Solarthon®

SOLAR INVERTER

1.0KW/1.5KW/2.0KW/3.0KW

This is a multi-function inverter/charger, combining functions of inverter, solar charger and battery charger to offer uninterruptible power support with portable size. Its comprehensive LCD display offers user-configurable and easy-accessible button operation such as battery charging current, AC/solar charger priority, and acceptable input voltage based on different applications.

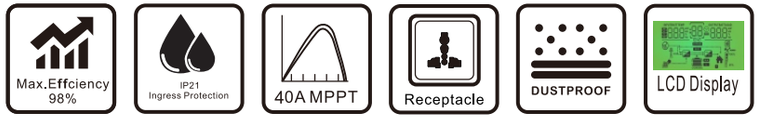
SOLAR INVERTER

1.0KW/1.5KW/2.0KW/3.0KW

FEATURES

STN10212 1.0KW

- Pure sine wave solar inverter
- Built-in 40A MPPT solar charger
- PV input voltage range 20-150VDC (for 1000W),30-150VDC(for 1500W)
- Built-in anti-dust kit for harsh environment
- Smart battery charge design to optimize battery life
- Meet rich customized demands
- Solar energy is provided directly to the load first



SOLAR INVERTER

1.0KW/1.5KW/2.0KW/3.0KW

FEATURES

STN20212 2.0KW

STN30224 3.0KW

- Pure sine wave solar inverter
- Output power factor 1.0
- Wifi&gprs available for ios and android
- Built-in80a mppt solar charger
- High pv input voltage range(30-400vdc)
- Built-in anti-dusk kit for harsh environment
- Smart battery charge design to optimize battery life
- Meet the rich customize needs of customers
- Compatibe with lithium battery
- Solar energy is provided directly to the load first

BASIC SYSTEM ARCHITECTURE

The following illustration shows basic application for this inverter/charger. It also includes 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 home or office environment, including motor-type appliances such as tube light, fan, refrigerator and air conditioner.

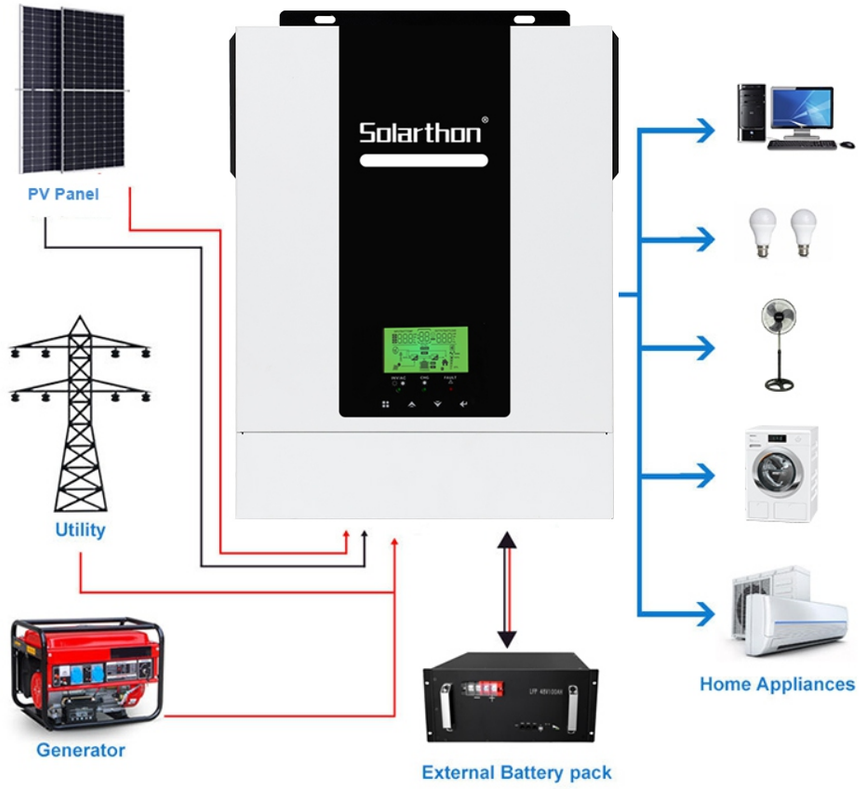
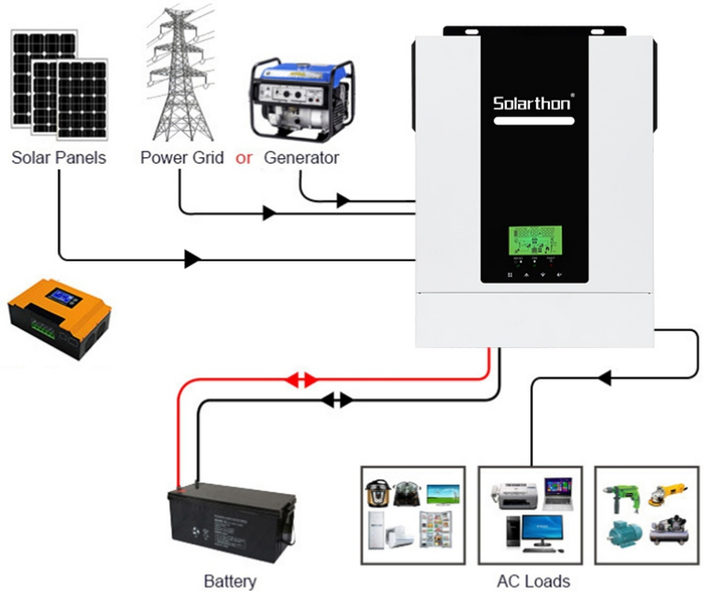


