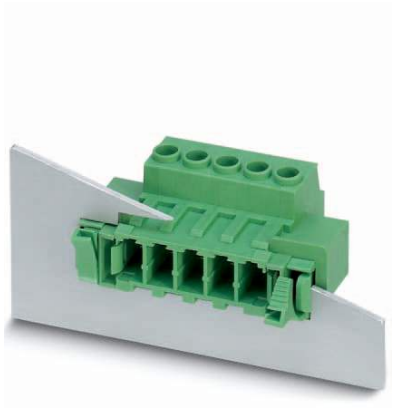
2017-09-04
Product version 05
Document revision 0

Data sheet

Order No.: 1716506

Type: DFK-PC 5/ 2-ST-7,62

Plug component, Screw connection with tension sleeve



1 Main features

- No. of pos. 2
- Conductor cross section 6 mm²
- Color green
- Pitch 7.62 mm
- Connection method Screw connection with tension sleeve
- Nominal current 41 A
- Nominal voltage 1000 V
- Connection direction 0 °
- Type of packaging packed in cardboard

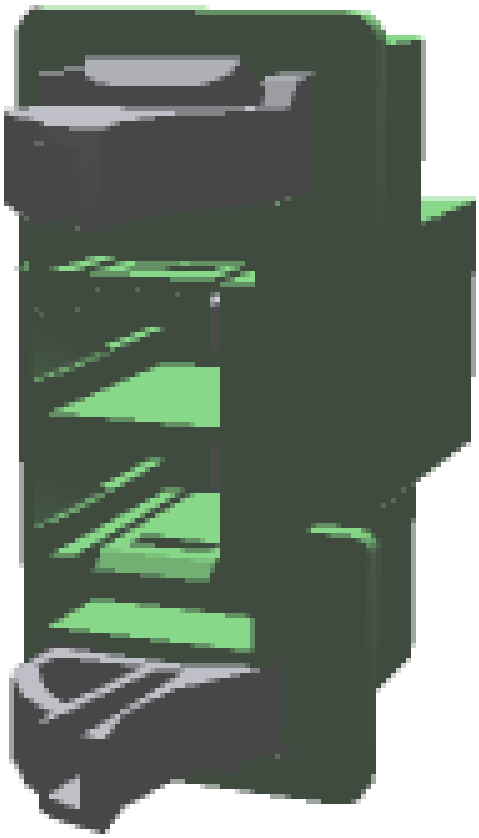
2 Your advantages

- ☑ Well-known connection principle allows worldwide use
- ☑ Low temperature rise, thanks to maximum contact force
- ☑ Allows connection of two conductors
- ☑ Flange system enables secure fixing to the housing panel by means of tool-free snap-in locking or screws

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1716506

3 Table of contents

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



5 item properties

Order No.	1716506
Type	DFK-PC 5/ 2-ST-7,62
Type of contact	Male connector
Range of articles	DFK-PC 5/..-ST
Pitch	7.62 mm
Number of positions	2
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.7 Nm ... 0.8 Nm
Locking	without

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 10 mm²
Conductor cross section, flexible	0.2 mm² to 6 mm²
Conductor cross section AWG/kcmil	24 to 10
2 conductors with same cross section, solid	0.2 mm² to 2.5 mm²
2 conductors with same cross section, stranded	0.2 mm² to 4 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² to 6 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm² to 4 mm²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm² to 1.5 mm²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.25 mm² to 2.5 mm²
Cylindrical gauge a x b / diameter	3.6 mm x 3.1 mm / 3.4 mm
Stripping length	10 mm

5.2 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	
CTI according to IEC 60112	600	
Flammability rating according to UL 94	V0	
Color	green (6021)	

