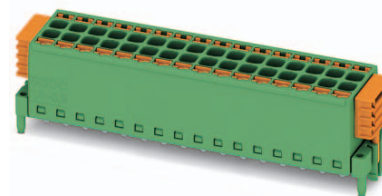


Order No.: 1848781

Type: SDDC 1,5/16-PV-3,5

Plug component, Push-in spring connection



The figure shows a 16-pos. version with 32 contacts

1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 16 | • Nominal current | 8 A |
| • Conductor cross section | 1.5 mm ² | • Nominal voltage | 160 V |
| • Color | green | • Connection direction | 0 ° |
| • Pitch | 3.5 mm | • Type of packaging | packed in cardboard |
| • Connection method | Push-in spring connection | | |

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
- ✓ Contacts arranged in a double row enable high packing density in a compact area
- ✓ Wide range of applications, thanks to suitability for PCBs with chemically tin-plated or Hot Air Leveling (HAL) surface
- ✓ Time saving push-in connection, tools not required
- ✓ Intuitive use through colour coded actuation lever
- ✓ Quick and convenient testing using integrated test option



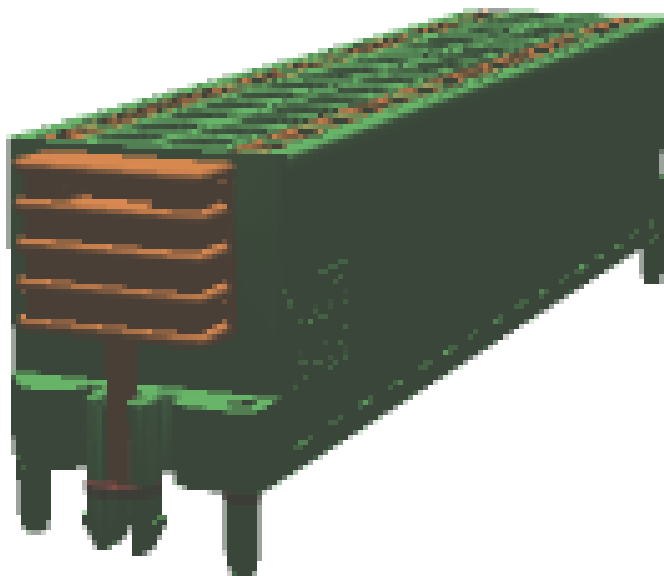
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1848781

1848781 SDDC 1,5/16-PV-3,5**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	5
7	Series drawing.....	6
8	Packaging information	7
9	Application.....	7
	9.1 Temperature limit values	7
10	Mechanical tests.....	8
	10.1 Termination and connection method.....	8
	10.2 Pull-out test	8
11	Electrical tests	9
	11.1 Electrical data	9
	11.2 Air and creepage distances	9
	11.3 Electrical function	9
	11.4 Temperature cycles.....	9
12	Current carrying capacity/derating curves	10
13	Environmental and durability tests	11
	13.1 Vibration test	11
14	Classification for connectors.....	11
15	Approvals	11
16	Commercial Data.....	12
17	Accessories.....	12
18	Combination tests.....	13

1848781 SDDC 1,5/16-PV-3,5

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



1848781 SDDC 1,5/16-PV-3,5**5 item properties**

Order No.	1848781
Type	SDDC 1,5/16-PV-3,5
Range of articles	SDDC 1,5/...-PV
Pitch	3.5 mm
Number of positions	16
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 mm ² to 1.5 mm ²
Conductor cross section, flexible	0.2 mm ² to 1.5 mm ²
Conductor cross section AWG/kcmil	24 to 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² to 1.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.2 mm ² to 1 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	8 mm

5.2 Specifications for ferrules

Ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm Cross section: 1 mm ² ; Length: 8 mm ... 10 mm Cross section: 1.5 mm ² ; Length: 8 mm
Ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.25 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 0.75 mm ² ; Length: 10 mm Cross section: 1 mm ² ; 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	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
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	

