

# SOL-SC-1ST-0-DC-2MPPT-1001 - String combiner box (SCB)



2404299

<https://www.phoenixcontact.com/us/products/2404299>

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String combiner box (SCB); MPP voltage: 1000 V DC; number of strings: 1; number of supported MPP trackers: 2; surge protection: T1 / T2; equipment: without special equipment; type of cable entry: SUNCLIX; scope of supply: DC connector for connecting the SCB

## Product description

The Solarline string combiner boxes (SCBs) are used in both small rooftop systems and large ground-mounted systems. The main tasks of the SCBs are the surge protection of the photovoltaic system, collecting strings (if necessary), and looping through the protective equipotential bonding conductor for the local equipotential bonding.

Further functions are optional and depend on the equipment.

Examples of optional functions include protecting the strings with string fuses and disconnecting the strings via DC switch disconnectors or DC fire department switches.

You can determine the full scope of functions of the SCB from its item designation (see the application note for the type key of the SCB, which can be downloaded in the "Downloads" area).

## Your advantages

- Fast installation and startup
- Standard-compliant switchgear and controlgear assembly, thanks to use of DIN EN 61439
- Large portfolio of string combiner boxes in stock
- Application-oriented consultation

## Commercial data

Item number	2404299
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DTHTAA
GTIN	4055626396248
Weight per piece (including packing)	2,358 g
Weight per piece (excluding packing)	2,000 g
Country of origin	DE

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## Technical data

### Product properties

Product type	String combiner box (SCB)
Scope of supply	DC connector for connecting the SCB
Design	without special equipment

### Insulation characteristics

Protection class	II
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### Electrical properties

#### General

MPP voltage $U_n$	max. 1000 V DC
Open-circuit voltage $U_{OC}$	max. 1100 V DC
Current per string $I_{max}$	max. 40 A

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact, floating

#### Surge protection

EN type	T1 / T2
IEC test classification	T1 / T2
Protection level $U_p$	$\leq 3.5$ kV
Total discharge current $I_{Total}$ (10/350) $\mu s$	5 kA
Total discharge current $I_{Total}$ (8/20) $\mu s$	40 kA
Short-circuit current rating $I_{SCPV}$	40 A

### Input data

#### DC

Number of inputs (Strings per MPP tracker)	1
Number of supported MPP trackers	2

### Output data

#### DC

Number of outputs (MPP tracker)	2
Number of outputs ( $\pm$ per MPP tracker)	1

### Connection data

#### DC input

Type of cable entry	SUNCLIX
Cable cross-section range	2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

Lightning protection equipotential bonding & ground conductor

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Type of cable entry	Cable gland
Connection method	Screw connection
Cable cross section	2x 16 mm <sup>2</sup>
External cable diameter	2x 6 mm ... 12 mm

## DC output

Type of cable entry	SUNCLIX
Cable cross-section range	2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>

## Remote fault indicator contact

Connection method	Plug-in/screw connection via COMBICON
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

## Dimensions

### Housing

Width	180 mm
Height	180 mm
Depth	111 mm

## Material specifications

Material Housing	Polycarbonate
Material Cover/door	Polycarbonate (transparent)
Flammability rating according to UL 94	V2

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
Impact strength	IK08
Ambient temperature (operation)	-20 °C ... 55 °C
Solar radiation conditions	Outdoor installation - without direct sunlight

## Standards and regulations

Standard designation	Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies
Standards/specifications	EN 61439-2

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## Drawings

Dimensional drawing



Housing dimensions

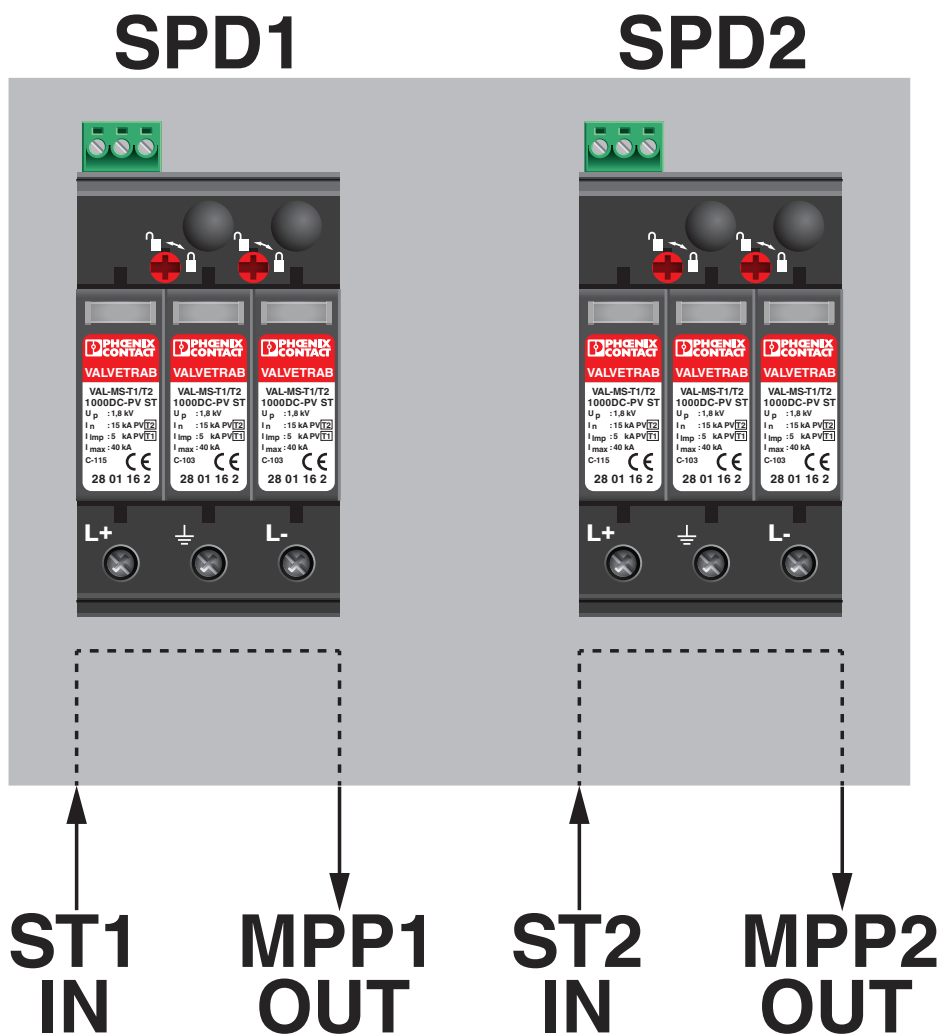
# SOL-SC-1ST-0-DC-2MPPT-1001 - String combiner box (SCB)



