

SOL-SC-4ST-0-DC-1MPPT-1011 - String combiner box (SCB)



2403335

<https://www.phoenixcontact.com/us/products/2403335>

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String combiner box for photovoltaic systems up to 1,000 V DC for connecting 1x 4 strings. With surge protection (type 1/2), string fuses for the positive and negative side, and SUNCLIX DC connectors for the input and output side (SUNCLIX mating connectors supplied as standard).

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 PV 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 type key in the SCB packing slip, 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
- Application-oriented consultation
- Large portfolio of string combiner boxes in stock

Commercial data

Item number	2403335
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DTHTAA
GTIN	4055626369099
Weight per piece (including packing)	2,658 g
Weight per piece (excluding packing)	2,100 g
Country of origin	DE

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Technical data

Product properties

Product type	String combiner box (SCB)
Scope of delivery	SUNCLIX DC connector for connecting the SCB
Design	Fuse holder

Insulation characteristics

Protection class	II
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Electrical properties

General

MPP voltage U_N	max. 1000 V DC
Non-load voltage U_{OC}	max. 1100 V DC
Current per string I_{max}	max. 10 A
Total current MPP tracker	max. 40 A

Surge protection

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

Input data

DC

Number of inputs: Strings	4 (per MPP tracker)
Number of supported MPP trackers	1

String

String fuse	Midget / 10.3 x 38 (Not included in the scope of supply)
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Output data

DC

Number of outputs: MPP tracker	1
Number of outputs: \pm	1 (per MPP tracker)

Connection data

DC input

Type of cable entry	SUNCLIX
Cable cross section	2.5 mm ² ... 6 mm ²

Protective bonding and protective grounding conductor

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

DC output

Type of cable entry	SUNCLIX
Cable cross section	2.5 mm ² ... 6 mm ²

Dimensions

Housing

Width	254 mm
Height	180 mm
Depth	111 mm

Material specifications

Material Housing	Polycarbonate
Material Cover/door	Polycarbonate (transparent)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
Ambient temperature (operation)	-20 °C ... 55 °C

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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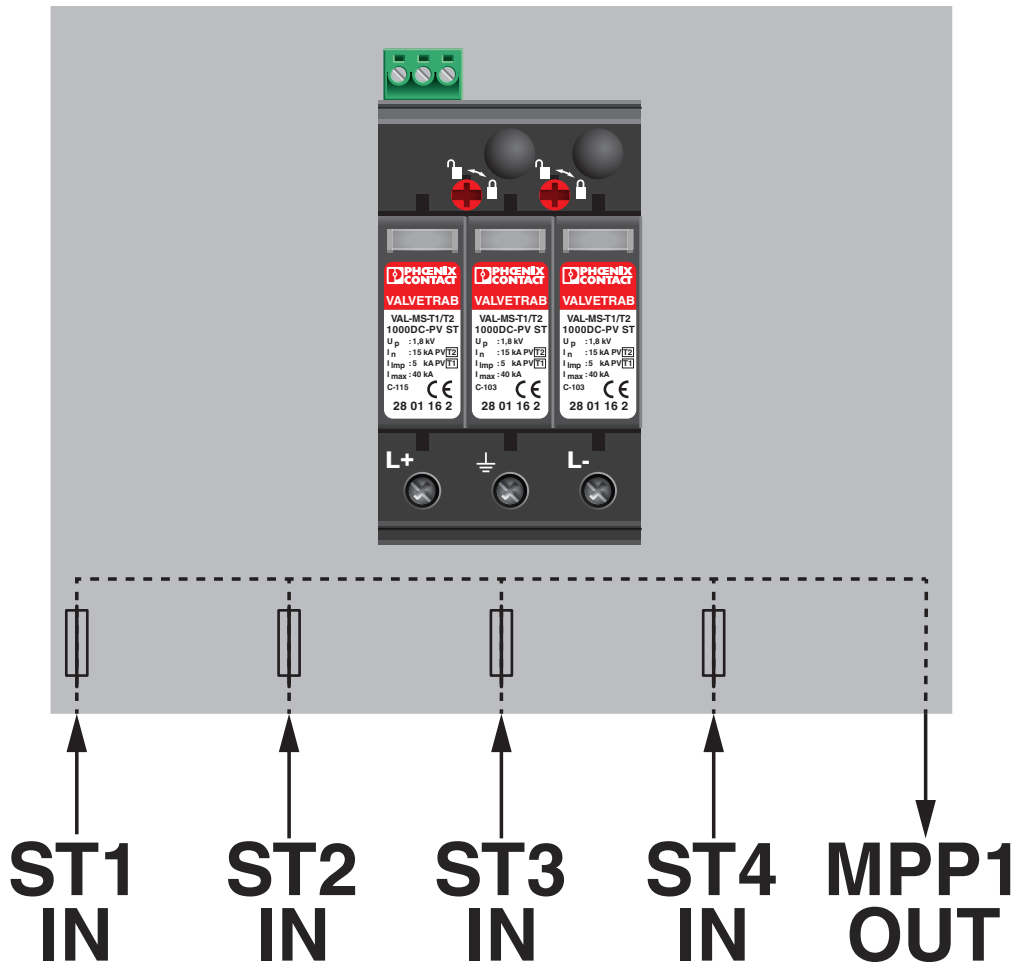
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Drawings

