



# SINGLE-PHASE HYBRID INVERTER



## USER MANUAL

SUNSYNK-3.6K-SG03LP1  
SUNSYNK-5K-SG03LP1

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# Product Features

## INTERACTIVE

- Easy and simple to understand display
- Supporting Wi-Fi or GSM monitoring
- Visual power flow screen
- Smart settable 3-stage MPPT charging for optimized battery performance
- Auxiliary load function
- Parallel / multi invert function grid-tied and off-grid

## COMPATIBLE

- Compatible with main electrical grid voltages or power generators
- Compatible with wind turbines
- 220V single phase, pure sine-wave inverter
- Self-consumption and feed-in to the grid
- Auto restart while AC is recovering
- Auto earth bond feature (Via a relay)

## CONFIGURABLE

- Fully programmable controller
- Programmable supply priority for battery or grid
- Programmable multiple operation modes: on-grid/off-grid & UPS
- Configurable battery charging - current/voltage based on applications by LCD setting
- Configurable AC / solar / generator charger priority by LCD setting

## SECURE

- Overload/over-temperature/short-circuit protection
- Smart battery charger design for optimized battery protection
- Limiting function installed to prevent excess power overflow to grid

## APPLICATIONS

- Marine (vessel power management)
- Power shedding (home/office/factory)
- UPS (fuel-saving systems)
- Remote locations with solar and wind generators
- Building sites
- Military locations
- Telecommunication

## Basic System Architecture

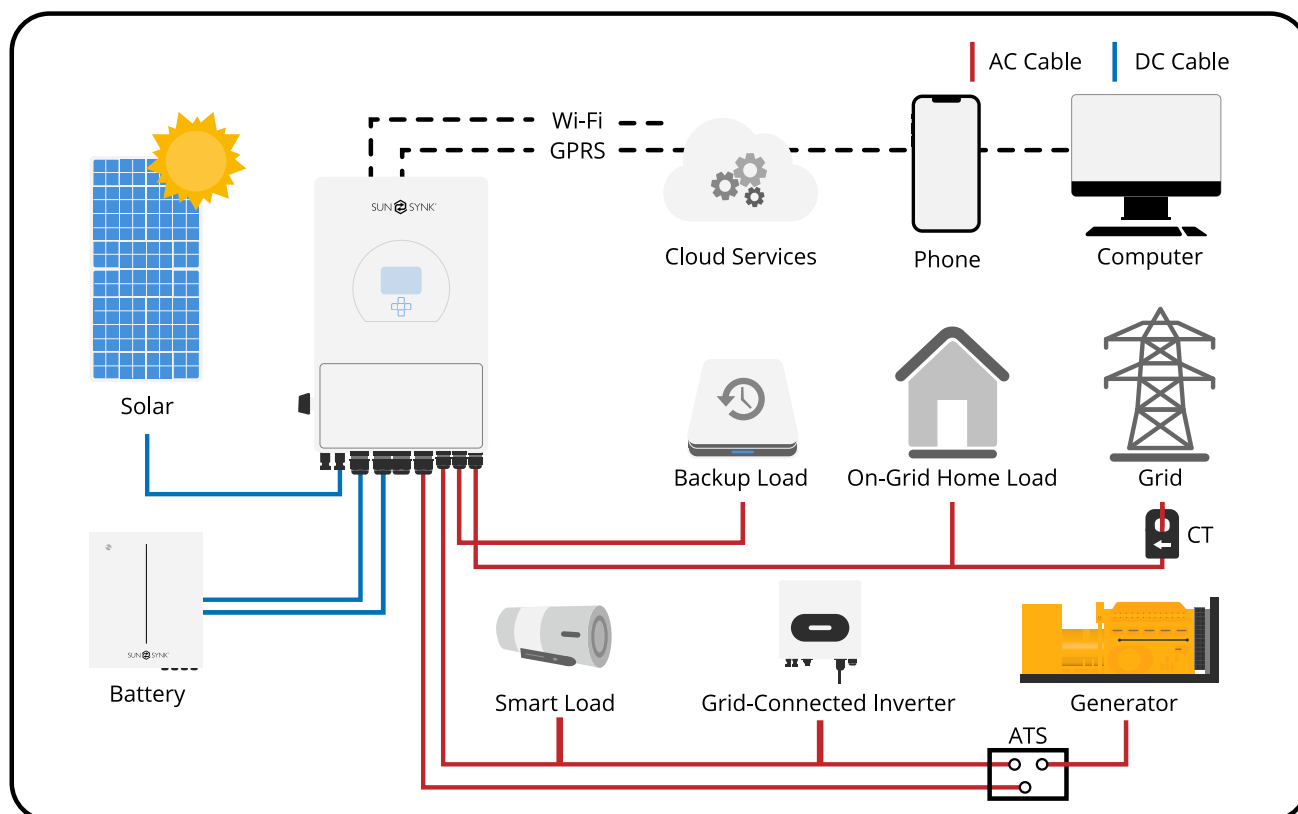
The following illustration shows the basic application of this inverter.

