

SOL-SC-1ST-0-DC-4MPPT-1001SE - String combiner box (SCB)



1029990

<https://www.phoenixcontact.com/in/products/1029990>

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String combiner box for photovoltaic systems up to 1000 V DC for connecting 4x 1 string. With surge protection (type 1/2) and SUNCLIX DC connector for the input and output side.

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	1029990
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	*****
Product key	DTHTAA
GTIN	4055626532455
Weight per piece (including packing)	5,078 g
Weight per piece (excluding packing)	5,078 g
Customs tariff number	85363030
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

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. 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) μs	5 kA
Total discharge current I_{total} (8/20) μs	40 kA
Short-circuit current rating I_{SCPV}	40 A

Input data

DC

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

Output data

DC

Number of outputs: MPP tracker	4
Number of outputs: \pm	1 (Per MPP tracker)

Connection data

DC input

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

Protective bonding and protective grounding conductor

Type of cable entry	Cable gland
Connection method	Screw connection
Cable cross-section range:	2x 16 mm ²

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External cable diameter	6 mm ... 12 mm
DC output	
Type of cable entry	SUNCLIX
Cable cross-section range:	2.5 mm ² ... 6 mm ²

Dimensions

Housing

Width	361 mm
Height	254 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

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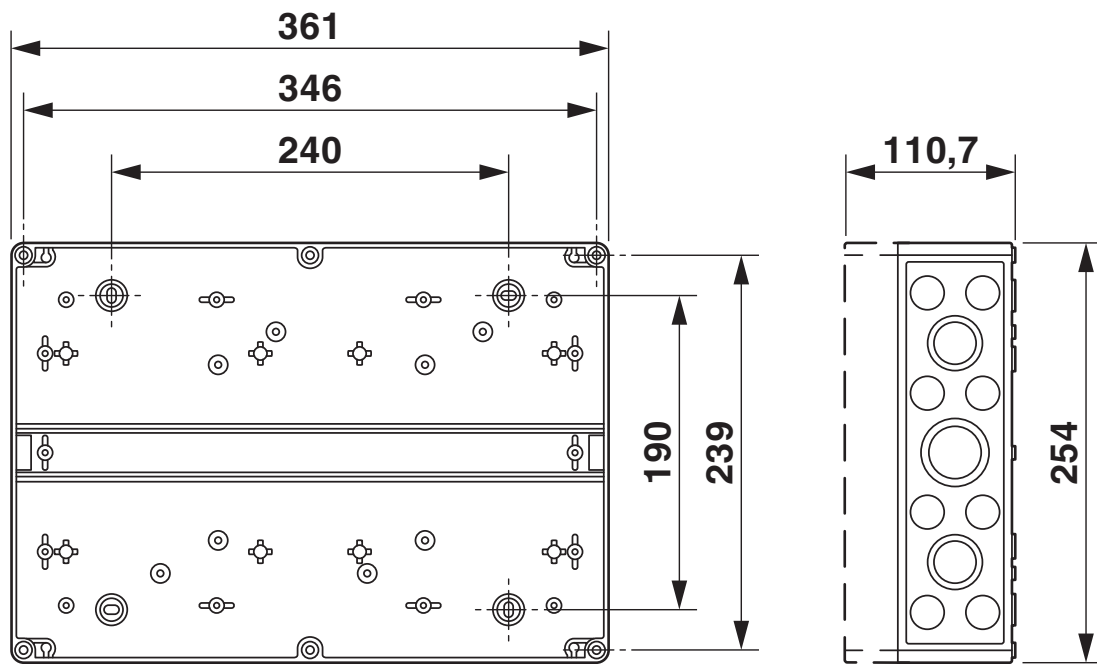


