

# Synsynk 5kW 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 Sunsynk inverter can operate without a battery to save you electricity, to working as an UPS (Uninterrupted Power Supply) with no panels, to combining both sources to operate like a hybrid system.

## 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

Sunsynk also offers Wi-Fi and GSM communication devices that allow remote monitoring via a cell phone app as well as remote technical assistance.

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

- Maximum efficiency of 97.5% with wide input range
- Double MPPT design with precise MPPT algorithm
- Natural cooling- IP65 protection
- Compact and light design for easy installation
- Transformer-less GT technology
- RS485 Wi-Fi interface
- Built-in protection features
- Built-in anti-overflow function
- 25 years lifespan

This is a mid-range On-grid Parity Inverter that carries the same features as the larger inverters. The size is aimed at larger marine vessels and domestic premises with sufficient roof space for solar or wind power. Ideal for solar arrays ranging from 2.5kW to 4.8kW. It carries a weatherproofing rating of IP65 and is fitted with 2 x MPPT ports.



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## DATA SHEET

### PV STRING INPUT DATA

Max. DC Input Power (W)	6500W
Max. DC Input Voltage (V)	500V
MPPT Range (V)	125V-425V
Start-up Voltage (V)	150V
Max. Input Current (A)	11A+11A
No. of MPPT Trackers	2
No. of Strings Per MPPT Tracker	1/1

### BATTERY INPUT DATA

Batter Type	Lead-Acid or Li-ion
Battery Voltage Range (V)	40V-60V
Max. Charging Current (A)	120A
Max. Discharging Current (A)	120A
Charging Curve	3 Stages/Equalization
External Temperature Sensor	Optional
Charging Strategy for Li-ion Battery	Self-Adaption to BMS

### AC OUTPUT DATA

Rated AC Output and UPS Power (W)	5000W
Peak Power (off-grid)	2 Times Rated Power for 10 Seconds
Max. AC Current (A)	21.7A
Output Frequency and Voltage	50, 230 VAC (Single Phase)
Grid Type	Single Phase
Current Harmonic Distortion	THD<3% (Linear Load<1.5%)

### 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

### EFFICIENCY

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

### CERTIFICATION & STANDARDS

Grid Regulation	VDE 0126, AS4777, NRS2017, G98, G99, IEC61683, IEC62116, IEC61727, RD1699:2011, XP C15-712-3:2019-05
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

### GENERAL DATA

Operating Temperature Range (°C)	-25~60°C, >45°C Derating
Cooling	Fan
Noise (dB)	<30
Communication with BMS	RS485; CAN
Weight (kg)	20.5
Size (Length*Width*Height mm)	580 x 330 x 208 mm
Protection Degree	IP65
Installation Style	Wall-Mounted
Warranty	5 Years

