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

<table>
<thead>
<tr>
<th>Item number</th>
<th>2403335</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing unit</td>
<td>1 pc</td>
</tr>
<tr>
<td>Minimum order quantity</td>
<td>1 pc</td>
</tr>
<tr>
<td>Product key</td>
<td>DTHTAA</td>
</tr>
<tr>
<td>GTIN</td>
<td>4055626369099</td>
</tr>
<tr>
<td>Weight per piece (including packing)</td>
<td>2,658 g</td>
</tr>
<tr>
<td>Weight per piece (excluding packing)</td>
<td>2,100 g</td>
</tr>
<tr>
<td>Country of origin</td>
<td>DE</td>
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</table>
## Technical data

### Product properties

<table>
<thead>
<tr>
<th>Product type</th>
<th>String combiner box (SCB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of delivery</td>
<td>SUNCLIX DC connector for connecting the SCB</td>
</tr>
<tr>
<td>Design</td>
<td>Fuse holder</td>
</tr>
</tbody>
</table>

### Insulation characteristics

| Protection class | II |

### Electrical properties

#### General

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPP voltage $U_N$</td>
<td>max. 1000 V DC</td>
</tr>
<tr>
<td>Non-load voltage $U_{DC}$</td>
<td>max. 1100 V DC</td>
</tr>
<tr>
<td>Current per string $I_{max}$</td>
<td>max. 10 A</td>
</tr>
<tr>
<td>Total current MPP tracker</td>
<td>max. 40 A</td>
</tr>
</tbody>
</table>

#### Surge protection

<table>
<thead>
<tr>
<th>EN type</th>
<th>T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC test classification</td>
<td>T1</td>
</tr>
<tr>
<td>Protection level $U_p$</td>
<td>$\leq 3.5$ kV</td>
</tr>
<tr>
<td>Total discharge current $I_{total} (10/350) \mu$s</td>
<td>5 kA</td>
</tr>
<tr>
<td>Total discharge current $I_{total} (8/20) \mu$s</td>
<td>40 kA</td>
</tr>
<tr>
<td>Short-circuit current rating $I_{SCPV}$</td>
<td>40 A</td>
</tr>
</tbody>
</table>

### 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) |

### Output data

#### DC

| Number of outputs: MPP tracker       | 1 |
| Number of outputs: ±                 | 1 (per MPP tracker) |

### Connection data

#### DC input

<table>
<thead>
<tr>
<th>Type of cable entry</th>
<th>SUNCLIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable cross section</td>
<td>2.5 mm² ... 6 mm²</td>
</tr>
</tbody>
</table>

| Protective bonding and protective grounding conductor |  |
### Type of cable entry
- Cable gland

### Connection method
- Screw connection

### Cable cross section
- 16 mm²

### External cable diameter
- 6 mm ... 12 mm

### DC output
- **Type of cable entry**: SUNCLIX
- **Cable cross section**: 2.5 mm² ... 6 mm²

### Dimensions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Housing</strong></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>254 mm</td>
</tr>
<tr>
<td>Height</td>
<td>180 mm</td>
</tr>
<tr>
<td>Depth</td>
<td>111 mm</td>
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</tbody>
</table>

### Material specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Material Housing</strong></td>
<td>Polycarbonate</td>
</tr>
<tr>
<td><strong>Material Cover/door</strong></td>
<td>Polycarbonate (transparent)</td>
</tr>
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</table>

### Environmental and real-life conditions

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Degree of protection</strong></td>
<td>IP65</td>
</tr>
<tr>
<td><strong>Ambient temperature (operation)</strong></td>
<td>-20 °C ... 55 °C</td>
</tr>
</tbody>
</table>

### Standards and regulations

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Standard designation</strong></td>
<td>Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies</td>
</tr>
<tr>
<td><strong>Standards/specifications</strong></td>
<td>EN 61439-2</td>
</tr>
</tbody>
</table>
Connection of the remote indication contact on the surge protection

Schematic diagram

0,25 Nm
4 lbs-in (UL)
Connection diagram

Schematic application drawing

Schematic diagram

Connection of the PV strings

Connection of the PV strings

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

Schematic diagram

OUT+

OUT-

Connection to the inverter

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


2403335
Connection of the protective grounding conductor on the surge protection

Schematic diagram

connection

Connection of the protective grounding conductor on the surge protection

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


Connection of the protective grounding conductor on the surge protection

Schematic diagram

connection

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Connection of the protective grounding conductor on the surge protection

Schematic diagram

connection
Dimisonal drawing

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

2403335


Classifications

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<tr>
<th>ECLASS</th>
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<tr>
<td>ECLASS-11.0</td>
<td>27142422</td>
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<td>ECLASS-13.0</td>
<td>27171490</td>
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<table>
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<td>ETIM 9.0</td>
<td>EC003857</td>
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<table>
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<tr>
<th>UNSPSC</th>
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</tr>
</thead>
<tbody>
<tr>
<td>UNSPSC 21.0</td>
<td>39121100</td>
</tr>
</tbody>
</table>
Accessories

SOL-WR-2518-AISI304 - Weather protection cover

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

Replacement plug for PV arrester combinations from the VAL-MS-T1/T2 1000DC-PV-... product range
PV-C PROTECTION CAP - Protective cap

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

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

Photovoltaic Y-distributor, Range of articles: Sunclix, housing material: PPE, color: black
PV-C3F-S 2,5-6 (+) - Connector

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

Photovoltaic Y-distributor, Range of articles: Sunclix, housing material: PPE, color: black
PV-C3M-S 2,5-6 (-) - Connector

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

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.
TOOL-KIT SOLAR - Tool set

1212071


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.