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Drawings

Dimensional drawing



Housing dimensions

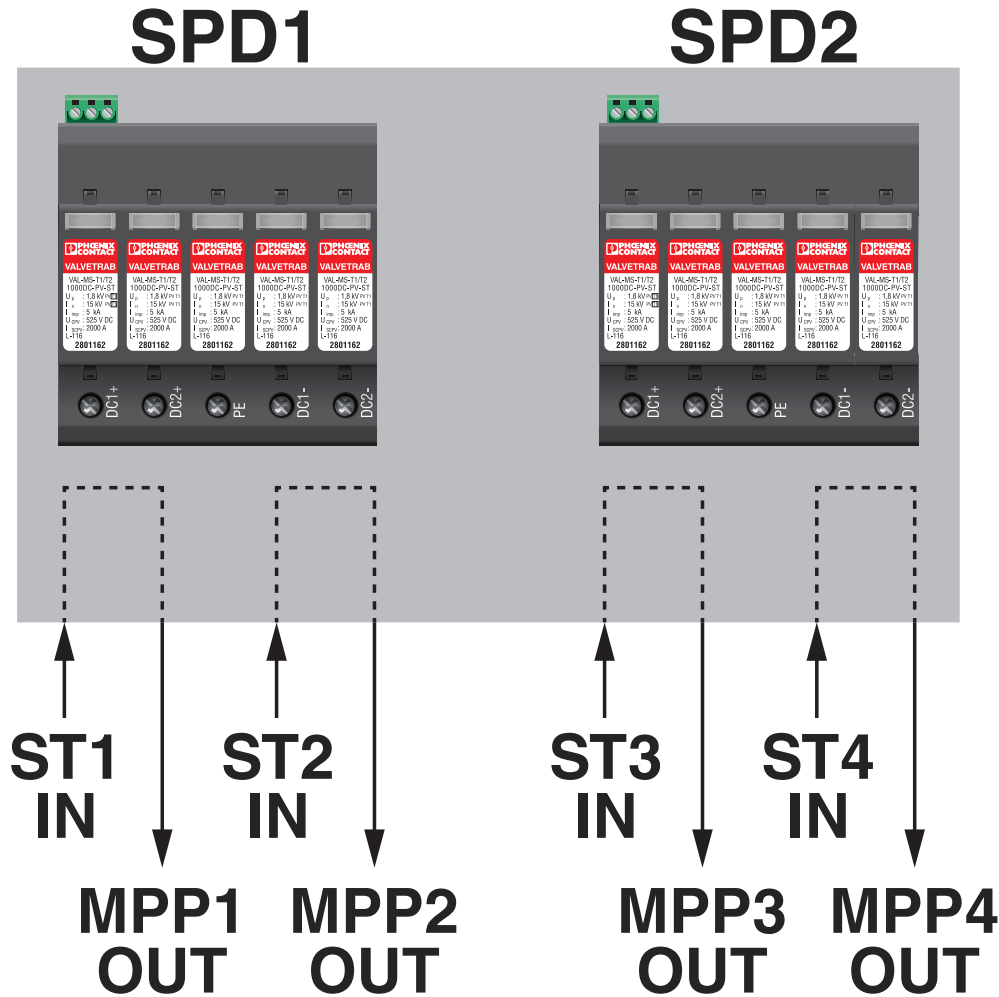
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Connection diagram



Schematic application drawing

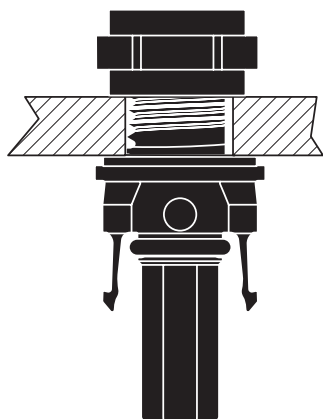
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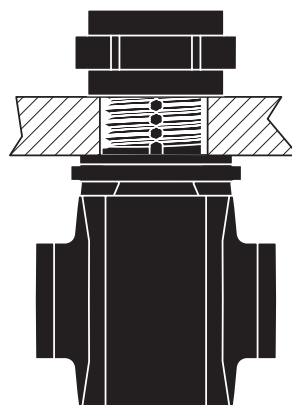
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Schematic diagram