Figure 1 Hybrid Power System

SYSTEM CONNECTION DIAGRAM

The diagram below shows the system application scenario of this product. A complete system consists of the following components:



The actual application scenario determines the specific system wiring method.

PV modules: converts light energy into DC energy, which can be used to charge the battery via an inverter or directly inverted into AC power to supply the load.

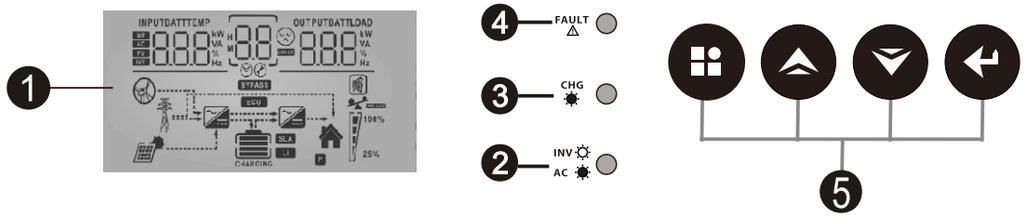
Utility grid or generator: connected to the AC input, it can supply the load and charge the battery at the same time. The system can also operate generally without the mains or generator when the battery and the PV module power the load.

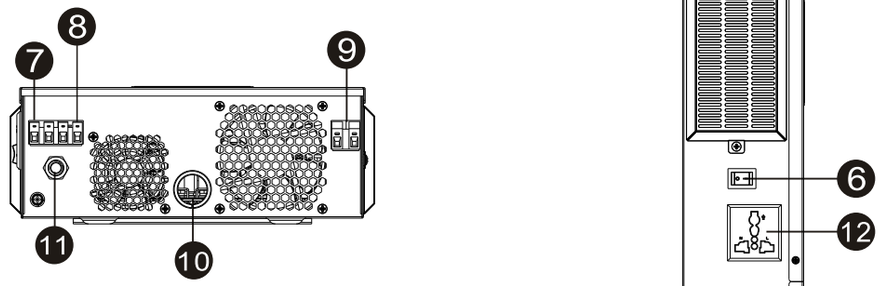
Battery: The role of the battery is to ensure the regular power supply of the system load when the solar energy is insufficient and there is no mains power.

Home load: Various household and office loads can be connected, including refrigerators, lamps, televisions, fans, air conditioners, and other AC loads.

Inverter: The energy conversion device of the whole system.

