

## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

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PCB direct plug, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 3, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin, mounting: SKEDD - Direct plug-in technology, pin layout: Zigzag pinning W, solder pin [P]: 4.7 mm


Figure shows the 5-pos. version

### 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



### Key Commercial Data

Packing unit	50 pc
GTIN	 4 055626 210346
GTIN	4055626210346

### Technical data

#### Item properties

Brief article description	Direct connector
Plug-in system	SKEDD
Range of articles	SDC 2,5/...-PV
Pitch	5 mm
Number of positions	3
Connection method	Push-in spring connection
Mounting type	SKEDD - Direct plug-in technology
Pin layout	Zigzag pinning W
Number of levels	1
Number of connections	3

# Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

## Technical data

### Item properties

Number of potentials	3
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### Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage	200 V
Rated voltage (III/2)	320 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	4 kV

### Connection capacity

Connection method	Push-in spring connection
pluggable	Yes
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Stripping length	10 mm

### Specifications for ferrules

Recommended crimping pliers	1212045 CRIMPFOX 10S
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
Recommended crimping pliers	1212045 CRIMPFOX 10S
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

### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201
Contact material	Cu alloy

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### Technical data

#### Material data - contact

Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface terminal point (middle layer)	Nickel (1.5 - 4 µm Ni)
Metal surface soldering area (top layer)	Tin (4 - 8 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1.5 - 4 µm Ni)

#### Material data - housing

Housing color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

#### Material data – actuating element

Insulating material	PBT
CTI according to IEC 60112	275
Flammability rating according to UL 94	V0

#### Dimensions for the product

Length [ l ]	15.3 mm
Width [ w ]	23.18 mm
Height [ h ]	21.2 mm
Pitch	5 mm
Height (without solder pin)	16.2 mm
Solder pin [P]	4.7 mm
Pin spacing	10.00 mm

#### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

#### Ambient conditions

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

#### Termination and connection method

Conductor connection test	The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force.
Test result	Test passed
Test – repeated connection and release	IEC 60999-1:1999-11
	Test passed
Test for conductor damage and slackening	IEC 60999-1:1999-11

## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Technical data

#### Termination and connection method

	Test passed
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#### Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

#### Mechanical tests according to standard

Test specification	IEC 61984
Visual inspection	IEC 60512-1-1:2002-02
Dimension check	IEC 60512-1-2:2002-02
Resistance of inscriptions	IEC 60068-2-70:1995-12
Insertion and withdrawal force	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	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	20 N

#### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	3 mm
Minimum clearance - inhomogeneous field (III/2)	3 mm
Minimum clearance - inhomogeneous field (II/2)	3 mm
Minimum creepage distance value (III/3)	3.2 mm
Minimum creepage distance value (III/2)	3.2 mm
Minimum creepage distance value (II/2)	3.2 mm

#### Electrical tests - Function

Specification	IEC 60999-1:1999-11
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#### Temperature cycles

Specification	IEC 60999-1:1999-11
Test current (minimum cross section)	4 A DC
Test current (maximum cross section)	12 A DC
Temperature cycles	192

#### Current carrying capacity / derating curves

Caption	Type: SDC 2,5/...-PV-5,0-ZB
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## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Technical data

#### Current carrying capacity / derating curves

Specification	IEC 61984:2008-10
Reduction factor	0.8

#### Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

#### Durability tests (B)

Specification	IEC 60512-9-1:2010-03
Contact resistance R <sub>1</sub>	1.1 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.1 mΩ
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 1 TΩ

#### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	16
Conductor cross section	2.5 mm <sup>2</sup>
Test current	12 A
Upper limiting temperature requirements <100 °C	Test passed

#### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV

#### Environmental and durability tests (E)

Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

#### Standards and Regulations

Connection in acc. with standard	EN-VDE
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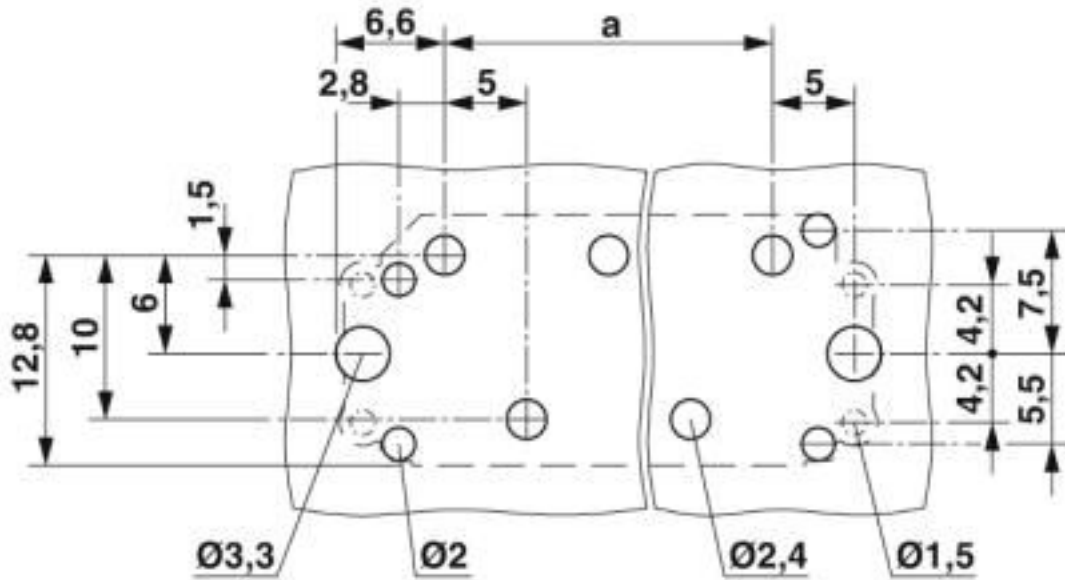
#### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

