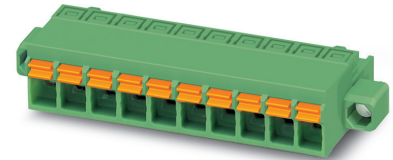


Data sheet

Order No.: 1732975

Type: FKCN 2,5/ 3-STF

PCB connector, Push-in spring connection



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 3 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green (6021) | • Connection direction | 0 ° |
| • Pitch | 5 mm | • Type of packaging | packed in cardboard |
| • Connection method | Push-in spring connection | | |

2 Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Intuitive use through colour coded actuation lever
- ✓ Extremely small design for the respective conductor cross section
- ✓ Screwable flange for superior mechanical stability
- ✓ Can be combined with the MSTB 2,5 range



Make sure you always use the latest documentation.

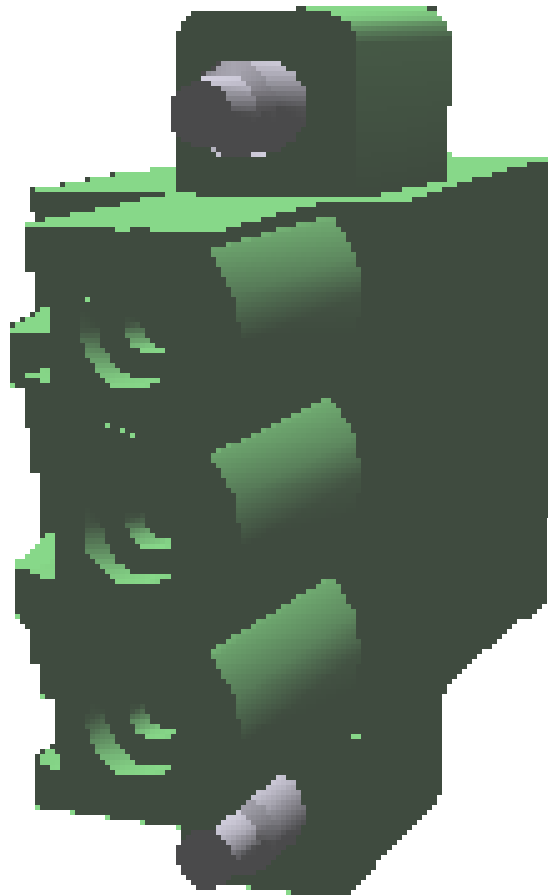
It can be downloaded at: phoenixcontact.net/product/1732975

1732975 FKCN 2,5/ 3-STF**3 Table of contents**

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1732975 FKCN 2,5/ 3-STF

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



1732975 FKCN 2,5/ 3-STF**5 General Technical Data****5.1 item properties**

Order No.	1732975
Type	FKCN 2,5/ 3-STF
Connector system	CLASSIC COMBICON
Product type	PCB connector
Type of contact	Female connector
Range of articles	FKCN 2,5/...-STF
Pitch	5 mm
Number of positions	3
Number of levels	1
Number of connections	3
Number of potentials	3
Connection method	Push-in spring connection
Connection direction of the conductor to plug-in direction	0 °
Type	Standard

1732975 FKCN 2,5/ 3-STF**6 Mounting****6.1 Flange mounting**

Type of locking	Screw locking
Mounting flange	Screw flange
Torque	0.3 Nm

1732975 FKCN 2,5/ 3-STF**7 Conductor connection****7.1 Connection capacity**

Nominal cross section	2.5 mm ²
Conductor cross section, rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	10 mm

7.2 Connection capacity AWG

Conductor cross section AWG	24 ... 16
-----------------------------	-----------

1732975 FKCN 2,5/ 3-STF**8 Material properties****8.1 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	Tin (4 - 8 µm Sn)
Surface contact area	Tin (4 - 8 µm Sn)
Surface characteristics	hot-dip tin-plated

