cross section 2.5 mm²
- Color green
- Pitch 5.08 mm
- Connection method Push-in spring connection
- Nominal current 12 A
- Nominal voltage 320 V
- Connection direction 90 °
- Type of packaging packed in cardboard

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/1860769

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



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5 item properties

Order No.	1860769
Type	FKCOW 2,5/24-ST-5,08
Type of contact	Female connector
Range of articles	FKCOW 2,5/..-ST
Pitch	5.08 mm
Number of positions	24
Connection method	Push-in spring connection

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 2.5 mm²
Conductor cross section, flexible	0.2 mm² to 2.5 mm²
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 mm²; Length: 7 mm Cross section: 0.34 mm²; Length: 7 mm Cross section: 0.5 mm²; Length: 8 mm ... 10 mm Cross section: 0.75 mm²; Length: 8 mm ... 10 mm Cross section: 1 mm²; Length: 8 mm ... 10 mm Cross section: 1.5 mm²; Length: 8 mm ... 10 mm Cross section: 2.5 mm²; Length: 8 mm ... 10 mm
Ferrules with insulating collar, according to DIN 46228–4	Cross section: 0.14 mm²; Length: 8 mm Cross section: 0.25 mm²; Length: 8 mm ... 10 mm Cross section: 0.34 mm²; Length: 8 mm ... 10 mm Cross section: 0.5 mm²; Length: 8 mm ... 10 mm Cross section: 0.75 mm²; Length: 8 mm ... 10 mm Cross section: 1.5 mm²; Length: 8 mm ... 10 mm Cross section: 2.5 mm²; 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	Housing	
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

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1860769 FKCOW 2,5/24-ST-5,08

Length	23.7 mm
Width	121.79 mm
Total height	16.8 mm
Dimension a	116.84 mm

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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)

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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 mm² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm² / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm² / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm² / stranded / > 50 N
Conductor cross section/conductor type/tractive force actual value	AWG 12 / stranded / > 60 N

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11 Electrical tests

11.1 Electrical data

Rated current / conductor cross section	12 A / 2.5 mm²
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

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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 mm²

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

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

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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		

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16 Commercial Data

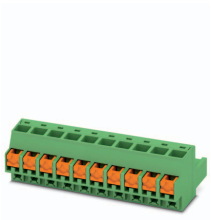
Order No.	1860769
Type	FKCOW 2,5/24-ST-5,08
Pieces per package	50
Net weight	41.15 g
GTIN	4055626124612
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 Accessories

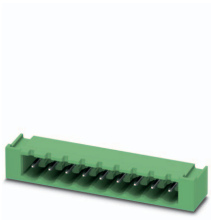
Description	Order No.	Type
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
	0201744	MPS-MT
	0201647	RPS
Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component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

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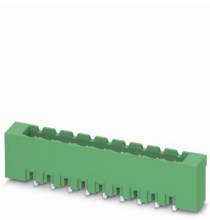
18 Combination tests



FKCOW 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 mΩ	2.5 mΩ		
Insertion/withdrawal cycles	25	25		
Contact resistance R_2	1.3 mΩ	2.4 mΩ		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	2.21 kV		
Insulation resistance Requirements > 5 MΩ	> 1.5 TΩ	> 1 TΩ		
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 ≥ (1.2/50 µs)	4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 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		

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