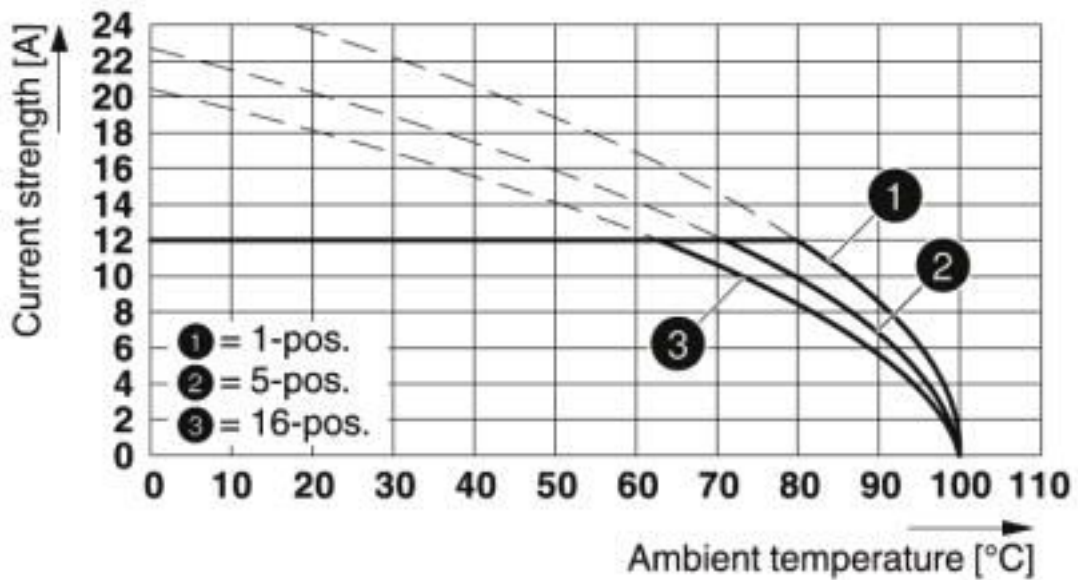
## Drawings

Drilling diagram



Size of the PCB: 1.6 mm

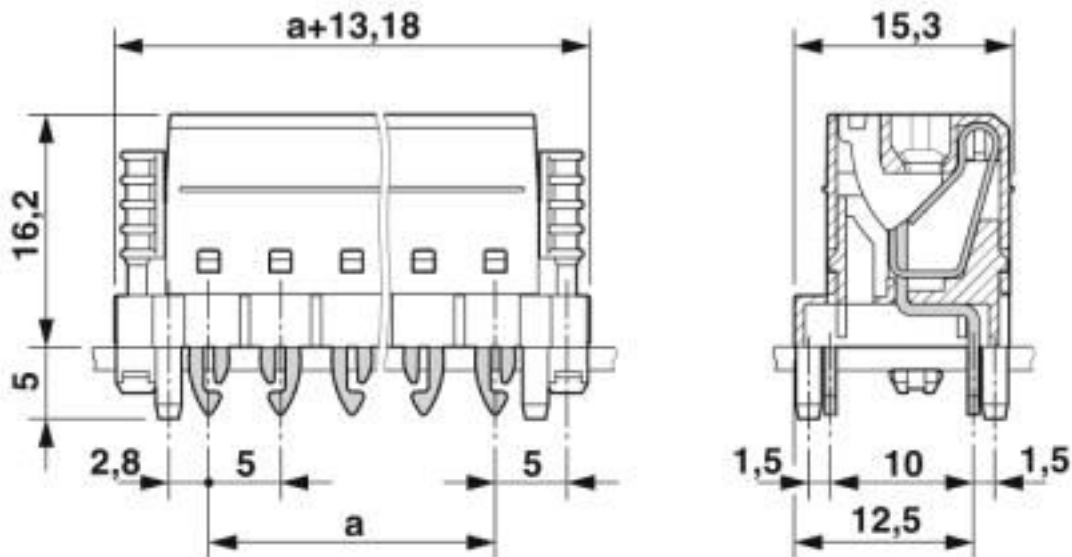
Diagram



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

# Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

Dimensional drawing



## Classifications

eCl@ss

eCl@ss 10.0.1	27440309
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27260700
eCl@ss 5.1	27260700
eCl@ss 6.0	27260700
eCl@ss 7.0	27440309
eCl@ss 8.0	27440309
eCl@ss 9.0	27440309

ETIM

ETIM 5.0	EC002637
ETIM 6.0	EC002638
ETIM 7.0	EC002638

UNSPSC

UNSPSC 13.2	39121432
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals

Approvals

# Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

## Approvals

### Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / cULus Recognized / EAC

### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-63213
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VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40044617
Nominal voltage UN	320 V		
Nominal current IN	12 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-20160718
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	12 A	10 A	
mm <sup>2</sup> /AWG/kcmil	24-12	24-12	

EAC		B.01687
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## Accessories

Accessories

Cable end sleeve



## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Accessories

Ferrule - AI 0,5 -10 WH - 3201275



Ferrule, sleeve length: 10 mm, length: 16 mm, color: white

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Ferrule - AI 0,75-10 GY - 3201288



Ferrule, sleeve length: 10 mm, length: 16 mm, color: gray

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Ferrule - AI 1 -10 RD - 3200182



Ferrule, sleeve length: 10 mm, length: 16 mm, color: red

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Ferrule - AI 1,5 -10 BK - 3200195



Ferrule, sleeve length: 10 mm, length: 16 mm, color: black

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Ferrule - AI 2,5 -10 BU - 3202533



Ferrule, sleeve length: 10 mm, length: 17 mm, color: blue

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## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Accessories

Ferrule - A 0,5 -10 - 3202494



Ferrule, length: 10 mm, color: silver

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Ferrule - A 0,75-10 - 3200234



Ferrule, length: 10 mm, color: silver

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Ferrule - A 1 -10 - 3200250



Ferrule, length: 10 mm, color: silver

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Ferrule - A 1,5 -10 - 3200276



Ferrule, length: 10 mm, color: silver

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### Coding element

Coding profile - CP-PT 1,5 - 1985564

Coding profile, inserted into the hole on the plug, made from red insulating material, diameter: 1.35 mm



### Crimping tool

## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Accessories

Crimping pliers - CRIMPFOX 6 - 1212034



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

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### Labeled terminal marker

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

Marker card - SK 3,8 REEL P5 WH CUS - 0825124



Marker card, Card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 3.8#mm

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### Terminal marking

Marker card - SK U/3,8 WH:UNBEDRUCKT - 0803906



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440

Marker strip - SK 3,8 WH:REEL - 0805218



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 90000 mm, lettering field size: continuous x 3.8#mm, Number of individual labels: 210000

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### Test plug terminal block

## Direct connector - SDC 2,5/ 3-PV-5,0-ZB - 1864040

### Accessories

Test plugs - MPS-MT 1-S - 1944372



Test plug, consisting of 1.0 mm Ø test pin and 2.0 mm Ø socket

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