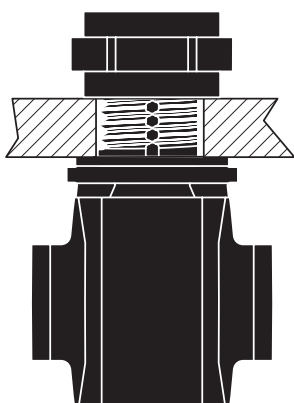
OUT+



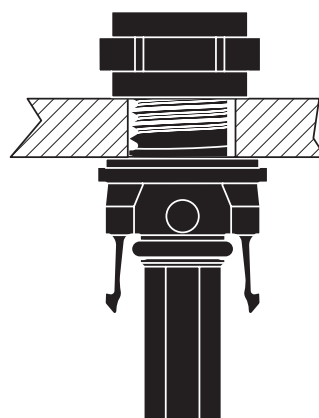
OUT-

Connection to the inverter

Schematic diagram



IN+



IN-

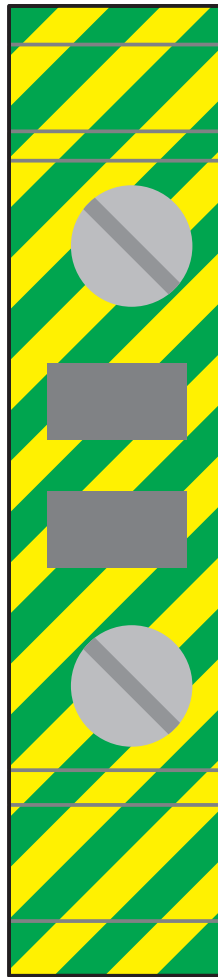
Connection of the PV strings

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Schematic diagram



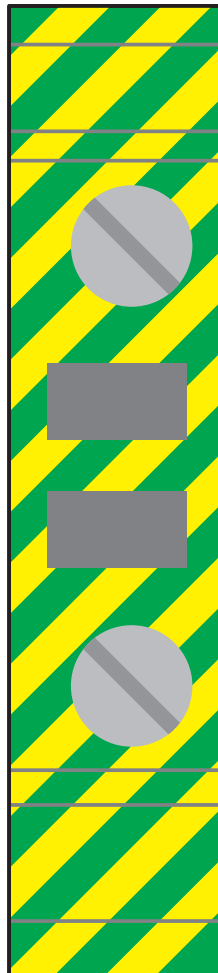
Connection of the protective equipotential bonding conductor

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Schematic diagram



Connection of the protective grounding conductor

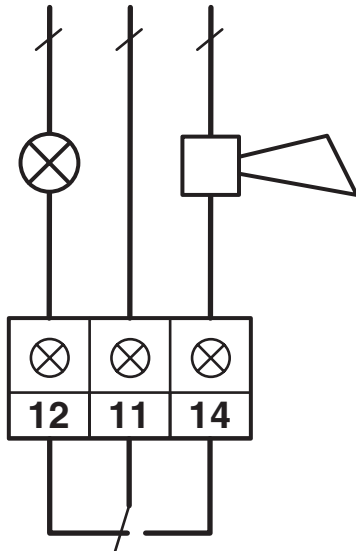
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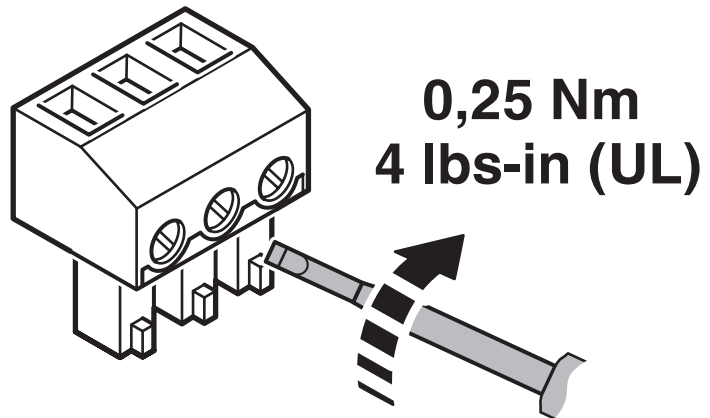
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Schematic diagram



Connection of the remote indication contact on the surge protection



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Classifications

ECLASS

ECLASS-13.0	27171490
ECLASS-11.0	27142422

ETIM

ETIM 9.0	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
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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Accessories

SOL-WR-3625-AISI304 - Weather protection cover

1579291

<https://www.phoenixcontact.com/in/products/1579291>



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/in/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/in/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-CF-S 2,5-6 (+) - Connector

1774674

<https://www.phoenixcontact.com/in/products/1774674>



Connector, Range of articles: SUNCLIX, 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: 40 A, Connection method: Spring-cage, Contact connection type: Socket, min. cable diameter: 5.5 mm, max. cable diameter: 8 mm, The follow-up item is 1386381

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

1774687

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Connector, Range of articles: SUNCLIX, 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: 40 A, Connection method: Spring-cage, Contact connection type: Pin, min. cable diameter: 5.5 mm, max. cable diameter: 8 mm, The follow-up item is 1386384

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

1030649

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Photovoltaic Y-distributor, Range of articles: SUNCLIX, color: black



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

1030650

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Photovoltaic Y-distributor, Range of articles: SUNCLIX, color: black



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

1079531

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



Photovoltaic adapter set, Range of articles: SUNCLIX, design: Adapter, 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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