Cleanverter PV 10-30

Inverters of the CLEANVERTER PV series have been designed to manage high-voltage strings with a grounded negative pole, as required by the latest generation thin film panels. Furthermore, if a restraint is necessary for the grounding kit, the neutral of the grid transformer is available on the inverter side.

CLEANVERTER PV is a complete system built in a cabinet for outdoor installations with a DSP (Digital Signal Processor) digital control. It essentially consists of:

- Mains circuit breaker
- EMI filter
- Grid contactor
- Three-phase dry transformer
- L-C filer
- Three-phase IGBT AFE inverter
- C filter
- Counter on the photovoltaic field side
- Overvoltage suppressor
- Selector on the photovoltaic field side

The contactors are controlled by a safety circuit.
The cooling fans are controlled by a temperature sensor to minimise self-consumption; moreover, their functioning is continuously monitored to prevent damage due to failure.

The CLEANVERTER design has placed special emphasis on reliability:

- Total elimination (power and control) of the electrolytic capacitors; in particular the capacitive filter connected to the dc bus, has been made with film capacitors and with a life expectancy of 500,000 hours under operating conditions
- Tropicalization of the electronic cards and use of industrial type extended temperature components
- Fans with a life expectancy of 50,000 hours

Since the voltage on electrical distribution lines is often raised when the power generated by photovoltaic panels or other systems is supplied in the grid, CLEANVERTER has a logic system which limits the output power if there is an excessive voltage on the grid.

FEATURES	CLEANVERTER PV 10	CLEANVERTER PV 15	CLEANVERTER PV 20	CLEANVERTER PV 25	CLEANVERTER PV 30
Rated power AC (W)	10,000	15,000	20,000	25,000	30,000
Max Voc value (Vdc)	900				
Nr MPPT	1				
MPPT operating range (Vdc)	from 400 to 800				
Rated input current (ADC)	25	37,5	50	62,5	75
Gid connection	Three-phase without neutral				
Voltage grid side (Vrms)	400 V ± 15%				
Frequency grid side (Hz)	50 / 60				
Power factor	in compliance with CEI 0-21 standard				
Rated AC current side at 400 Vac	15	22	29	36	44
THDI harmonic distortion grid side	3 %				
Max efficiency without transformer	96%				
Current overload capacity on field side	14%				
Current overload capacity on grid side	10%				
Night-time/standby consumption (W) (**)	0 / <25				
Operating environment temp. (°C) (*)	from -20 to +55				
Relative humidity	0 - 95%				
Altitude	≤ 2000 m a.s.l.				
Dimensions (HxWxD) (mm)	1950 x 600 x 600				
Protection degree	IP 54				
Weight (Kg)	330	350	380	400	420
Communication ports	RS 232, RS 485 prot. MODBUS				
User interface	Display with keyboard				
Certifications	CEI 0-21				
In compliance with	CE EN 61000-6-1; EN 61000-6-3; EN 61000-2-2; EN 61000-3-12; EN 61000-3-11; EN 62109-1; EN 62109-2				

(*) above 40 °C the converters operate automatically with power derating
(**) with night saver

Elpower
elettronica di potenza