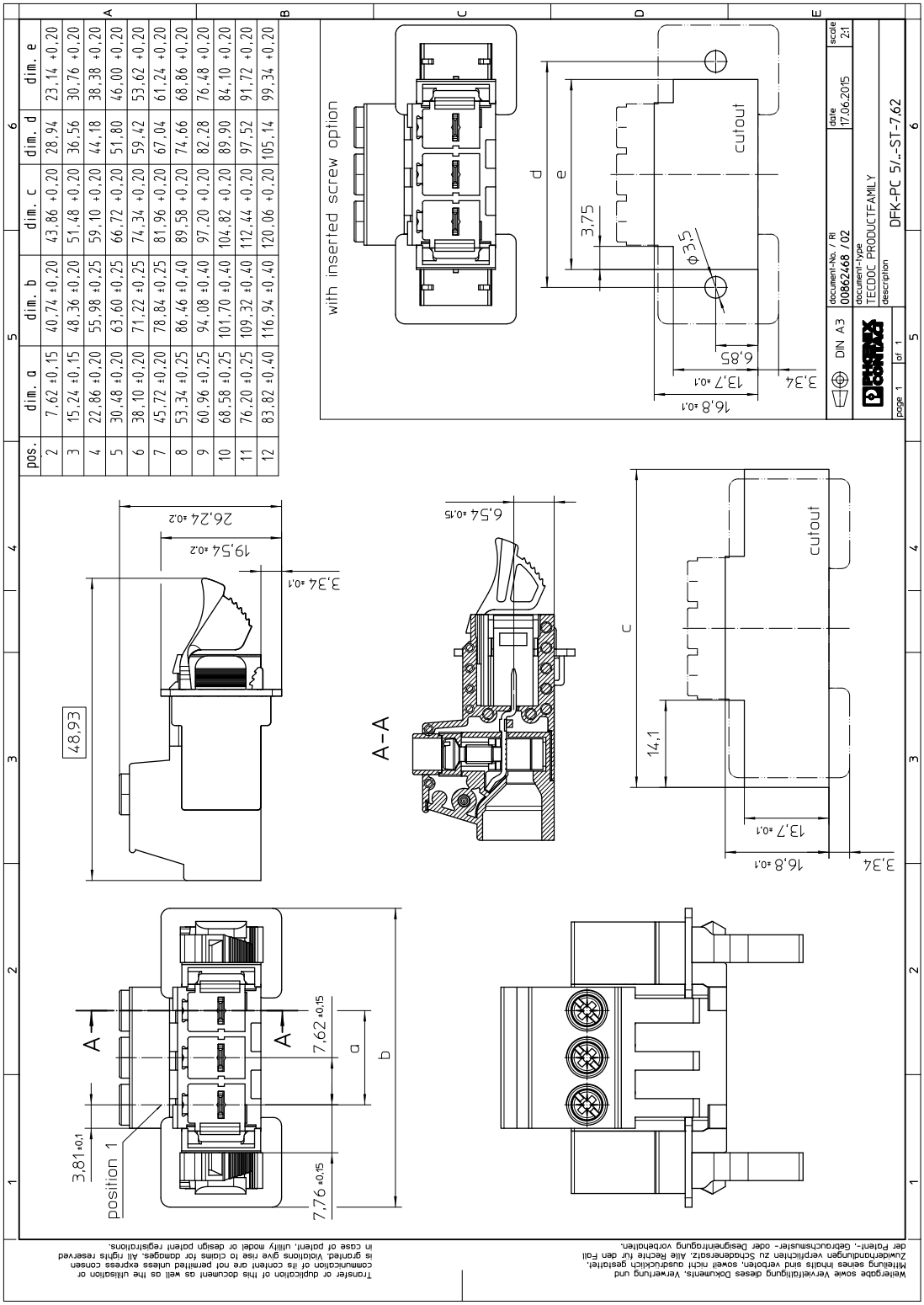
6 Dimensions

6.1 Dimensions for the product

1716506 DFK-PC 5/ 2-ST-7,62

Length	48.93 mm
Width	40.74 mm
Total height	26.24 mm
Dimension a	7.62 mm

7 Series drawing



pos.	dim. a	dim. b	dim. c	dim. d	dim. e
2	7,62 ±0.15	40,74 ±0.20	43,86 ±0.20	28,94	23,14 ±0.20
3	15,24 ±0.15	48,36 ±0.20	51,48 ±0.20	36,56	30,76 ±0.20
4	22,86 ±0.20	55,98 ±0.25	59,10 ±0.20	44,18	38,38 ±0.20
5	30,48 ±0.20	63,60 ±0.25	66,72 ±0.20	51,80	46,00 ±0.20
6	38,10 ±0.20	71,22 ±0.25	74,34 ±0.20	59,42	53,62 ±0.20
7	45,72 ±0.20	78,84 ±0.25	81,96 ±0.20	67,04	61,24 ±0.20
8	53,34 ±0.25	86,46 ±0.40	89,58 ±0.20	74,66	68,86 ±0.20
9	60,96 ±0.25	94,08 ±0.40	97,20 ±0.20	82,28	76,48 ±0.20
10	68,58 ±0.25	101,70 ±0.40	104,82 ±0.20	89,90	84,10 ±0.20
11	76,20 ±0.25	109,32 ±0.40	112,44 ±0.20	97,52	91,72 ±0.20
12	83,82 ±0.40	116,94 ±0.40	120,06 ±0.20	105,14	99,34 ±0.20

8 Packaging information

Type of packaging	packed in cardboard
Pieces per package	10
Outer packaging type	Carton

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)

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	50
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N
Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N
Contact retention in insert	
Specification	
Test force per pos.	

