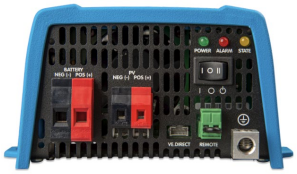
Sun Inverters

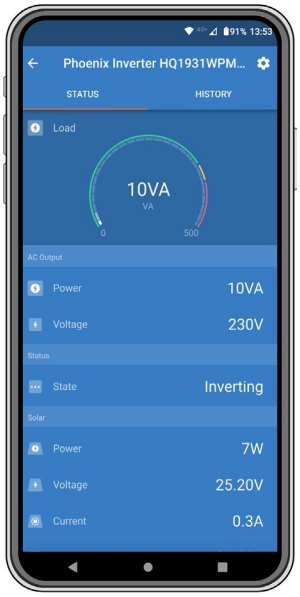
12V | 250VA and 24V | 250VA - 230V, 50Hz or 60Hz

www.victronenergy.com

Sun Inverter 12/250



Sun Inverter 12/250



The VictronConnect app

IEC-320 socket

Proven reliability

The full bridge plus toroidal transformer topology has proven its reliability over many years.
The inverters are short circuit proof and protected against overheating, whether due to overload or high ambient temperature.

High start-up power

Needed to start loads such as power converters for LED lamps, halogen lamps, or electric tools.

ECO mode

When in ECO mode, the inverter will switch to standby when the load decreases below a pre-set value (min load: 15 W). Once in standby, the inverter will switch on for a short period (adjustable, default: every 2,5 seconds). If the load exceeds a pre-set level, the inverter will remain on.

PWM solar charger

The solar charger ensures that the batteries are charged by energy harvested from your solar panels. The charge algorithm is programmable.

Remote on/off

The Phoenix Inverter Control VE.Direct Remote panel (not included) can be used to turn the inverter on or off remotely. Alternatively, a remote on/off switch can be connected to a two-pole connector or between battery plus and the left-hand contact of the two-pole connector.

LED diagnosis

Please see the manual for a description.

Bluetooth

The inverter and solar charger parameters can be read, monitored, and configured via Bluetooth using the VictronConnect app.

VE.Direct communication port

The VE.Direct Port can be used for connection to a GX device, GlobalLink 520 for monitoring via the VRM portal or for connection to a computer for monitoring or configuring using the VictronConnect app.

Monitoring via the VictronConnect app or GX device:

- Inverter in- and output voltage and % load
- Solar power, voltage, and current
- Operational state and alarms

Fully configurable via the VictronConnect app:

- Low battery voltage alarm trip and reset levels
- Low battery voltage cut-off and restart levels
- Dynamic cut-off: load dependent cut-off level
- Output voltage 210 – 245 V and Frequency 50 Hz or 60 Hz
- ECO mode on/off and ECO mode sense level
- Battery charge current, algorithm, and voltages
- Battery charge temperature compensation or low temperature cut of level

To transfer the load to another AC source: the automatic transfer switch

For our low-power inverters, we recommend our Filax Automatic Transfer Switch. The Filax features a very short switchover time (less than 20 milliseconds) so that computers and other electronic equipment will continue to operate without disruption.

DC and PV connections with screw terminals

No special cable terminals or tools are needed for installation.

Available with an IEC-320 socket

An IEC-320 male plug is included.

SUN INVERTER	12/250	24/250
Cont. power at 25 °C (1)	250 VA	
Cont. power at 25 °C / 40 °C	200 W / 175 W	
Peak power	400 W	
AC output voltage / frequency (adjustable)	230 Vac +/- 3 % 50Hz or 60Hz +/- 0.1 %	
DC input voltage range	9.2 – 17 V	18.4 – 34.0 V
DC low shut down (adjustable)	9.3 V	18.6 V
Dynamic (load dependent) DC low shut down	Configurable via the "dynamic cut-off" setting	
DC low restart and alarm (adjustable)	10.9 V	21.8 V
Battery charged detect (adjustable)	14.0 V	28.0 V
Max. efficiency	87 %	88 %
Zero-load power	4.2 W	5.2 W
Default zero-load power in ECO mode (2)	0.8 W	1.3 W
Solar charger technology	Pulse Width Modulation (PWM)	
Maximum PV voltage current and power	25 V / 15 A / 375 W	50 V / 10 A / 500 W
Solar panel type	36 cell solar panel	72 cell solar panel or two 36 cell solar panels in series
Charge voltages	Adjustable and able to be temperature compensated (3)	
Protections (4)	a - f	
Operating temperature range	-40 to +60 °C (fan assisted cooling) / Output power deration: 1.25 % per °C above 40 °C	
Humidity (non-condensing)	max 95 %	
Bluetooth wireless communication	For remote monitoring and configuration	
VE.Direct communication port	For remote monitoring and system integration	
ENCLOSURE		
Material & Colour	Steel chassis and plastic cover (blue RAL 5012)	
Battery-connection	Screw terminals, maximum cable cross-section10 mm^2 / AWG 8	
PV-connection	Screw terminals, maximum cable cross-section 4 mm^2 / AWG 12	
Standard AC outlet	IEC-320 (male plug included)	
Protection category	IP 21	
Weight	2.4 kg / 5.3 lbs	
Dimensions (h x w x d)	86 x 165 x 260 mm / 3.4 x 6.5 x 10.2 inch	
ACCESSORIES		
Remote on-off	Yes	
Automatic transfer switch	Filax	
STANDARDS		
Safety	EN-IEC 60335-1 / EN-IEC 62109-1	
EMC	EN 55014-1 / EN 55014-2 / IEC 61000-6-1 / IEC 61000-6-3	
Automotive Directive	ECE R10-4 EN 50498	

(1) Nonlinear load, crest factor 3:1
(2) The default ECO mode retry interval is 2.5 s. The retry interval, stop power level, and start power level are adjustable.
(3) Temperature compensation via an optional "Temperature sensor Quattro, MultiPlus and GX Device" or the "Smart Battery Sense".

(4) Protection key:
a) output short circuit
b) overload
c) battery voltage too high
d) battery voltage too low
e) temperature too high
f) DC ripple too high

Phoenix Inverter Control VE.Direct Remote panel

This panel can be used for remote on/off control of the Sun Inverter.

Battery temperature sensors

If battery charge temperature compensation or a low temperature charging cut of level is needed use the "Temperature sensor Quattro, MultiPlus and GX Device" or the "Smart Battery Sense" temperature sensor.

Battery Monitors

The BMV or SmartShunt Battery monitor keep track of the battery state of charge, voltage, current, consumed Ah or time to go. The monitor also stores a host of data regarding performance and use of the battery.

Remote monitoring

The Sun Inverter can be connected via its VE.Direct port to a GlobalLink 520 or a GX device, like the Cerbo GX, and then be remotely monitored via the VRM portal.

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