8.2 Material of plastic parts

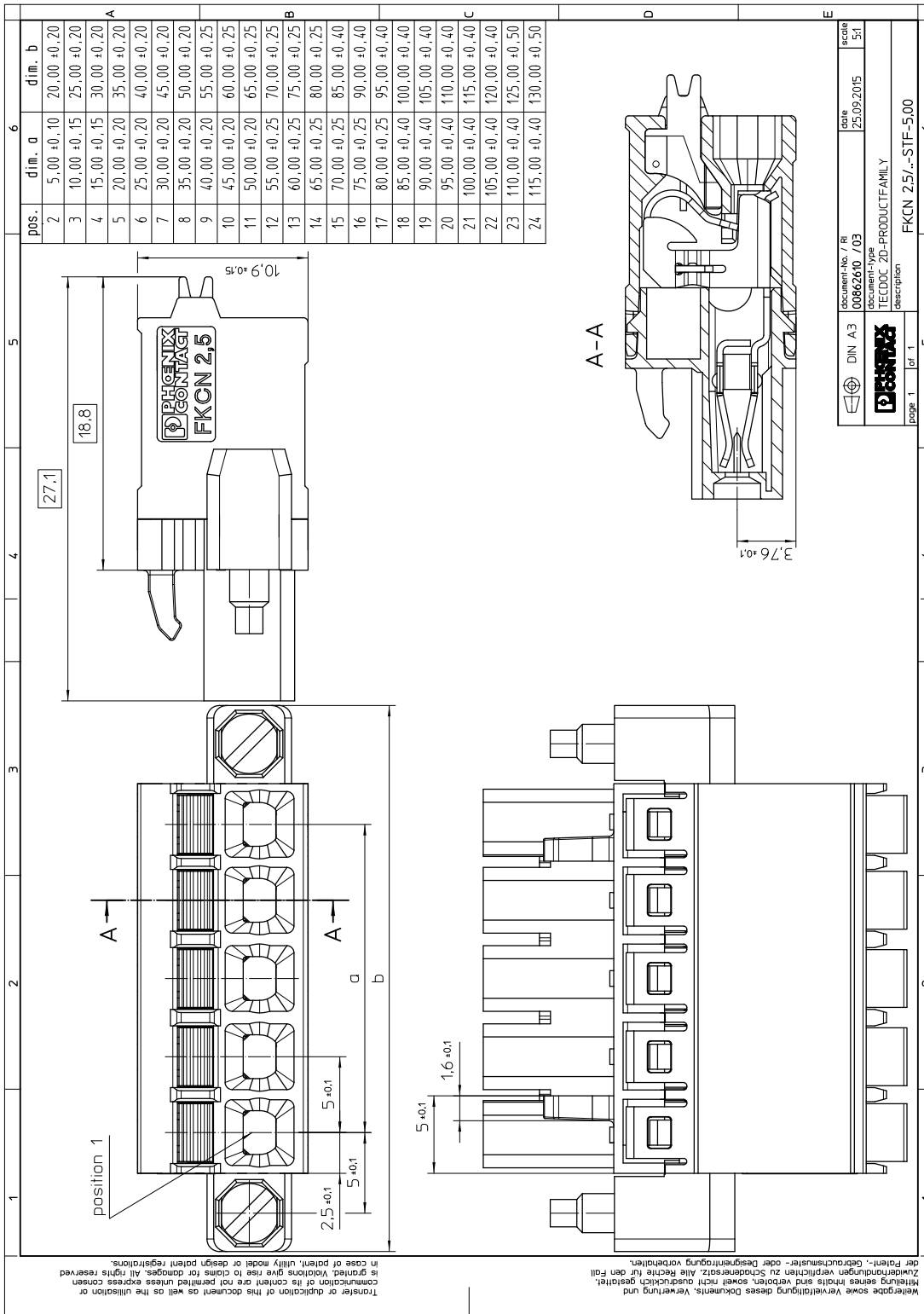
	Housing	Actuation element
Color	green (6021)	orange (2003)
Insulating material	PBT	PA
Insulating material group	I	I
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0

1732975 FKCN 2,5/ 3-STF**9 Dimensions****9.1 Dimensions for the product**

Length		27.1 mm
Width		25 mm
Installed height		10.9 mm
Total height		10.9 mm

1732975 FKCN 2,5/ 3-STF

10 Series drawing



1732975 FKCN 2,5/ 3-STF**11 Product notes****11.1 General information**

Notes on operation

In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.