Connection diagram

SPD1



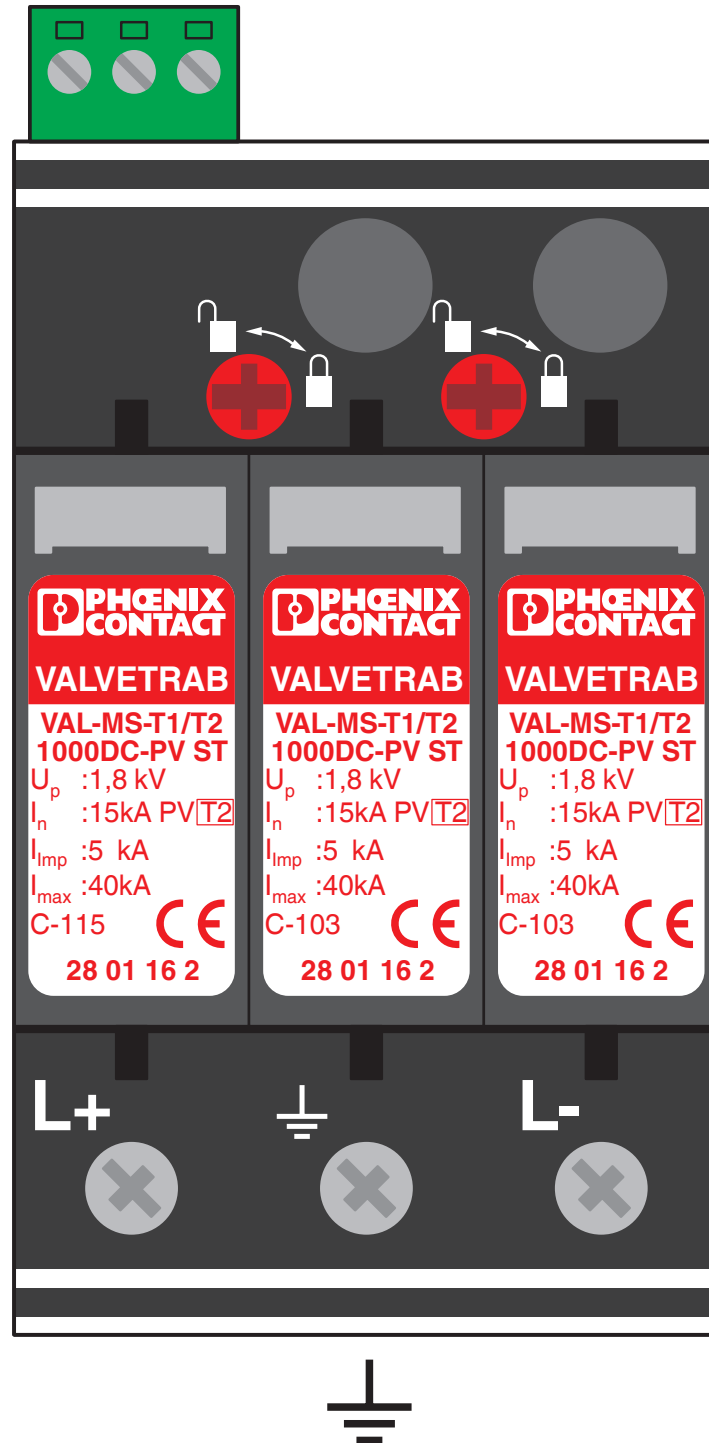
Schematic application drawing

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Schematic diagram



Connection of the protective grounding conductor on the surge protection

