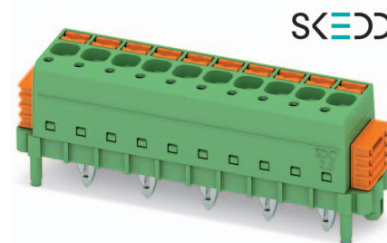


Order No.: 1864095

Type: SDC 2,5/ 8-PV-5,0-ZB

Plug component, Push-in spring connection



The figure shows a 10-position version

## 1 Main features



- |                           |                           |                        |                     |
|---------------------------|---------------------------|------------------------|---------------------|
| • No. of pos.             | 8                         | • Nominal current      | 12 A                |
| • Conductor cross section | 2.5 mm <sup>2</sup>       | • 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/1864095](http://phoenixcontact.net/product/1864095)

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1864095 SDC 2,5/ 8-PV-5,0-ZB

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



**1864095 SDC 2,5/ 8-PV-5,0-ZB****5 item properties**

Order No.	1864095
Type	SDC 2,5/ 8-PV-5,0-ZB
Range of articles	SDC 2,5/...-PV
Pitch	5 mm
Number of positions	8
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 <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil	24 to 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Stripping length	10 mm

**5.2 Specifications for ferrules**

Ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm <sup>2</sup> ; Length: 7 mm Cross section: 0.34 mm <sup>2</sup> ; Length: 7 mm Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.75 mm <sup>2</sup> ; Length: 10 mm Cross section: 1 mm <sup>2</sup> ; Length: 10 mm Cross section: 2.5 mm <sup>2</sup> ; Length: 10 mm
Ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.25 mm <sup>2</sup> ; Length: 8 mm Cross section: 0.34 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 0.75 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 1 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 1.5 mm <sup>2</sup> ; Length: 8 mm ... 10 mm Cross section: 2.5 mm <sup>2</sup> ; Length: 10 mm

**5.3 Material data**

<b>Material of metal parts</b>		
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	
<b>Insulating material data</b>	<b>Housing</b>	<b>Actuation element</b>
Insulating material	PA	PBT
CTI according to IEC 60112	600	275
Flammability rating according to UL 94	V0	V0
Color	green (6021)	orange (2003)

**1864095 SDC 2,5/ 8-PV-5,0-ZB****6 Dimensions****6.1 Dimensions for the product**

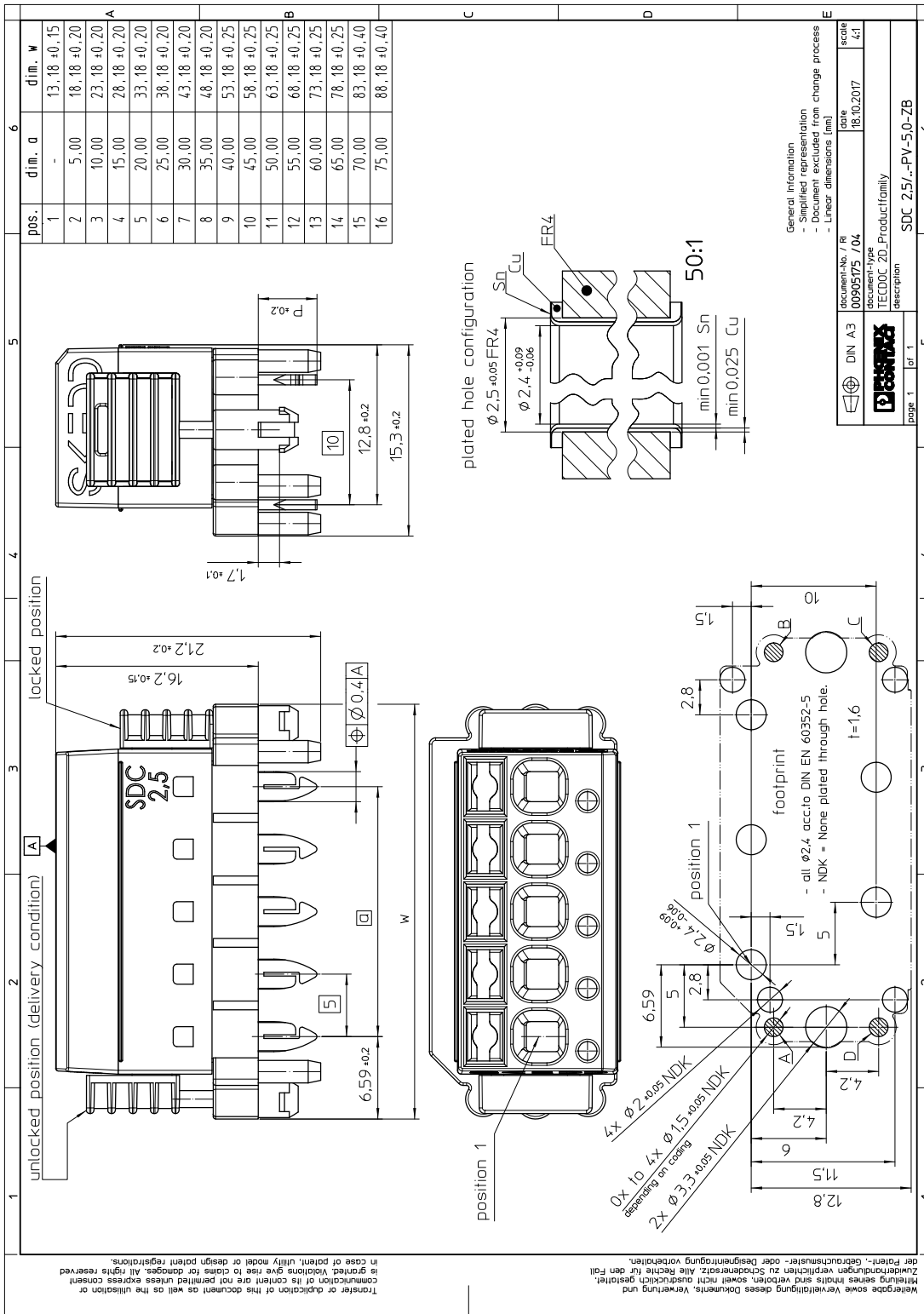
Length	15.3 mm
Width	48.18 mm
Height (without solder pin)	21.2 mm
Total height	21.2 mm
Solder pin [P]	4.7 mm
Dimension a	35 mm

