SOL-SC-1ST-0-DC-1MPPT-1300FS - String combiner box (SCB)

1137053

https://www.phoenixcontact.com/us/products/1137053

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Figure shows item without door

String combiner box (SCB); MPP voltage: 1000 V DC; number of strings: 1; number of supported MPP trackers: 1; surge protection: T1 / T2; equipment: DC fire department switch; type of cable entry: Cable gland

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	1137053
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DTHTCA
GTIN	4063151074302
Weight per piece (including packing)	8,650 g
Weight per piece (excluding packing)	8,650 g
Country of origin	DE

Technical data

Product properties

Product type	String combiner box (SCB)
Design	DC fire department switch

Insulation characteristics

Protection class	I

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

Fire department switch

Rated operating current DC-21B	40 A
Rated operating current DC-PV1	40 A
Power supply	230 V AC
Signal level Remote indication contact	24 V DC (floating)

Surge protection

EN type	T1 / T2
IEC test classification	T1 / T2
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	1

Output data

DC

Number of outputs (MPP tracker)	1
Number of outputs (± per MPP tracker)	1 (Per MPP tracker)

Connection data

DC input

Type of cable entry	Cable gland

Connection method	Push-in connection
Cable cross-section range	2.5 mm² ... 6 mm²
External cable diameter	3 mm ... 6.5 mm

Lightning protection equipotential bonding & ground conductor

Type of cable entry	Cable gland
Connection method	Screw connection
Cable cross section	2x 16 mm²
External cable diameter	2x 6 mm ... 12 mm

Fire department switch (emergency switching off)

Type of cable entry	Cable gland
Connection method	Push-in connection
Cable cross-section range	3x 0.14 mm² ... 2.5 mm² (100 V AC ... 240 V AC)
External cable diameter	6 mm ... 12 mm

Fire department switch (remote indication contact)

Type of cable entry	Cable gland
Connection method	Push-in connection
Cable cross-section range	2x 0.14 mm² ... 2.5 mm² (floating, max. 24 V DC)
External cable diameter	6 mm ... 12 mm

DC output

Type of cable entry	Cable gland
Connection method	Push-in connection
Cable cross-section range	2.5 mm² ... 6 mm²
External cable diameter	3 mm ... 6.5 mm

Dimensions

Housing

Width	400 mm
Height	400 mm
Depth	200 mm

Material specifications

Material Housing	Polyester fiberglass reinforced
Material Cover/door	Polyester fiberglass reinforced

Environmental and real-life conditions

Ambient conditions

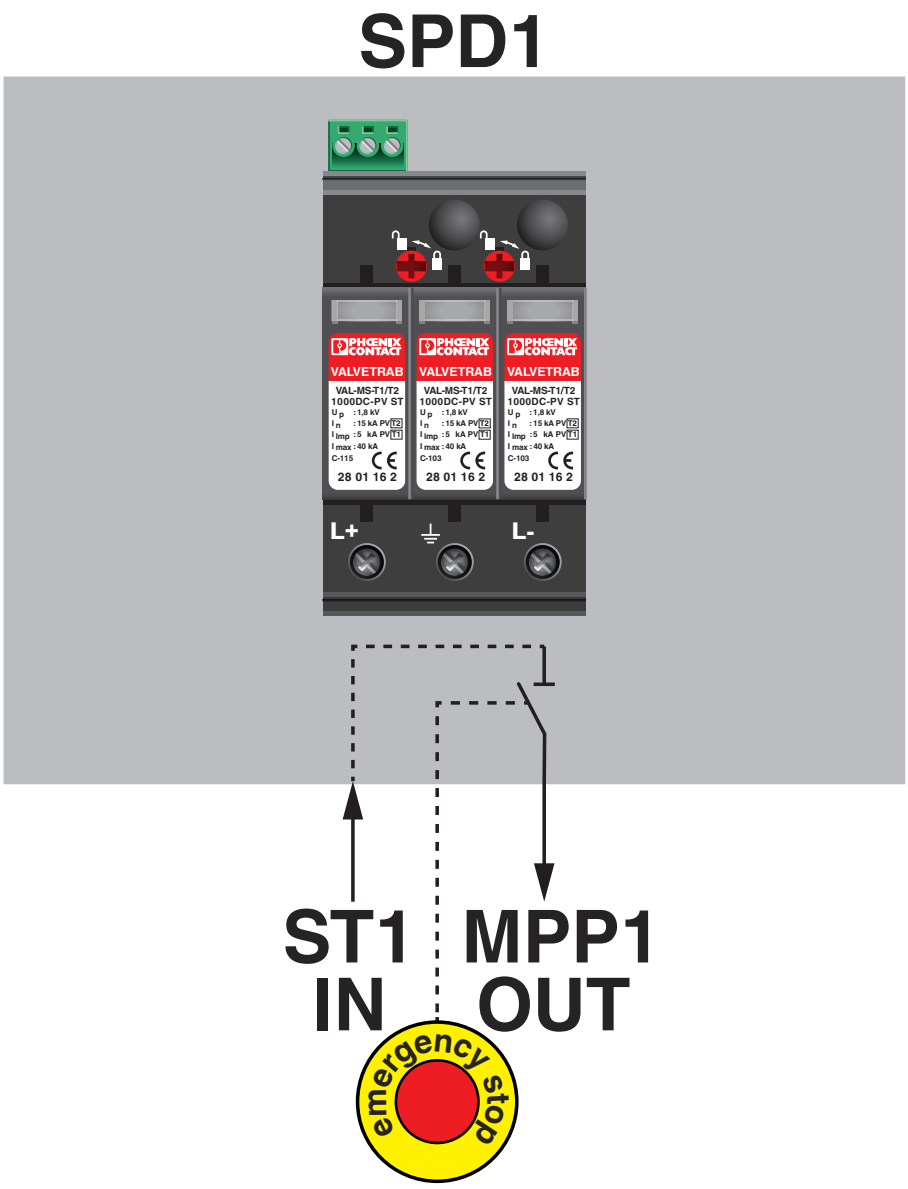
Degree of protection	IP65
Ambient temperature (operation)	-20 °C ... 40 °C