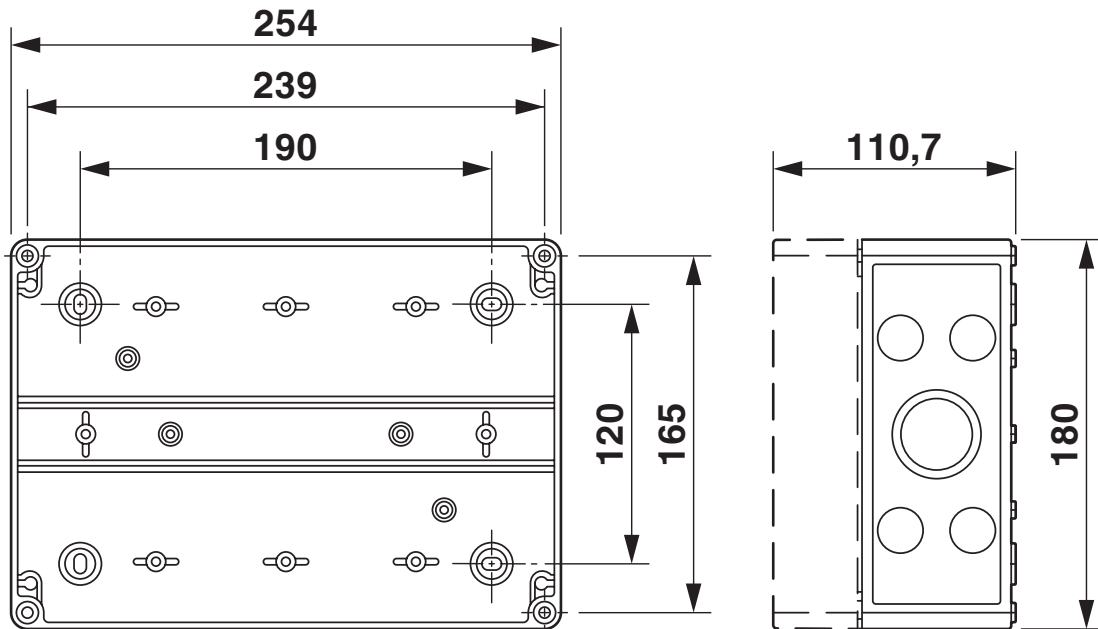
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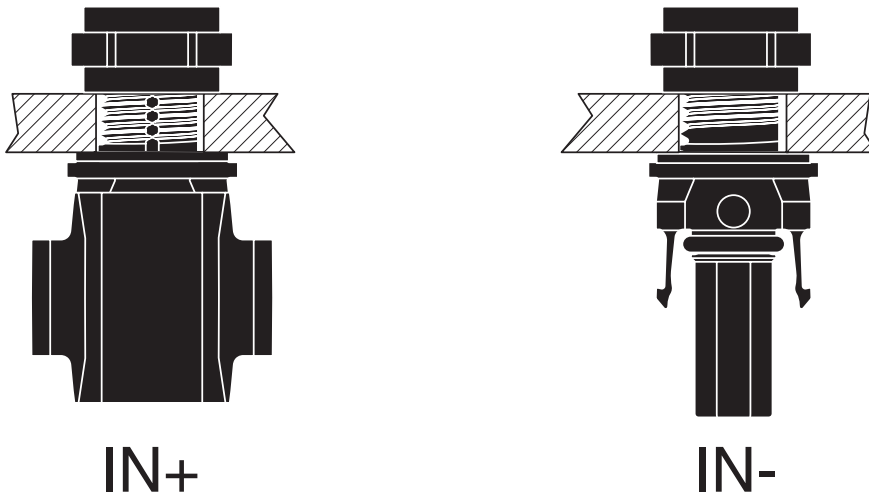
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Dimensional drawing