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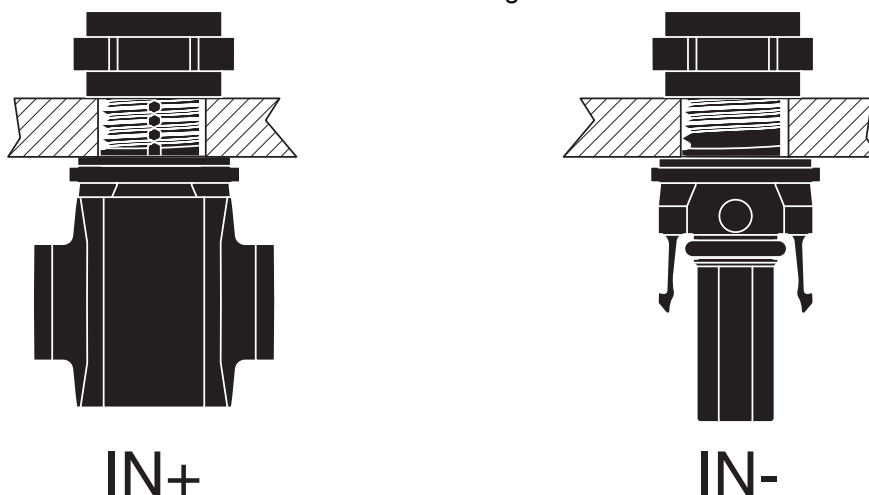
<https://www.phoenixcontact.com/us/products/2404299>

Connection diagram



Schematic application drawing

Schematic diagram



Connection of the PV strings

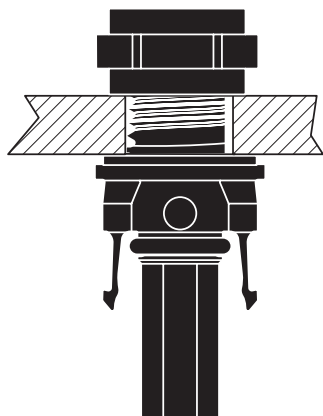
# SOL-SC-1ST-0-DC-2MPPT-1001 - String combiner box (SCB)



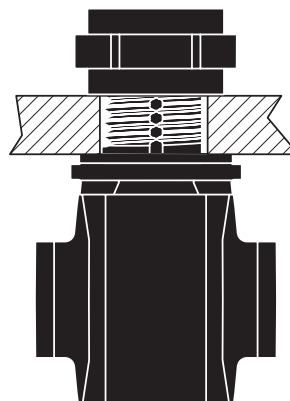
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Schematic diagram



OUT+



OUT-

Connection to the inverter

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Schematic diagram



Connection of the protective grounding conductor

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Schematic diagram



Connection of the protective equipotential bonding conductor

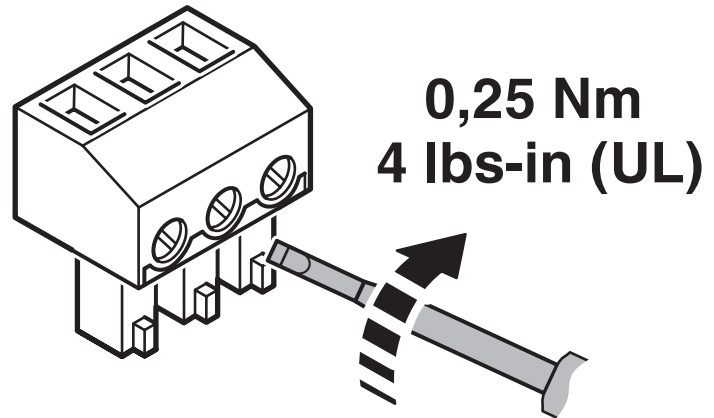
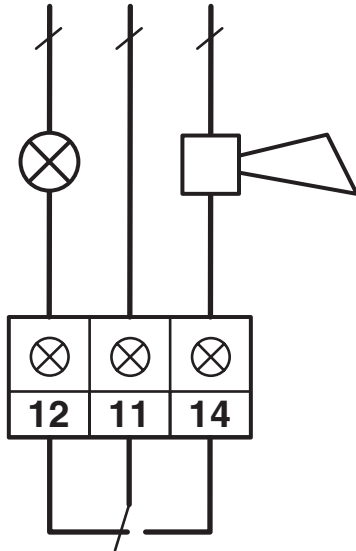
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Schematic diagram



Connection of the remote indication contact on the surge protection

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## Classifications

### ECLASS

ECLASS-13.0	27171490
ECLASS-15.0	22570203

### ETIM

ETIM 10.0	EC003857
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### UNSPSC

UNSPSC 21.0	39121100
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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