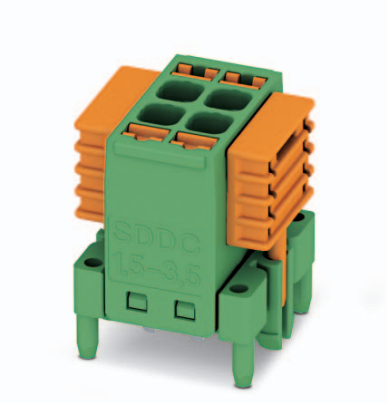
2016-11-11
Product version 00
Document revision 0

Data sheet

Order No.: 1848642

Type: SDDC 1,5/ 2-PV-3,5

Plug component, Push-in spring connection



1 Main features



- Number of positions 2
- Conductor cross section 1.5 mm²
- Color green
- Pitch 3.50 mm
- Connection method Push-in spring connection
- Nominal current 8 A
- Nominal voltage 160 V
- Connection direction 0 °
- Type of packaging packed in cardboard

2 Your advantages

- SKEDD direct plug-in technology enables flexible positioning on the PCB
- Reduced component and process costs: simple insertion by hand and vibration-resistant connection
- Time saving push-in connection, tools not required
- Intuitive use through colour coded actuation lever
- Quick and convenient testing using integrated test option

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1848642

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



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5 Item properties

Order No.	1848642
Type	SDDC 1,5/ 2-PV-3,5
Range of articles	SDDC 1,5/..-PV
Pitch	3.50 mm
Number of positions	2
Connection method	Push-in spring connection
Mounting type	SKEDD - Direct plug-in technology
Pin layout	Linear double pinning

5.1 Connection capacity

Conductor cross section, solid	0.2 mm² to 1.5 mm²
Conductor cross section, flexible	0.2 mm² to 1.5 mm²
Conductor cross section AWG/kcmil	24 to 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² to 1.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.2 mm² to 1 mm²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	8 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

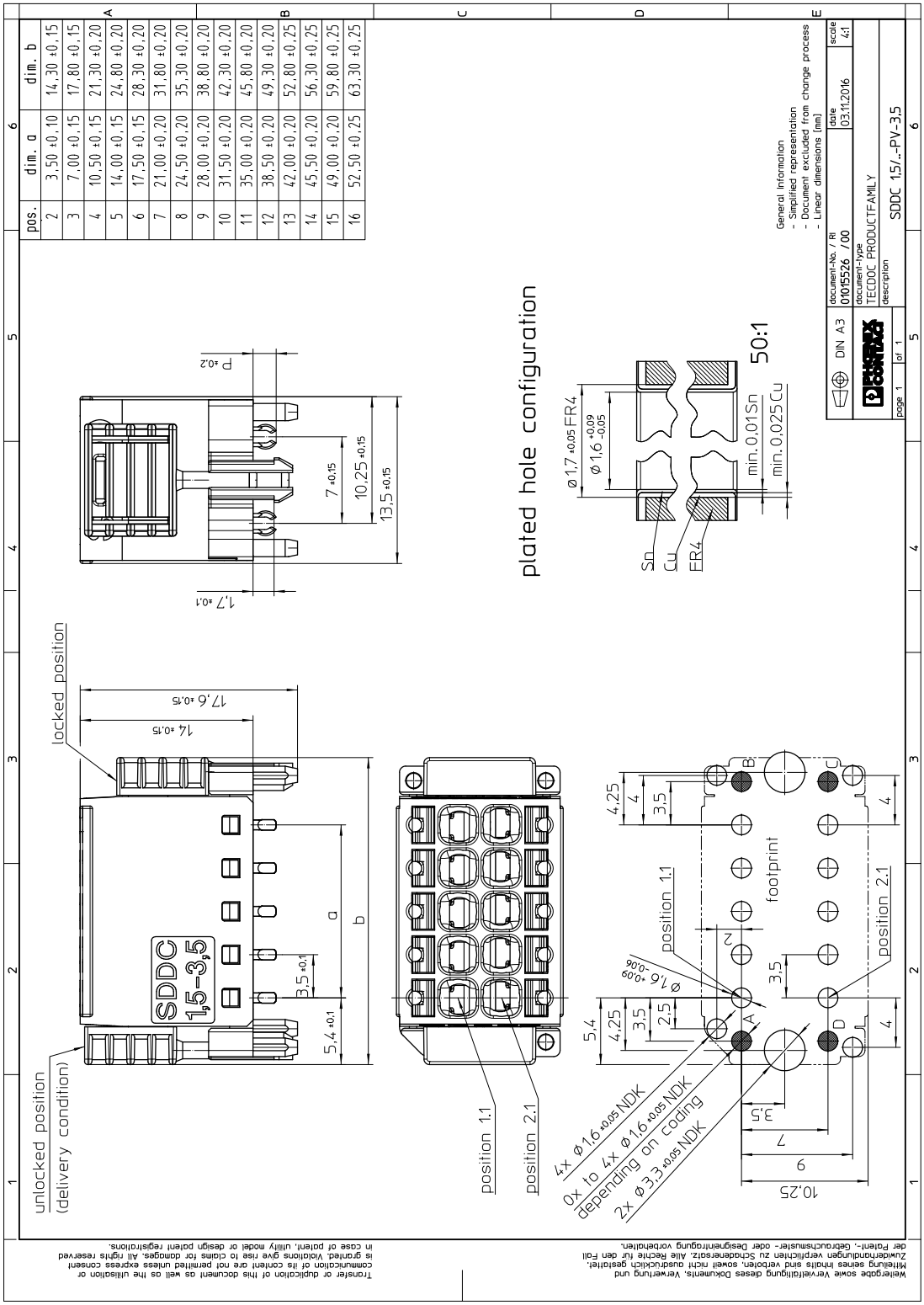
Insulating material data	Housing	Actuation element
Insulating material	PA	PBT
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Color	green (6021)	orange (2003)
Glow wire flammability index GWFI according to EN 60695-2-12	850	
Glow wire ignition temperature GWIT according to EN 60695-2-13	775	
Temperature for the ball pressure test according to EN 60695-10-2	125 °C	