Housing dimensions

Schematic diagram



Connection of the PV strings

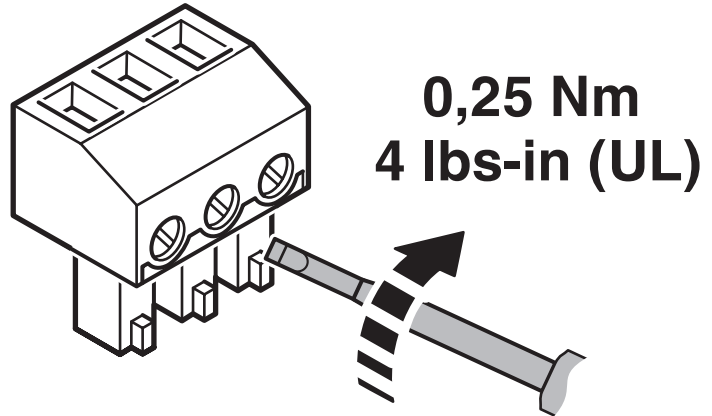
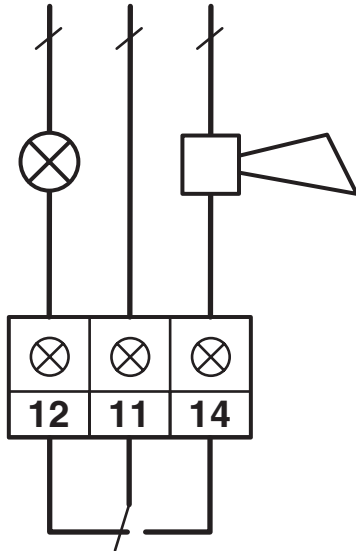
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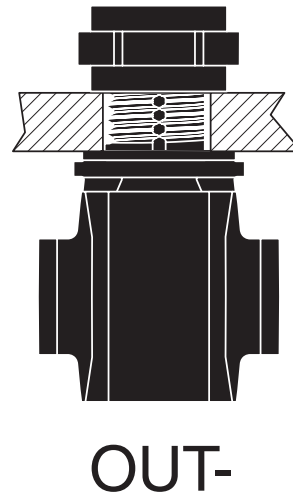
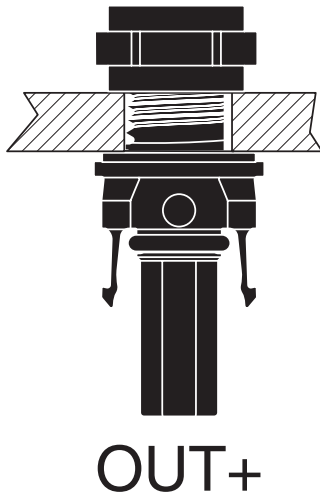
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Schematic diagram



Connection of the remote indication contact on the surge protection

Schematic diagram



Connection to the inverter

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Classifications

ECLASS

ECLASS-11.0	27142422
ECLASS-13.0	27171490

ETIM

ETIM 9.0	EC003857
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UNSPSC

UNSPSC 21.0	39121100
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Accessories

SOL-WR-2518-AISI304 - Weather protection cover

1579290

<https://www.phoenixcontact.com/us/products/1579290>



Canopy to protect the string combiner box (SCB) from environmental influences when installed outdoors, made of stainless steel, with M8 grounding bolt on the back, incl. mounting material for SCB and grounding cable.

