

Smart Level 1 Combiner Box

Smart 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. Integrated power monitoring provided by Transclinc monitoring system (optionally self-supplied from string voltage) allows to do the right surveillance of the PV site to guarantee the best performance of the system.

Additionally, PV Combiner Box fulfills the standard IEC/EN 61439-2:2020 to offer a high reliability on the units supplied.

- 16 String input
- fuse holders in string input (+) including fuse links
- single string monitoring
- self-powered by taking the required power directly from the DC strings
- surge protection devices for DC system voltage, communication bus, and auxiliary AC supply
- string input with cable glands
- direct wall mount



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

PV 216S0F1C50V100TA2PA15PES

Order reference EFITECNIA Rev

Technical Data

APPLICATION DATA

Operating ambient temperature range	-20 °C to +40 °C	
Intended installation location	protected outdoors (>1 km from sea)	
Conformity with norms	IEC 61439-2 ed 3.0 / EN 61439-2:2020	
Altitude above sea level	up to 3000m	
Country of installation	Europe	Spain

ELECTRICAL CHARACTERISTICS

Rated DC voltage (Un)	1500 VDC
Rated DC current per input (In)	30,47 A at 40°C ambient
Rated DC current per input (10h short-circuit at main output)	30,47 Amp
DC earthing system	floating positive and negative
Switch disconnector breaking & making capacity (acc. to IEC 60947-3)	500 A (DC21B 1500 V)
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	direct handle (inside enclosure)
Surge protection on DC ports	1500V DC, type I+II, I _{max} = 30 kA, U _p ≤ 5.0kV, aux. contact
Surge protection on monitoring supply ports	0
Surge protection on EIA RS-485 ports	SPD onboarded in monitoring device

ENCLOSURE

Enclosure approximate dimensions (H x W x D)	1056 x 852 x 350 mm
Material	glass-fiber reinforced polyester (GFRP)

Degree of protection (acc. to IEC 60529)	IP65
Form factor	cabinet with hinged door(s)
Fixing system	direct wall mount

INPUTS

Number of DC inputs (+ & – being one input)	16
Positive DC input wires' to be connected to / cross-section (stranded)	screw connection / 4 - 50 mm ²
Negative DC input wires' to be connected to / cross-section (stranded)	screw connection / 4 - 50 mm ²
Positive / Negative DC input wires' outer diameter	0
Fuses	fuse-links and fuse-disconnectors
Location of fuses	only in positive inputs
Fuse-link rated current (In)	50
Fuse form factor	22 x 58 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 bolt and nut connection / ≤ 400 mm ²
DC output wires' outer diameter	TBD

EARTHING CONNECTION

Earth wire to be connected to / cross-section (stranded)	screw connection / 2.5 - 35 mm ²
Earth wire outer diameter	10 - 14 mm

MONITORING

Monitoring system included	SolarSMS (50 A)
Monitoring system powered by	self-powered (200 - 1500 VDC)
Input current monitoring	individual (1% error full-scale)
System voltage monitoring	yes (1% error full-scale)
Internal temperature monitoring	yes (-20 °C to 80 °C)
Switch-disconnector / Circuit breaker / Contactor monitoring	yes (closed / open) via digital inputs
DC and AC surge protection monitoring	yes (healthy / needs replacement)
EIA RS-485 cables wires' to be connected to / cross-section (stranded)	0.22 - 2.5 mm ²
EIA RS-485 cables wires' outer diameter	5 - 10 mm

OTHERS

Notes	5 years of warranty
	entrada cables con racors (2 para las entreadas (+/-) (M63x1,5) y 1 para la salida (ND-95N)