It also includes the following devices to have a Complete running system.

- Generator or Utility
- PV modules

Consult with your system integrator for other possible system architectures depending on your requirements.

This inverter can power all kinds of appliances in a home or one environment, including motor-type appliances such as refrigerators and air conditioners



## TECHNICAL SPECIFICATIONS

Model	SUNSYNK-3.6K-SG03LP1	SUNSYNK-5K-SG03LP1
Battery Input Date		
Battery Type	Lead-acid or Li-Ion	
Battery Voltage Range	48Vd.c (40Vd.c ~ 60Vd.c)	
Max. Charging/Discharging Current	90Ad.c (max.)	120Ad.c (max.)
Charging Curve	3 Stages / Equalization	
External Temperature Sensor	Yes	
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	
PV String Input Data		
Max. DC Input Power	4680W	6500W
PV Input Voltage	370V (125V~500V)	
MPPT Range	150~425V	
Full Load DC Voltage Range	300~425V	
Start-up Voltage	125V	
PV Input Current	13Ad.c + 13Ad.c	
No. of MPPT Trackers	2	
No. of Strings Per MPPT Tracker	1+1	
AC Output Data		
Rated AC Output and UPS Power	3600W	5000W
Max. AC Output Power	3960W	5500W
Max. AC Output Apparent Power	3600VA	5000VA
Peak Power (Off-Grid)	2 times of rated power, 10s	
AC Output Rated Current	16.4/15.7Aa.c	22.7/21.7Aa.c
Max. AC Current	18/17.2Aa.c	25/23.9Aa.c
Max. Continuous AC Passthrough	35A	
Power Factor	0.8 leading to 0.8 lagging	
Output Frequency and Voltage	50/60Hz; 220/230Vac (single phase)	
Grid Type	Single Phase	
Total Harmonic Distortion (THD)	<3% (of nominal power)	
DC current injection	<0.5% In	
Efficiency		
Max. Efficiency	97.60%	
Euro Efficiency	96.50%	
MPPT Efficiency	>99%	
Protection		
Integrated	PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection.	
Surge Protection	DC Type II / AC Type II	
Over Voltage Category	DC Type II / AC Type III	

### Certifications and Standards

Grid Regulation	EN 50549-1, AS-NZS 4777.2, NRS 097-2-1; Additional connections available upon request
EMC/Safety Regulation	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

### General Data

Operating Temperature Range	-40~60 °C, >45 °C Derating
Cooling	Smart cooling
Noise	<30 dB
Communication with BMS	RS485; CAN
Net Weight	22.5kg
Gross Weight	27.5kg
Cabinet size	330W×580H×232D mm (Excluding connectors and brackets)
Protection Degree	IP65
Installation Style	Wall-mounted
Warranty	5 years



#### NOTE:

##### Safe Transport and Handling of Inverter:

When transporting the equipment, use its original packaging and keep it as a complete unit. Store the product in a dry environment, avoiding direct sunlight, and maintain a temperature range between -40°C and 60°C. Since the equipment can be quite heavy, always consider its total weight when moving, transporting, or installing it, ensuring that the installation site has adequate load-bearing capacity. Transporting and installing the inverter should be carried out solely by qualified personnel.