VAL-MS-T1/T2 1000DC-PV-ST - Type 1/2 surge protection plug

2801162

<https://www.phoenixcontact.com/us/products/2801162>



Replacement plug for PV arrester combinations from the VAL-MS-T1/T2 1000DC-PV-... product range

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PV-C PROTECTION CAP - Protective cap

1785430

<https://www.phoenixcontact.com/us/products/1785430>

Protective cap, Range of articles: Sunclix, color: black. self-sealing, without interlock, set consisting of: 1 protective cap for connector side and 1 protective cap for coupling side



PV-C4F-S 6-16 (+) - Connector

1284634

<https://www.phoenixcontact.com/us/products/1284634>

Connector, Range of articles: SUNCLIX, housing material: PPE, color: black, number of positions: 1, min. conductor cross section: 6 mm², max. conductor cross section: 16 mm², rated voltage: 1500 V DC, rated current: 60 A, Connection method: Spring-cage, Contact connection type: Socket, min. cable diameter: 5.5 mm, max. cable diameter: 10 mm



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PV-C4M-S 6-16 (-) - Connector

1284632

<https://www.phoenixcontact.com/us/products/1284632>



Connector, Range of articles: SUNCLIX, housing material: PPE, color: black, number of positions: 1, min. conductor cross section: 6 mm², max. conductor cross section: 16 mm², rated voltage: 1500 V DC, rated current: 60 A, Connection method: Spring-cage, Contact connection type: Pin, min. cable diameter: 5.5 mm, max. cable diameter: 10 mm

PV-ED6/Y-120(2+/1-) - Photovoltaic Y-distributor

1030649

<https://www.phoenixcontact.com/us/products/1030649>



Photovoltaic Y-distributor, Range of articles: Sunclix, housing material: PPE, color: black

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PV-C3F-S 2,5-6 (+) - Connector

1386381

<https://www.phoenixcontact.com/us/products/1386381>



Connector, Range of articles: Sunclix, housing material: PPE, color: black, number of positions: 1, min. conductor cross section: 2.5 mm², max. conductor cross section: 6 mm², rated voltage: 1100 V DC, rated current: 35 A, Connection method: Spring-cage, Contact connection type: Socket, min. cable diameter: 5.5 mm, max. cable diameter: 8 mm. Follow-up item to 1774674

PV-ED6/Y-120(1+/2-) - Photovoltaic Y-distributor

1030650

<https://www.phoenixcontact.com/us/products/1030650>



Photovoltaic Y-distributor, Range of articles: Sunclix, housing material: PPE, color: black

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PV-C3M-S 2,5-6 (-) - Connector

1386384

<https://www.phoenixcontact.com/us/products/1386384>



Connector, Range of articles: Sunclix, housing material: PPE, color: black, number of positions: 1, min. conductor cross section: 2.5 mm², max. conductor cross section: 6 mm², rated voltage: 1100 V DC, rated current: 35 A, Connection method: Spring-cage, Contact connection type: Pin, min. cable diameter: 5.5 mm, max. cable diameter: 8 mm. Follow-up item to 1774687

PV-AS-MC4/6-150-MN-SET1 - Photovoltaic adapter set

1079531

<https://www.phoenixcontact.com/us/products/1079531>



Photovoltaic adapter set, Range of articles: Sunclix, design: Adapter, housing material: PPE, color: black, rated current: 35 A, cable length: 150. Connect these connectors only to other connectors of the same type made by the same manufacturer. When making the connections, always observe the specifications regarding nominal voltage and nominal current. The smallest common value is permissible.

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TOOL-KIT SOLAR - Tool set

1212071

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Tool case, equipped with: crimping pliers, pressing dies for MC3, MC4 and SOLARLOK connectors, stripping tool for commercially available solar cables, stripping tool for SUNCLIX, VDE cable cutter, VDE screwdriver: PH1, PH2, 0.6x3.5 and 0.8x4.0 slots.

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