6 Dimensions

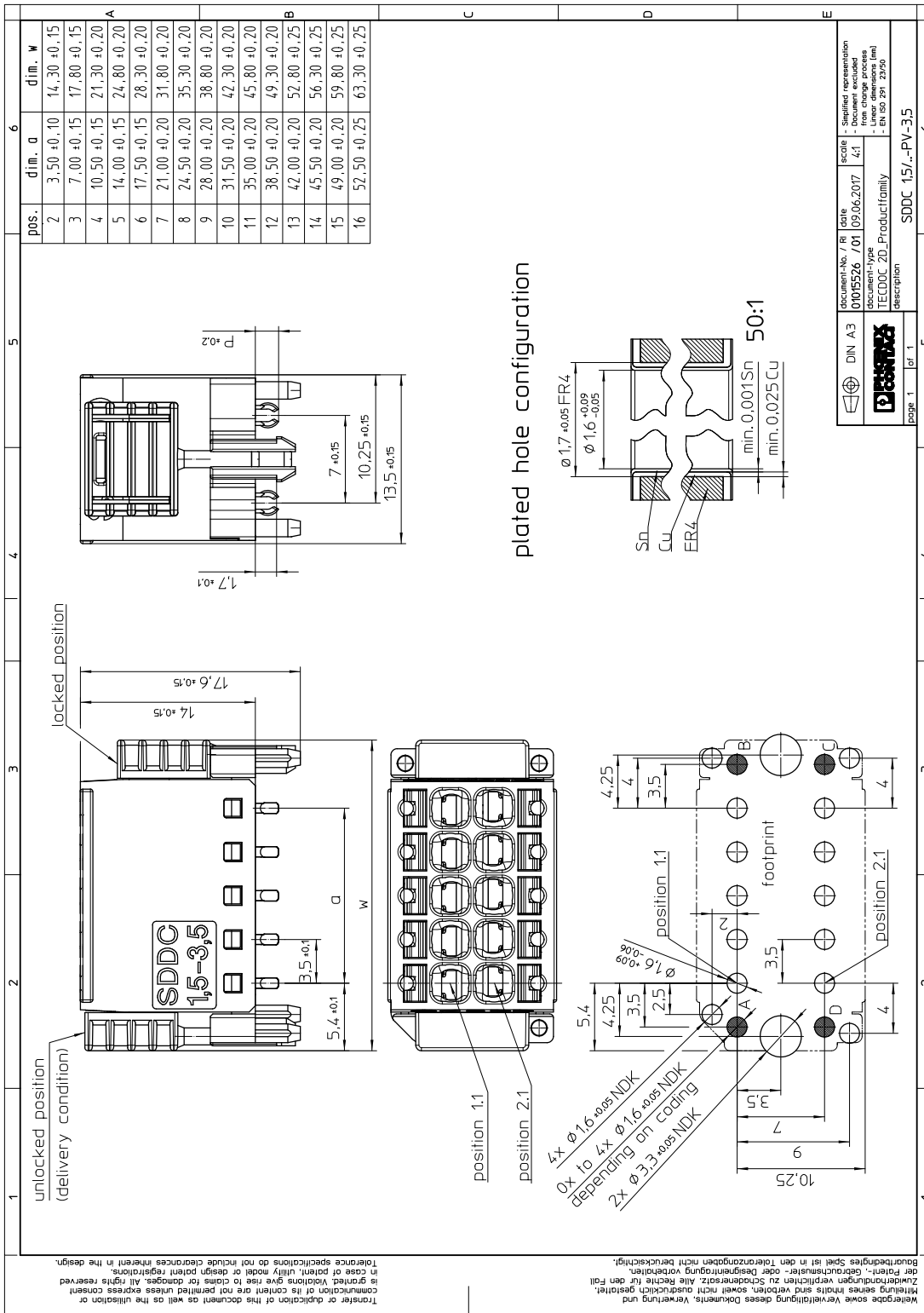
1848781 SDDC 1,5/16-PV-3,5

6.1 Dimensions for the product

Length	13.5 mm
Width	63.30 mm
Total height	17.6 mm
Dimension a	52.50 mm

1848781 SDDC 1,5/16-PV-3,5

7 Series drawing



1848781 SDDC 1,5/16-PV-3,5

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)