5.3 Dimensions

Dimension a	3.5 mm
Length	13.5 mm
Width	14.3 mm
Total height	17.6 mm
Pin dimensions	0,9 x 2,0 mm
Pin spacing	7.00 mm
Hole diameter	1.6 mm

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6 Series drawing



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7 Packaging information

Type of packaging	packed in cardboard
Pieces per package	250

8 Application

8.1 Temperature limit values

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

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9 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.	6 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.	

9.1 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

9.2 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	1.5 mm² / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm² / stranded / > 40 N
Conductor cross section/conductor type/tractive force actual value	AWG 16 / stranded / > 40 N

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10 Electrical tests

10.1 Electrical data

Rated current / conductor cross section	8 A / 1.5 mm²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.4 mΩ
Degree of pollution	2

10.2 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	160 V	160 V	400 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2 mm	0.8 mm	2 mm

10.3 Electrical function

Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 15 mV
Conductor cross section, flexible	0.2 mm² to 1.5 mm²
Conductor cross section, solid	0.2 mm² to 1.5 mm²

10.4 Temperature cycles

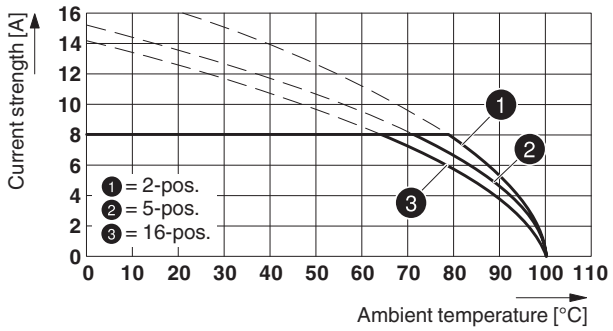
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 22.5 mV or 1.5 x $U_{\text{after 24 h}}$ The small value is to be used.
Test current	4 A DC
Temperature cycles	192
Conductor cross section, flexible	0.2 mm² to 1.5 mm²
Conductor cross section, solid	0.2 mm² to 1.5 mm²

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11 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	1.5 mm²

Type: SDDC 1,5/...-PV-3,5



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12 Environmental and durability tests

12.1 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

13 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

14 Approvals

15 Commercial data

Order No.	1848642
Type	SDDC 1,5/ 2-PV-3,5
Pieces per package	250
Net weight	2.22 g
GTIN	4055626307114
Customs tariff number	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

16 Accessories

Description	Order No.	Type
Coding profile, is inserted into the hole in the plug, red insulating material	1985564	CP-PT 1,5
	0804073	SK 3,5/2,8:FORTL.ZAHLEN
	0825121	SK 2,8 REEL P3,5 WH CUS
	0803883	SK U/2,8 WH:UNBEDRUCKT
	0805205	SK 2,8 WH:REEL
	1944372	MPS-MT 1-S
	1982800	MPS-MT 1-S4-B RD
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

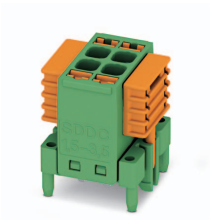
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1848642 SDDC 1,5/ 2-PV-3,5

Description	Order No.	**Type**
	3203037	AI 0,25- 8 YE
	3200014	AI 0,5 - 8 WH
	3200881	AI 0,5 - 8 WH -1000
	3201288	AI 0,75-10 GY
	3200182	AI 1 -10 RD
	3202481	A 0,5 - 8
	3202504	A 0,75- 8
	3200234	A 0,75-10
	3202517	A 1 - 8
	3200250	A 1 -10

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16.1 Combination tests



SDDC 1,5/..-PV

Specification	IEC 61984			
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 8 N / 6 N			
Polarization when inserted Requirement > 20 N	Test passed			
Contact holder in insert Requirements > 20 N				
Endurance tests (B)				
Contact resistance R_1	1.4 mΩ			
Insertion/withdrawal cycles	25			
Contact resistance R_2	1.5 mΩ			
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)	2.95 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV			
Insulation resistance Requirements > 5 MΩ	> 0.2 TΩ			
Thermal tests (C)				
Tested number of positions	16			
Tested conductor cross section	1.5 mm^2			
Test current	8 A			
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)	2.95 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV			
Environmental and endurance tests (E)				
Specification	IEC 60529:1989-11 + AMD 1:1999-11 + AMD 2:2013-08			
Type of protection (when plugged in)	Finger safety above the PCB.			

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