

Level 1 Combiner Box

PV Combiner Box Level 1 to bundle the output lines of individual strings and to connect them to the inverter or optionally to a Level 2 Combiner Box. Smart design customized for each customer's application.

Advanced surge-protection devices, fuse links and switch disconnectors keep the correct operation and protection of the system. Additionally, PV Combiner Box fulfills the standard IEC/EN 61439-2 to offer a high reliability on the units supplied.

- 32 String input
- fuse holder in string input (+/-) including fuse links
- surge protection devices for DC system voltage
- string input with cable glands
- wall mounted with metal lugs



(Example of Combiner Box. Picture may differ from product)

PV 232S0F0C20V100TXPX15PUS

Order reference OPP xxxxxx Rev 0

Technical Data

APPLICATION DATA

Operating ambient temperature range	-40 °C to +50 °C	
Intended installation location	protected outdoors (≤ 1 km from sea)	
Conformity with norms	UL 1741	
Altitude above sea level	up to 3000m	
Country of installation	North_America	United States of America

ELECTRICAL CHARACTERISTICS

Rated DC voltage (Un)	1500 VDC	
Rated DC current per input (Isc)	12.5 A at 50 °C ambient	
Rated DC current per input (10h short-circuit at main output)	15.6 A (1.25 * Isc)	
DC earthing system	floating positive and negative	
Switch disconnector breaking & making capacity (acc. to IEC 60947-3)	500 A (DC PV-2 1500 V/ UL listed)	
Circuit breaker breaking & making capacity (acc. to IEC 60947-2)	N/A	
Contactors breaking & making capacity (acc. to IEC 60947-4-1)	N/A	
Switch-disconnector / Circuit breaker / Contactor handle location	external handle (outside enclosure)	
Surge protection on DC ports	1500V DC, type I+II, I _{max} = 40 kA, U _p ≤ 5.0 kV, no aux. contact	
Surge protection on monitoring supply ports	N/A	
Surge protection on EIA RS-485 ports	N/A	

ENCLOSURE

Enclosure dimensions (H x W x D)	1035 x 835 x 300 mm	
Material	glass-fiber reinforced polyester (GFRP)	
Degree of protection (acc. to IEC 60529)	IP65	
Form factor	cabinet with hinged door(s)	

Fixing system	stainless steel wall mount lugs
INPUTS	
Number of DC inputs (+ & – being one input)	32
Positive DC input wires' to be connected to / cross-section (stranded)	screw connection / 1.5 - 16 mm ²
Negative DC input wires' to be connected to / cross-section (stranded)	screw connection / 1.5 - 16 mm ²
Positive / Negative DC input wires' outer diameter	5 - 10 mm
Fuses	fuse-links and fuse-disconnectors
Location of fuses	positive and negative inputs
Fuse-link rated current (In)	20 A
Fuse form factor	10 x 85 mm
Fuse-link time-current characteristic	gPV (EN 60269-6)

OUTPUTS

Number of DC outputs (+ & – being one output)	1
DC output wires' to be connected to / cross-section (stranded)	M12 Nut and bolt connection / ≤ 400 mm ²
DC output wires' outer diameter	22 - 32 mm

EARTHING CONNECTION

Earth wire to be connected to / cross-section (stranded)	screw connection / 2.5 - 35 mm ²
Earth wire outer diameter	6 - 12 mm

OTHERS

Notes

- 1) Switch-disconnector SOCOMEC DC-PV2 / UL listed.
- 2) IP2X cover included.
- 3) To suit Earthed Array/Non-isolated inverter (in accordance with AS/ANZ 5033:2018 Appendix B, Figure B3, B.4 or B5).
- 4) Combiner box must be installed in a shaded position (out of direct sunlight)