

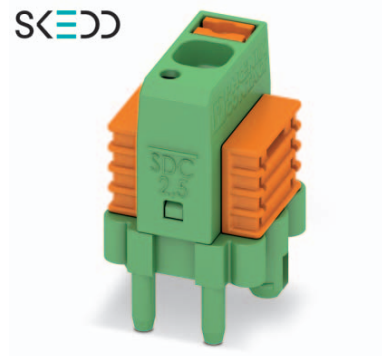
Data sheet

Order No.: 1864024

Type: SDC 2,5/ 1-PV-5,0-ZB

Plug component, Push-in spring connection

SKEDD



1 Main features



- | | | | |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos. | 1 | • Nominal current | 12 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green | • Connection direction | 0° |
| • Pitch | 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
- ✓ 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/1864024

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1864024 SDC 2,5/ 1-PV-5,0-ZB

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



1864024 SDC 2,5/ 1-PV-5,0-ZB**5 item properties**

Order No.	1864024
Type	SDC 2,5/ 1-PV-5,0-ZB
Range of articles	SDC 2,5/...-PV
Pitch	5 mm
Number of positions	1
Connection method	Push-in spring connection
Mounting type	SKEDD - Direct plug-in technology
Pin layout	ZB - Zig-zag back pinning W

5.1 Connection capacity

Conductor cross section, solid	0.2 mm ² to 2.5 mm ²
Conductor cross section, flexible	0.2 mm ² to 2.5 mm ²
Conductor cross section AWG/kcmil	24 to 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² to 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² to 2.5 mm ²
Stripping length	10 mm

5.2 Specifications for ferrules

Ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm ² ; Length: 7 mm Cross section: 0.34 mm ² ; Length: 7 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 Cross section: 2.5 mm ² ; Length: 10 mm
Ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.25 mm ² ; Length: 8 mm Cross section: 0.34 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: 8 mm ... 10 mm Cross section: 1 mm ² ; Length: 8 mm ... 10 mm Cross section: 1.5 mm ² ; Length: 8 mm ... 10 mm Cross section: 2.5 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	Ni 1.5 µm ... 4 µm Sn 4 µm ... 8 µm	
Surface contact area	Ni 1.5 µm ... 4 µm , Sn 4 µm ... 8 µm	
Surface characteristics	Tin-plated	
Insulating material data	Housing	Actuation element
Insulating material	PA	PBT
CTI according to IEC 60112	600	275
Flammability rating according to UL 94	V0	V0
Color	green (6021)	orange (2003)

1864024 SDC 2,5/ 1-PV-5,0-ZB**6 Dimensions****6.1 Dimensions for the product**

Length	15.3 mm
Width	13.18 mm
Height (without solder pin)	21.2 mm
Total height	21.2 mm
Solder pin [P]	4.7 mm
Dimension a	0 mm

6.2 Dimensions for PCB design

Hole diameter	2.4 mm
Pin spacing	10.00 mm

1864024 SDC 2,5/ 1-PV-5,0-ZB**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)

1864024 SDC 2,5/ 1-PV-5,0-ZB**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	2.5 mm ² / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / stranded / > 50 N
Conductor cross section/conductor type/tractive force actual value	AWG 12 / stranded / > 60 N

1864024 SDC 2,5/ 1-PV-5,0-ZB**11 Electrical tests****11.1 Electrical data**

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

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 275		
Rated insulation voltage	200 V	320 V	320 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	3.2 mm	3.2 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)	12 A AC
Conductor cross section, flexible	0.2 mm ² to 2.5 mm ²
Conductor cross section, solid	0.2 mm ² to 2.5 mm ²

11.4 Temperature cycles

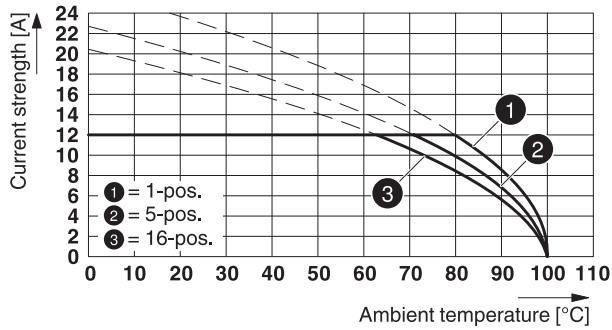
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 22.5 mV or 1.5 x U _{after 24 h} The small value is to be used.
Test current (minimum cross section)	4 A DC
Test current (maximum cross section)	12 A DC
Temperature cycles	192
Conductor cross section,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

1864024 SDC 2,5/ 1-PV-5,0-ZB

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 ²




Type: SDC 2,5/...-PV-5,0-ZB



1864024 SDC 2,5/ 1-PV-5,0-ZB**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 Approvals

VDE approval of drawings 				
mm ² /AWG/kcmil	0.2-2.5			
Voltage	320 V			
Current	12 A			
cULus Recognized 				
Use group	B	C	D	
mm ² /AWG/kcmil	24-12	24-12	24-12	
Voltage	300 V	600 V	300 V	
Current	12 A	12 A	10 A	
IECEE CB Scheme 				

1864024 SDC 2,5/ 1-PV-5,0-ZB**15 Commercial Data**

Order No.	1864024
Type	SDC 2,5/ 1-PV-5,0-ZB
Pieces per package	50
Net weight	1.8 g
GTIN	4055626210322
	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, inserted into the hole on the plug, made from red insulating material, diameter: 1.35 mm	1985564	CP-PT 1,5
	0804183	SK 5/3,8:FORTL.ZAHLEN
	0825124	SK 3,8 REEL P5 WH CUS
	0803906	SK U/3,8 WH:UNBEDRUCKT
	0805218	SK 3,8 WH:REEL
	1944372	MPS-MT 1-S
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
	3202533	Al 2,5 -10 BU
	3202494	A 0,5 -10
	3200234	A 0,75-10
	3200250	A 1 -10
	3200276	A 1,5 -10

1864024 SDC 2,5/ 1-PV-5,0-ZB

17 Combination tests



SDC 2,5/..-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			
Durability tests (B)				
Contact resistance R ₁	1.1 mΩ			
Insertion/withdrawal cycles	25			
Contact resistance R ₂	1.1 mΩ			
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV			
Insulation resistance Requirements > 5 MΩ	> 1 TΩ			
Thermal tests (C)				
Tested number of positions	16			
Tested conductor cross section	2.5 mm ²			
Test current	12 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)	4.8 kV			
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV			
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10			
Degree of protection	Finger safety with IP20 test finger			