Standards and regulations

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

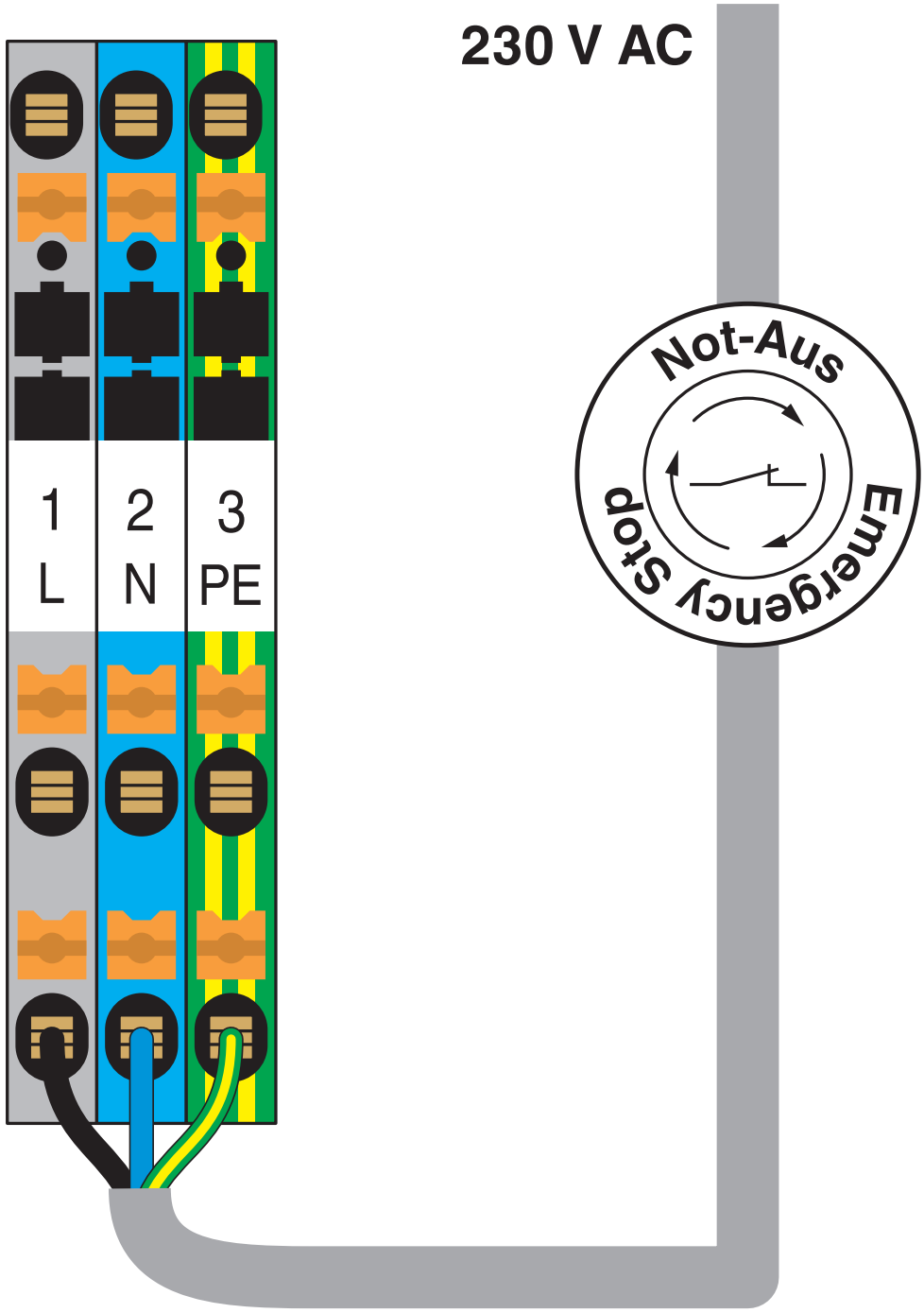
Drawings

Connection diagram



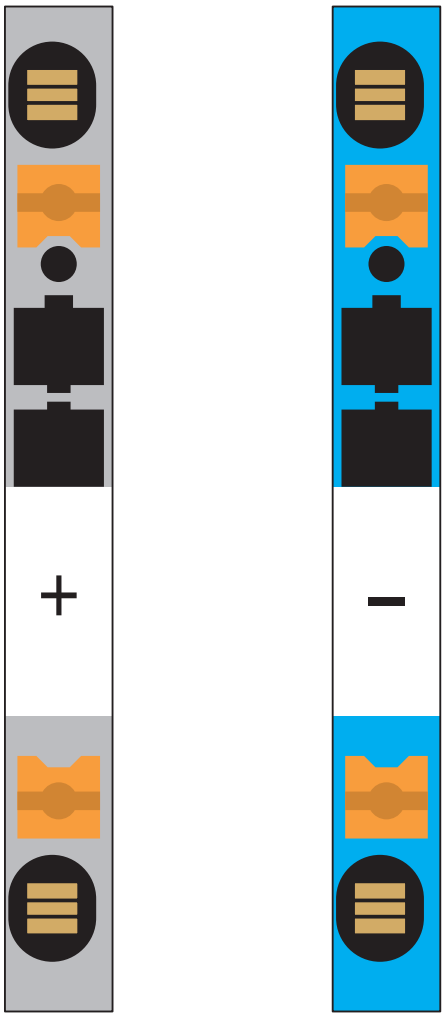
Schematic application drawing

Connection diagram



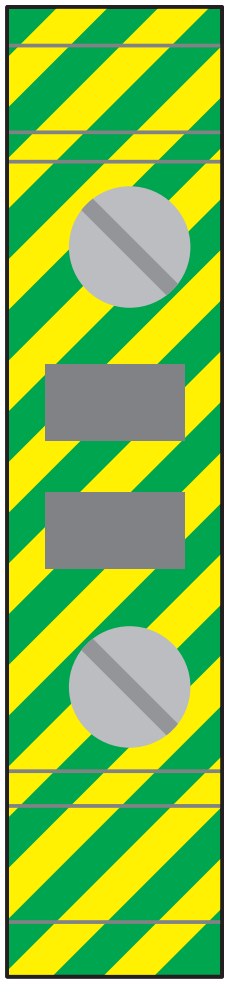
Connection of the emergency switching off operation for the fireman's switch

Schematic diagram



Connection of the PV strings, as well as connection to the inverter

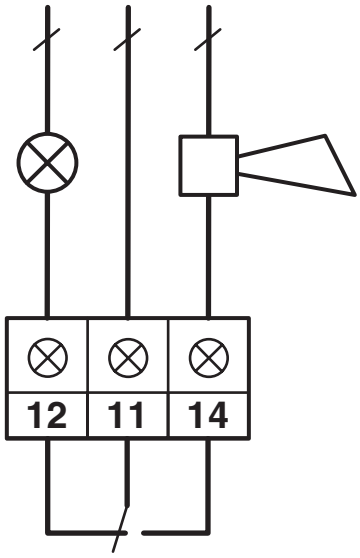