12 Packaging information

Type of packaging

packed in cardboard

Pieces per package

50

13 Application**13.1 Temperature limit values**

Ambient temperature (storage/transport)

-40 °C ... 70 °C

Ambient temperature (assembly)

-5 °C ... 100 °C

Ambient temperature (operation)

-40 °C ... 100 °C (dependent on the derating curve)

1732975 FKCN 2,5/ 3-STF**14 General tests****14.1 Specification**

Specification	IEC 61984
Specification	IEC 60999-1
Brief description	Printed-circuit board connector

15 Mechanical tests**15.1 Check for damage to conductor or loosening**

Result	Test passed
Specification	IEC 60999-1:1999-11

15.2 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 / flexible / > 10 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / flexible / > 50 N

15.3 Repeated connection and disconnection

Specification	IEC 60999-1:1999-11
Result	Test passed

15.4 Conductor connection

Specification	IEC 60999-1:1999-11
Result	Test passed

15.5 Visual examination

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

15.6 Dimensional test

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

15.7 Resistance of marking

1732975 FKCN 2,5/ 3-STF

Resistance of marking

Test passed

Specification

IEC 60068-2-70:1995-12

15.8 Polarization and coding

Polarization when inserted
Requirement >20 N

Test passed

Specification

IEC 60512-13-5:2006-02

1732975 FKCN 2,5/ 3-STF**16 Insertion and withdrawal forces**

Insertion and withdrawal force	
	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	11 N
Withdraw strength per pos. approx.	10 N

1732975 FKCN 2,5/ 3-STF**17 Electrical tests**

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	1.1 mΩ
Degree of pollution	2

17.1 Air and creepage distances

Component	PCB connector		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	320 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	4 mm	1.6 mm	3.2 mm

17.2 Electrical function

Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load \leq 15 mV
Test current (minimum cross section)	4 A AC
Test current (maximum cross section)	12 A AC
Conductor cross section, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section, rigid	0.2 mm ² ... 1.5 mm ²

17.3 Temperature cycles

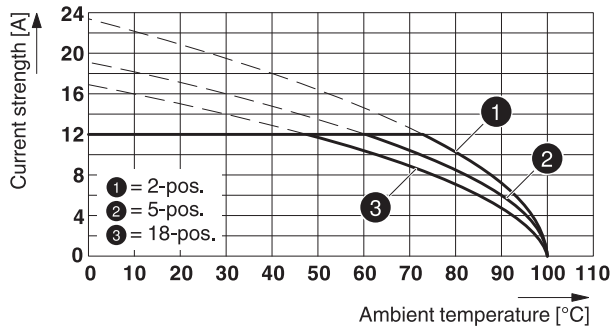
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load \leq 22.5 mV or $1.5 \times U_{after 24 h}$ The small value is to be used.
Test current (minimum cross section)	4 A AC
Test current (maximum cross section)	12 A AC
Temperature cycles	192
Conductor cross section, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section, rigid	0.2 mm ² ... 1.5 mm ²

1732975 FKCN 2,5/ 3-STF

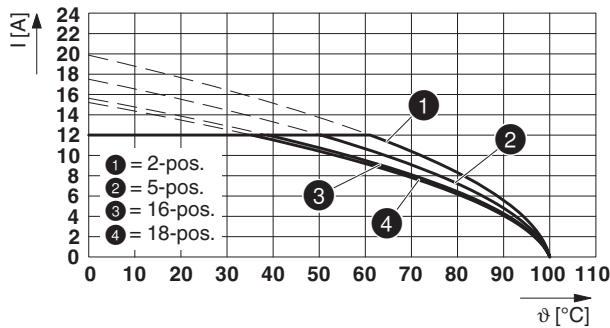
18 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Note	For number of positions, see diagram
Reduction factor	0.8
Conductor cross section	2.5 mm ²

