

# 8kW Hybrid Inverter

## Overview

A highly efficient power management tool that allows the user to hit their electricity consumption targets by managing power from multiple energy sources. These include solar panels, the national electricity grid, a generator or even a wind turbine.

The energy can be effectively stored as well which allows for power whenever it is needed.

The Sunsunk inverter can operate without a battery to save you electricity, to working as an Uninterrupted Power Supply with no panels, to combining both sources to operate like a hybrid system

## Features and Benefits

### Multiple Built-In MPPTs

- It allows for multiple panel orientations
- All strings on each MPPT needs to be identical in terms of quantity and size of panels, azimuth and tilt
- Efficient charging algorithm offered by MPPT charging allows you to get more from your PV array

### Built-in Grid Limiter

When grid-tied systems generate more power from the solar panels than what is required by the appliances in your home or business, the excess power can flow back through your electricity meter to the national electricity grid which is not allowed. Grid Limiting / Active Power Limitation decreases the output from the solar panels to match the consumption of your appliances. This ensures that no power flows back to the grid

### Monitoring and ease of configuration

Through the new and updated User Interface on the built-in touch LCD display you can get access to:

All required settings (password protected) • Daily / Monthly energy generated and Consumed • Real-time system information • Battery status and usage  
Sunsunk also offers Wi-Fi and GSM communication devices that allow remote monitoring via a cell phone app as well as remote technical assistance

### Smart Load

Smart load is a method of making grid-tied systems with grid limiting more efficient. Instead of losing out on potential generation from your panels because of grid limiting, the smart load function allows you to power appliances, that are not connected to your battery bank, directly from the solar panels. In short, once the battery is full and all loads connected to the inverter are supplied, electricity will flow from the solar panels to loads such as geysers, large air-conditioning units or pumps. Only once these have been supplied will the system be throttled meaning that more of your solar power can be consumed.

### Time of use charging / Peak shaving

Some electricity suppliers provide electricity at different tariffs at different times during the day. This is mainly to discourage electricity usage in peak times when the grid is under more pressure. Special Smart electricity meters administrate this.

Using the Sunsunk's Time of Use functionality to charge the batteries when electricity is cheaper and then using the stored energy when electricity is more expensive



◆ Programmable export

◆ Works parallel on or off grid

◆ Single or 3-phase operation

**IP65**  
weather  
proofing

**Product Code: FBIHSK8K48P**

## Packaging Contents

- 1 x 8kW Hybrid Inverter
- 1 x Installation Screws (1 pack)
- 1 x Temperature Sensor Probe
- 1 x CT 100Amp 50mA

## Specifications

### Battery Input Data

Batter Type	Lead-Acid or Li-ion
Battery Voltage Range (V)	40V-60V
Max. Charging Current (A)	190A
Max. Discharging Current (A)	190A
Charging Curve	3 Stages/Equalization
External Temperature Sensor	Optional
Charging Strategy for Li-ion Battery	Self-Adaption to BMS

### PV String Input Data

Max. DC Input Power (W)	10400W
Max. DC Input Voltage (V)	500V
MPPT Range (V)	125V-425V
Start-up Voltage (V)	150V
Max. Input Current (A)	18A+18A
No. of MPPT Trackers	2
No. of Strings Per MPPT Tracker	2/2

### AC Output Data

Rated AC Output and UPS Power (W)	8000W
Peak Power (off-grid)	2 Times Rated Power for 10 Seconds
Max. AC Current (A)	33A
Output Frequency and Voltage	50, 230 VAC (Single Phase)
Grid Type	Single Phase
Current Harmonic Distortion	THD<3% (Linear Load<1.5%)

### Efficiency

Max. Efficiency	97.60%
Euro Efficiency	99.90%
MPPT Efficiency	96.50%

### Protection

PV Input Lightning Protection	Integrated
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Shorted Protection	Integrated
Output Over Voltage Protection	Integrated

### General Data

Operating Temperature Range (°C)	-25~60°C, >45 Derating
Cooling	Fan
Noise (dB)	<30
Communication with BMS	RS485; CAN
Weight (kg)	32KG
Size (Length*Width*Height mm)	670x420x233mm
Protection Degree	IP65
Installation Style	Wall-Mounted
Warranty	5 Years

### Certifications and Standards

Grid Regulation	UL1741, IEEE1547, RULE21, VDE0126, AS4777, NRS2017, G98,G99, IEC61683, IEC62116, IEC61727
Safety Regulation	IEC62109-1&2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-3, FCC 15 class B
South African Certifications	NRS097-2-1: 2017 Edition 2