Schematic diagram

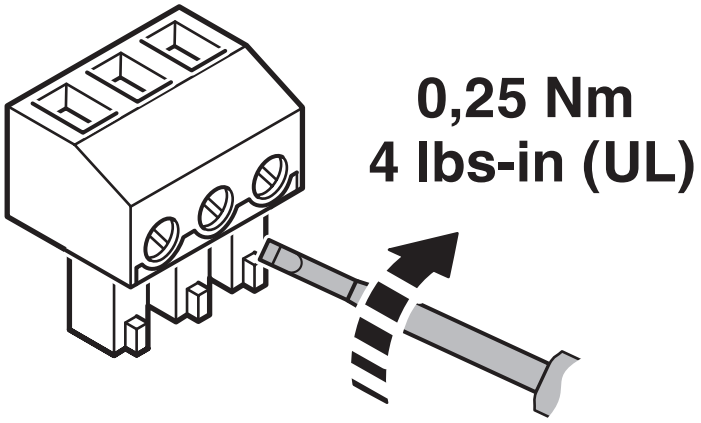




Connection of the protective grounding conductor

Schematic diagram





Connection of the remote indication contact on the surge protection

Classifications

ECLASS

ECLASS-13.0	27171490
ECLASS-15.0	22570203

ETIM

ETIM 10.0	EC003857

UNSPSC

UNSPSC 21.0	39121100

Environmental product compliance

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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