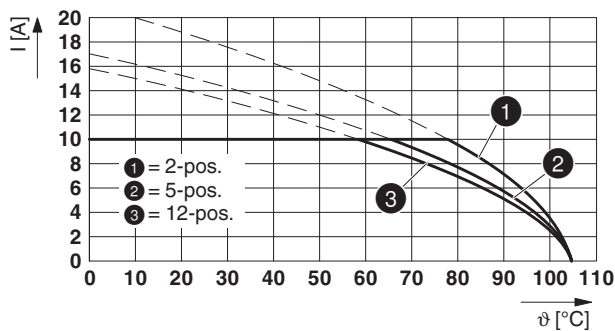
Type: FKCN 2,5/...-ST with CCDN 2,5/...-G1F P26 THR



Type: FKCN 2,5/...-STF with MSTBV 2,5/...-G

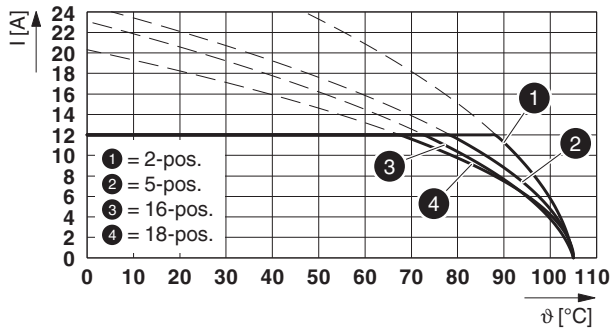


Type: FKCN 2,5/...-STF with MDSTBV 2,5/...-GF

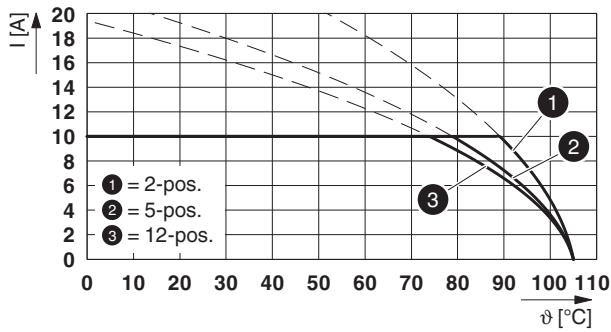


1732975 FKCN 2,5/ 3-STF

Type: FKCN 2,5/...-STF with MSTB 2,5/...-GF



Type: FKCN 2,5/...-STF with MDSTB 2,5/...-GF



1732975 FKCN 2,5/ 3-STF**19 Environmental and durability tests****19.1 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
Note	The connected conductor loops were guided to the test sample at a distance of approx. 10 cm.

19.2 Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 5 M Ω

1732975 FKCN 2,5/ 3-STF**20 Type approval and special tests****20.1 Shock test**

Specification	IEC 60068-2-27:2008-02
Result	Test passed
Pulse shape	Semi-sinusoidal
Peak acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)

21 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

1732975 FKCN 2,5/ 3-STF

22 Approvals / Certificates

EAC EAC



1732975 FKCN 2,5/ 3-STF**23 Commercial Data**

Order No.	1732975
Type	FKCN 2,5/ 3-STF
Pieces per package	50
Net weight	4.54 g
GTIN	4046356163972
	Information that applies locally, see link on page 1
	Information that applies locally, see link on page 1

24 corresponding headers

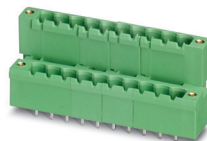
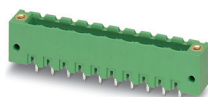
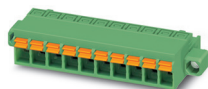
Order No.	Type
1734452	CCDN 2,5/ 3-G1F P26 THR
1776702	MSTB 2,5/ 3-GF
1776896	MSTBV 2,5/ 3-GF
1846098	MDSTBV 2,5/ 3-GF
1874617	MDSTB 2,5/ 3-GFL
1874620	MDSTB 2,5/ 3-GFR
1874659	MDSTBV 2,5/ 3-GFL
1874662	MDSTBV 2,5/ 3-GFR
1900086	EMSTB 2,5/ 3-GF
1914068	EMSTBV 2,5/ 3-GF