**6.2 Dimensions for PCB design**

Hole diameter	2.4 mm
Pin spacing	10.00 mm

1864095 SDC 2,5/ 8-PV-5,0-ZB

7 Series drawing



General Information

- Simplified representation
- Document excluded from change process
- Linear dimensions (mm)

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00905175 / 04	18.10.2017	1:1
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TECDOC_ZD_Productfamily	SDC 2,5/...PV-5,0-ZB	

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**1864095 SDC 2,5/ 8-PV-5,0-ZB**

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**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)

**1864095 SDC 2,5/ 8-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 <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm <sup>2</sup> / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / solid / > 50 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm <sup>2</sup> / stranded / > 50 N
Conductor cross section/conductor type/tractive force actual value	AWG 12 / stranded / > 60 N



**1864095 SDC 2,5/ 8-PV-5,0-ZB****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	12 A / 2.5 mm <sup>2</sup>
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**

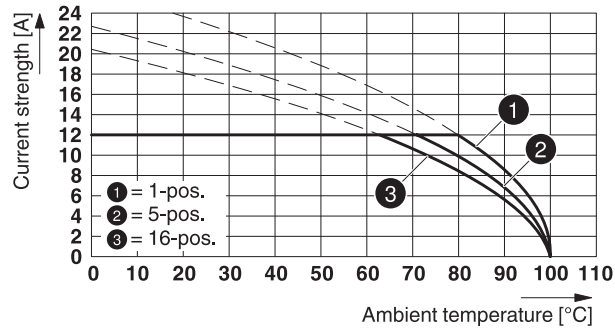
Specification	IEC 60999-1:1999-11
Result	Test passed
Voltage drop	Voltage drop (U) after the load ≤ 15 mV
Test current (minimum cross section)	4 A AC
Test current (maximum cross section)	12 A AC
Conductor cross section, flexible	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section, solid	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>

**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 <sub>after 24 h</sub> 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 <sup>2</sup> to 2.5 mm <sup>2</sup>
Conductor cross section, solid	0.2 mm <sup>2</sup> to 2.5 mm <sup>2</sup>

**1864095 SDC 2,5/ 8-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 <sup>2</sup>

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

**1864095 SDC 2,5/ 8-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 <sup>2</sup> /AWG/kcmil	0.2-2.5		
Voltage	320 V		
Current	12 A		
cULus Recognized 			
Use group	B	D	
mm <sup>2</sup> /AWG/kcmil	24-12	24-12	
Voltage	300 V	300 V	
Current	12 A	10 A	
IECEE CB Scheme 			

**1864095 SDC 2,5/ 8-PV-5,0-ZB****15 Commercial Data**

Order No.	1864095
Type	SDC 2,5/ 8-PV-5,0-ZB
Pieces per package	50
Net weight	10.532 g
GTIN	4055626210391
	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 <sup>2</sup> ... 6.0 mm <sup>2</sup> , 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

## 1864095 SDC 2,5/ 8-PV-5,0-ZB

## 17 Combination tests

SKEDD



## SDC 2,5/..-PV

Specification	IEC 61984			
<b>Mechanical tests (A)</b>				
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			
<b>Durability tests (B)</b>				
Contact resistance R <sub>1</sub>	1.1 mΩ			
Insertion/withdrawal cycles	25			
Contact resistance R <sub>2</sub>	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			
<b>Thermal tests (C)</b>				
Tested number of positions	16			
Tested conductor cross section	2.5 mm <sup>2</sup>			
Test current	12 A			
Upper limiting temperature Requirements < 100°C	Test passed			
<b>Climatic tests (D)</b>				
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 <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 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			
<b>Environmental and endurance tests (E)</b>				
Specification	IEC 61984:2008-10			
Degree of protection	Finger safety with IP20 test finger			