10.1 Termination and connection method

Specification	IEC 60999-1:1999-11
Conductor connection	Test passed
Repeated connection and disconnection	Test passed
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	6 mm^2 / solid / > 80 N
Conductor cross section/conductor type/tractive force actual value	
Conductor cross section/conductor type/tractive force actual value	AWG 10 / stranded / > 80 N

11 Electrical tests

11.1 Electrical data

Rated current / conductor cross section	41 A / 6 mm²
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Contact resistance	0.5 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	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	1000 V	1000 V	1000 V
Rated surge voltage	8 kV	8 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	8 mm	8 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	8 mm	8 mm	5.5 mm

11.3 Electrical function

Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 15 mV
Test current (minimum cross section)	5 A DC
Test current (maximum cross section)	32 A DC
Conductor cross section, flexible	0.2 mm² to 6 mm²
Conductor cross section, solid	0.2 mm² to 10 mm²

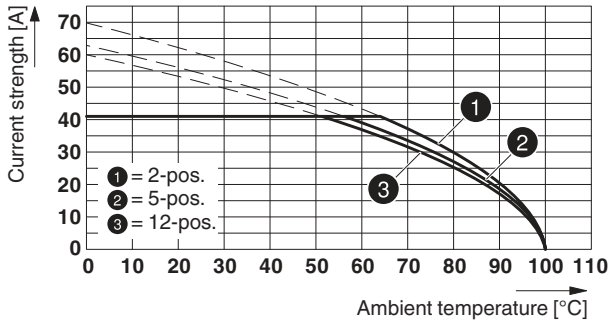
11.4 Temperature cycles

Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 22.5 mV or 1.5 x $U_{\text{after 24 h}}$ The small value is to be used.
Test current (minimum cross section)	5 A DC
Test current (maximum cross section)	32 A DC
Temperature cycles	192
Conductor cross section, flexible	0.2 mm² to 6 mm²
Conductor cross section, solid	0.2 mm² to 10 mm²

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	6 mm²

Type: SPC 5/..-ST-7,62 with DFK-PC 5/..-ST-7,62



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

UL Recognized				
Use group	B	C		
mm^2/AWG/kcmil	24-8	24-8		
Voltage	600 V	600 V		
Current	41 A	41 A		

cUL Recognized				
Use group	B	C		
mm^2/AWG/kcmil	24-8	24-8		
Voltage	600 V	600 V		
Current	41 A	41 A		

EAC

cULus Recognized

16 Commercial Data

Order No.	1716506
Type	DFK-PC 5/ 2-ST-7,62
Pieces per package	10
Net weight	18.18 g
GTIN	4046356137126
	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, for plugging into the coding ribs of the plug at a later date, insulating material, color: Red	1701967	CP-PC RD
Screw set for DFK-PC 16... connectors	1705449	DFK-PC 16-SS
Screwdriver, PZ crosshead, VDE insulated, size: PZ 1 x 80 mm, 2-component grip, with non-slip grip	1206450	SZK PZ1 VDE
	0804549	SK 7,62/3,8:FORTL.ZAHLEN
	0825128	SK 3,8 REEL P7,62 WH CUS
	0803906	SK U/3,8 WH:UNBEDRUCKT
	0805218	SK 3,8 WH:REEL

18 Combination tests

DFK-PC 5/..-ST	SPC 5/..-ST	PC 5/..-ST1		
Specification	IEC 61984	IEC 61984		
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 6 N / 4 N			
Polarization when inserted Requirement >20 N	Test passed			
Durability tests (B)				
Contact resistance R_1	0.5 mΩ			
Insertion/withdrawal cycles	50			
Contact resistance R_2	0.6 mΩ			
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	9.8 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	4.26 kV			
Insulation resistance Requirements > 5 MΩ	> 14 TΩ			
Thermal tests (C)				
Tested number of positions	12			
Tested conductor cross section	6 mm^2			
Test current	32 A DC			
Upper limiting temperature Requirements < 100°C	Test passed			
Climatic tests (D)				
Test sequence 1: low temperature storage	-40 °C/2 h			
Test sequence 2: heat storage	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			
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	9.8 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	4.26 kV			
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10			
Degree of protection	Finger safety with IP20 test finger			