25 Accessories

Description	Order No.	Type
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB
Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm ² ... 6.0 mm ² , lateral entry, trapezoidal crimp	1212034	CRIMPFOX 6
	3201275	Al 0,5 -10 WH
	3201288	Al 0,75-10 GY
	3200182	Al 1 -10 RD
	3200195	Al 1,5 -10 BK
	3202494	A 0,5 -10
	3200234	A 0,75-10
	3200250	A 1 -10
	3200276	A 1,5 -10
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

1732975 FKCN 2,5/ 3-STF

26 Combination tests

**FKCN 2,5/...-STF****CCDN 2,5/...-G1F-THR****MSTBV 2,5/...-GF****MDSTBV 2,5/...-GF****MSTB 2,5/...-GF**

IEC 61984

IEC 61984

IEC 61984

IEC 61984

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

approx. 11 N / 10 N

approx. 8 N / 6 N

approx. 12 N / 9 N

approx. 12 N / 9 N

Polarization when inserted
Requirement >20 N

Test passed

Test passed

Test passed

Test passed

Contact holder in insert
Requirements >20 N

Test passed

Test passed

Test passed

Test passed

Durability tests (B)Contact resistance R₁ 1st level

1.1 mΩ

2 mΩ

1.2 mΩ

1 mΩ

Contact resistance R₁ 2nd level

1.4 mΩ

2 mΩ

Insertion/withdrawal cycles

25

25

25

25

Contact resistance R₂

1.1 mΩ

2.1 mΩ

1.3 mΩ

1.1 mΩ

Rated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)

2.21 kV

2.21 kV

2.21 kV

2.21 kV

Thermal tests (C)

Tested number of positions

18

18

12

18

Tested conductor cross section

2.5 mm²2.5 mm²2.5 mm²2.5 mm²

Test current

12 A

12 A

10 A

12 A

Upper limiting temperature
Requirements < 100°C

Test passed

Test passed

Test passed

Test passed

Climatic tests (D)

Test sequence 1: low temperature storage

-40 °C/2 h

-40 °C/2 h

-40 °C/2 h

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

100 °C/168 h

105 °C/168 h

105 °C/168 h

Test sequence 3: noxious gas storage
(ISO 6988)0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycleRated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)

2.21 kV

2.21 kV

2.21 kV

2.21 kV

Environmental and endurance tests (E)

Specification

IEC 61984:2008-10

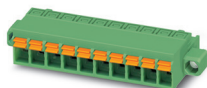
IEC 61984:2008-10

IEC 61984:2008-10

IEC 61984:2008-10

Degree of protection

Finger safety with IP20
test fingerFinger safety with IP20
test fingerFinger safety with IP20
test fingerFinger safety with IP20
test finger

1732975 FKCN 2,5/ 3-STF**FKCN 2,5/..-STF**

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

Polarization when inserted
Requirement >20 NContact holder in insert
Requirements >20 N**Durability tests (B)**Contact resistance R₁ 1st levelContact resistance R₁ 2nd level

Insertion/withdrawal cycles

Contact resistance R₂Rated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)**Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature
Requirements < 100°C**Climatic tests (D)**

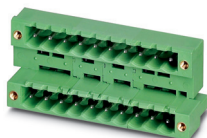
Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage
(ISO 6988)Rated impulse voltage at sea level
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage
Voltage waveform ≥ (50/60 Hz)**Environmental and endurance tests (E)**

Specification

Degree of protection

**MDSTB 2,5/..-GF**

IEC 61984

approx. 12 N / 9 N

Test passed

Test passed

1 mΩ

1.3 mΩ

25

1 mΩ

4.8 kV

2.21 kV

12

2.5 mm²

10 A

Test passed

-40 °C/2 h

105 °C/168 h

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20
test finger