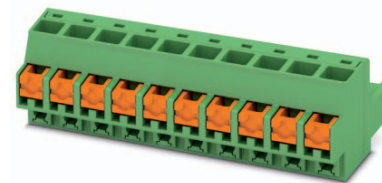


# Data sheet

Order No.: 1860659

Type: FKCOV 2,5/13-ST-5,08

Plug component, Push-in spring connection



The figure shows a 10-position version

## 1 Main features



- |                           |                           |                        |                     |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos.             | 13                        | • Nominal current      | 12 A                |
| • Conductor cross section | 2.5 mm <sup>2</sup>       | • 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.

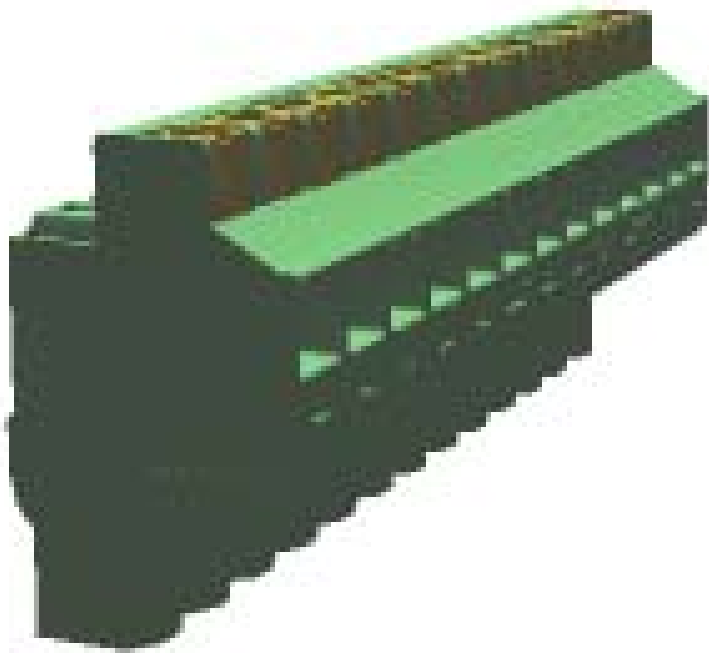
It can be downloaded at: [phoenixcontact.net/product/1860659](http://phoenixcontact.net/product/1860659)

### 3 Table of contents

1	Main features.....	1
2	Your advantages .....	1
3	Table of contents .....	2
4	3D model in PDF can be activated (Acrobat Reader only).....	3
5	item properties.....	4
	5.1 Connection capacity .....	4
	5.2 Specifications for ferrules .....	4
	5.3 Material data .....	4
6	Dimensions.....	4
	6.1 Dimensions for the product .....	4
7	Series drawing.....	6
8	Packaging information .....	6
9	Application.....	6
	9.1 Temperature limit values .....	6
10	Mechanical tests.....	7
	10.1 Termination and connection method.....	7
	10.2 Pull-out test .....	7
11	Electrical tests .....	8
	11.1 Electrical data .....	8
	11.2 Air and creepage distances .....	8
12	Current carrying capacity/derating curves .....	9
13	Environmental and durability tests .....	10
	13.1 Vibration test .....	10
14	Classification for connectors.....	10
15	Approvals .....	10
16	Commercial Data.....	11
17	Accessories.....	11
18	Combination tests.....	12

1860659 FKOW 2,5/13-ST-5,08

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



**1860659 FK COW 2,5/13-ST-5,08****5 item properties**

Order No.	1860659
Type	FKCOW 2,5/13-ST-5,08
Type of contact	Female connector
Range of articles	FKCOW 2,5/...-ST
Pitch	5.08 mm
Number of positions	13
Connection method	Push-in spring connection

**5.1 Connection capacity**

Conductor cross section, solid	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
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 <sup>2</sup> ; Length: 7 mm Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 1.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 2.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm
Ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.14 mm <sup>2</sup> ; Length: 8 mm Cross section: 0.25 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.34 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 1.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 2.5 mm <sup>2</sup> ; 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**

**1860659 FKOW 2,5/13-ST-5,08**

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Length	23.7 mm
Width	65.91 mm
Total height	16.8 mm
Dimension a	60.96 mm

**1860659 FKOW 2,5/13-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)

**1860659 FKOW 2,5/13-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 <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm <sup>2</sup> / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / stranded / > 50 N
Conductor cross section/conductor type/tractive force actual value	AWG 12 / stranded / > 60 N

**1860659 FKOW 2,5/13-ST-5,08****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm <sup>2</sup>
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



**1860659 FKCOW 2,5/13-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 <sup>2</sup>

**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


**1860659 FKOW 2,5/13-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 <sup>2</sup> /AWG/kcmil	26-12	26-12		
Voltage	300 V	300 V		
Current	12 A	10 A		

**1860659 FKOW 2,5/13-ST-5,08****16 Commercial Data**

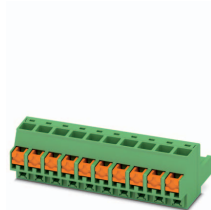
Order No.	1860659
Type	FKOW 2,5/13-ST-5,08
Pieces per package	50
Net weight	2.22 g
GTIN	4055626124407
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 Accessories**

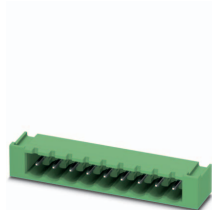
Description	Order No.	Type
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
	0201744	MPS-MT
	0201647	RPS
Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component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

## 1860659 FKOW 2,5/13-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		
<b>Mechanical tests (A)</b>				
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		
<b>Endurance tests (B)</b>				
Contact resistance $R_1$	1.3 m $\Omega$	2.5 m $\Omega$		
Insertion/withdrawal cycles	25	25		
Contact resistance $R_2$	1.3 m $\Omega$	2.4 m $\Omega$		
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 $\Omega$	> 1.5 T $\Omega$	> 1 T $\Omega$		
<b>Thermal tests (C)</b>				
Tested number of positions	24	24		
Tested conductor cross section	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>		
Test current	12 A	12 A		
Upper limiting temperature Requirements < 100°C	Test passed	Test passed		
<b>Climatic tests (D)</b>				
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 <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 40 °C/1 cycle	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 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		
<b>Environmental and endurance tests (E)</b>				
Specification	IEC 61984:2008-10	IEC 61984:2008-10		
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger		