

TCR 3000

Designed and manufactured specifically for photovoltaic systems

TCR 3000 is an inverter for photovoltaic systems that makes use of innovative technologies able to maximize the efficiency of energy conversion. By using top-quality component parts, a very high MTBF (Mean Time Between Failure) has been achieved. The TCR 3000 inverter adopts a transformerless architecture able to reduce dissipative losses and weight to the utmost. The inverter can be installed

both indoors and outdoors (IP65).

Reduced noise levels thanks to convection dissipation without the use of cooling fans. The work temperature interval is between -25°C $+60^{\circ}\text{C}$.

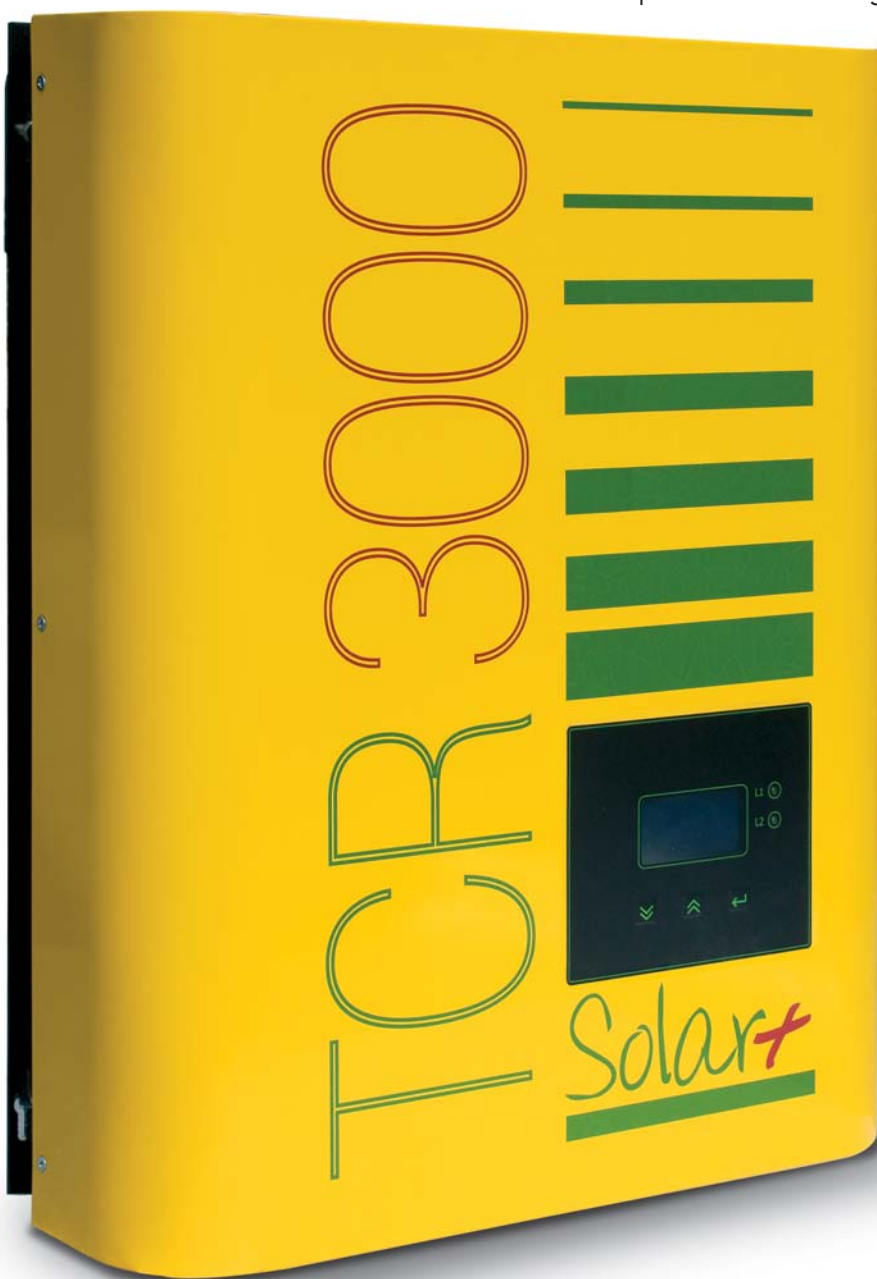
Smart power management

The control circuits are based on DSP (Digital Signal Processing) technology and adopt accurate algorithms for managing the entire system. Inside the inverter, two independent MPPT (Maximum Power Point Tracking) operations are performed. Accurate algorithms are used to synchronise the inverter with the mains power voltage. The energy is injected into the grid with unitary power factor and low harmonic content. The inverter injects a current sinusoid towards the grid with THD $< 2.5\%$. The TCR 3000 inverter features two boost DC-DC converters to maximize the power taken from the photovoltaic panels and an innovative architecture for the DC-AC converter. The architecture called UNI-TL permits minimizing all the common and differential mode inductive filters (patent pending).

Everything under control

A 128x64 LCD graphic display allows monitoring all quantities of interest in real time – power voltages, currents, power, inverter status and alarms.

The inverter is ready for RS232/RS485 communications for remote monitoring.





Model	TCR3000-3K	TCR3000-4K
INPUT		
Max recommended photovoltaic range power	3300W	4400W
Max DC voltage (Voc)	520 V	520 V
Input voltage, MPPT operating range	90-450 V	90-450 V
Input voltage, MPPT operating range at full power	150-450 V	180-450 V
D.C. current for each channel	16A	16A
Max input current for each channel	14A	14A
Max input power for each channel	2100W	2520W
Ground fault protection PV	YES	YES
Input channel configuration (the inverter automatically recognises the set configuration)	Two channels with independent MPPT or one channel combining the positive poles	
OUTPUT		
Rated output power	3000 W	4000W
Max range mains power	185V to 270v	185V to 270v
Rated power voltage	230 Vac	230Vac
Max range mains frequency	47 to 63 Hz	47 to 63 Hz
Rated mains frequency	50Hz	50Hz
Operating range frequency in compliance with guide rules for connections	49,71 to 50,29 Hz	49,71 to 50,29 Hz
Current distortion	< 3%	< 3%
Anti-islanding protection	in compliance with guide rules for connections	
Max efficiency	97%	97%
Efficiency (euro)	96,30%	96,30
Power consumption	<8W	<8W
ENVIRONMENT		
Heat dissipation	convection	convection
Running temperature	(-25°C to + 60°C)	(-25°C to + 60°C)
Level of protection	IP 65	IP 65
Relative humidity	0 to 100% condensation point	0 to 100% condensation point
Noise level	<35dbA @ 1m	<35dbA @ 1m
INTERFACE		
128x64 dot matrix graphic LCD	functions selected by keys	functions selected by keys
Remote communication interface	RS485 optional	RS485 optional
MECHANICAL SPECIFICATIONS		
Dimensions (height x width x depth)	580x455x150	580x455x150
Weight	24kg	24kg



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