1848781 SDDC 1,5/16-PV-3,5**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.	6 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
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	1.5 mm ² / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm ² / stranded / > 40 N
Conductor cross section/conductor type/tractive force actual value	AWG 16 / stranded / > 40 N

1848781 SDDC 1,5/16-PV-3,5**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm ²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.4 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	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	1.5 mm	2 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)	4 A AC
Test current (maximum cross section)	8 A AC
Conductor cross section, flexible	0.2 mm ² to 1.5 mm ²
Conductor cross section, solid	0.2 mm ² to 1.5 mm ²

11.4 Temperature cycles

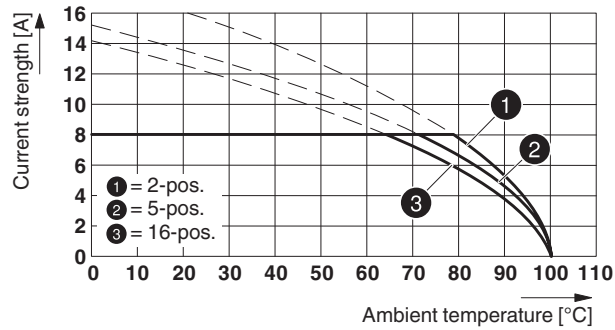
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 22.5 mV or 1.5 x U _{after 24 h} The small value is to be used.
Test current (minimum cross section)	4 A DC
Test current (maximum cross section)	8 A DC
Temperature cycles	192
Conductor cross section, flexible	0.2 mm ² to 1.5 mm ²
Conductor cross section, solid	0.2 mm ² to 1.5 mm ²

1848781 SDDC 1,5/16-PV-3,5

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	1.5 mm ²

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




1848781 SDDC 1,5/16-PV-3,5**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	24-16	24-16		
Voltage	300 V	300 V		
Current	8 A	8 A		

1848781 SDDC 1,5/16-PV-3,5**16 Commercial Data**

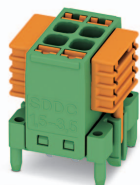
Order No.	1848781
Type	SDDC 1,5/16-PV-3,5
Pieces per package	50
Net weight	2.22 g
GTIN	4055626307558
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 Accessories

Description	Order No.	Type
Coding profile, is inserted into the 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
	3203037	Al 0,25- 8 YE
	3200014	Al 0,5 - 8 WH
	3200881	Al 0,5 - 8 WH -1000
	3201288	Al 0,75-10 GY
	3200182	Al 1 -10 RD
	3201385	Al 1 - 8 RD-B
	3202481	A 0,5 - 8
	3202504	A 0,75- 8
	3200234	A 0,75-10
Ferrules, 1.0 mm ² , taped, sleeve length: 8 mm, with plastic collar, galvanically tin-plated, color: red, color range according to DIN 46228-4, CSA-certified	3202517	A 1 - 8
	3200250	A 1 -10
	3200276	A 1,5 -10

1848781 SDDC 1,5/16-PV-3,5

18 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 Test passed

Endurance tests (B)

Contact resistance R_1 1.4 m Ω

Insertion/withdrawal cycles 25

Contact resistance R_2 1.5 m Ω

Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu\text{s})$ 2.95 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ 1.39 kV

Insulation resistance
Requirements > 5 M Ω > 0.2 T Ω

Thermal tests (C)

Tested number of positions 16

Tested conductor cross section 1.5 mm²

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 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu\text{s})$ 2.95 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$ 1.39 kV

Environmental and endurance tests (E)

Specification IEC 61984:2008-10

Degree of protection Finger safety above the
PCB.