PRODUCT OVERVIEW

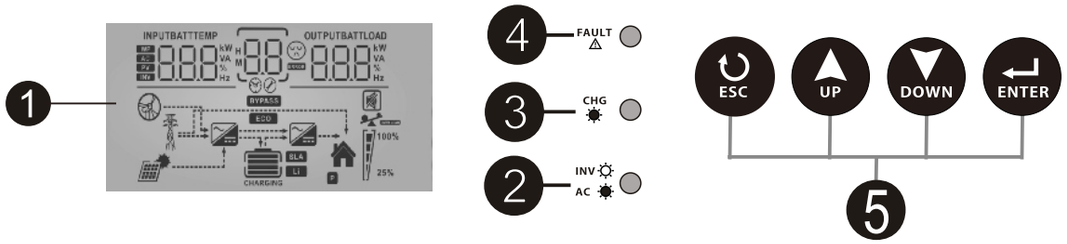


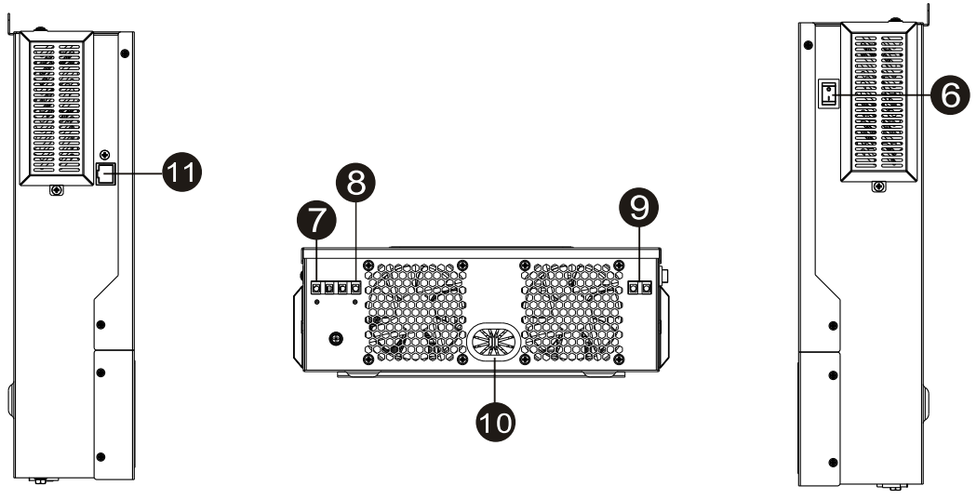


①	LCD display	⑦	AC input
②	Status indicator	⑧	AC output
③	Charging indicator	⑨	PV input
④	Fault indicator	⑩	Battery input
⑤	Function buttons	⑪	Circuit breaker
⑥	Power on/off switch	⑫	Output receptacles

STN10212 1.0KW

PRODUCT OVERVIEW



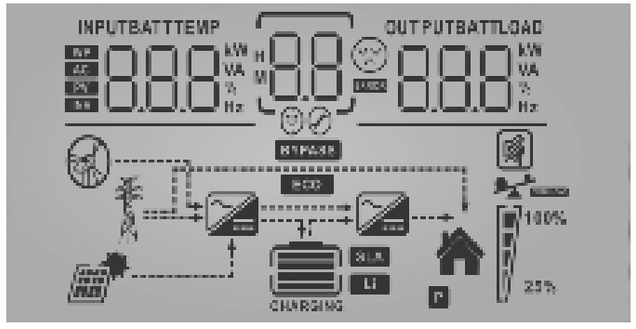


①	LCD display	⑦	AC input
②	Status indicator	⑧	AC output
③	Charging indicator	⑨	PV input
④	Fault indicator	⑩	Battery input
⑤	Function buttons	⑪	RS-232 communication port
⑥	Power on/off switch		

STN16212 1.6KW
STN30224 3.0KW

OPERATION AND DISPLAY PANEL

The operation and display panel, shown in below chart, is on the front panel of the inverter. It includes three indicators, four function keys and a LCD display, indicating the operating status and input/output power information.



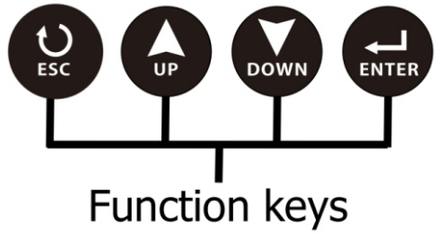
LCD display

LED Indicator

LED Indicator			Messages
☀AC/☀INV	Green	Solid On	Output is powered by utility in Line mode.
		Flashing	Output is powered by battery or PV in battery mode.
☀CHG	Green	Solid On	Battery is fully charged.
		Flashing	Battery is charging.
⚠FAULT	Red	Solid On	Fault occurs in the inverter.
		Flashing	Warning condition occurs in the inverter.

Function Keys

Function Key	Description
ESC	To exit setting mode
UP	To go to previous selection
DOWN	To go to next selection
ENTER	To confirm the selection in setting mode or enter setting mode



PRODUCT SPECIFICATION

Model	STN10212
Rated Power	1000VA/1000W
Surge Power	2000VA
AC Input Voltage	230VAC
Frequency Range	50Hz/60Hz(Auto Sensing)
AC Output Voltage	230VAC
Efficiency(Peak)PV To INV	98%
Efficiency(Peak)Battery To INV	94%
Maximum AC Charging Current	40A
Battery Voltage	12VDC
Maximum PV Array Power	600W
Maximum PV Array Open Voltage	150VDC
MPPT Operating Voltage Range	20~150VDC
Maximum PV Charging Current	40A
Operating Temperature	-10~50°C
Product Size	240x290x91mm
Weight	3.5kg
Warranty	3 years

STN10212 1.0KW

PRODUCT SPECIFICATION

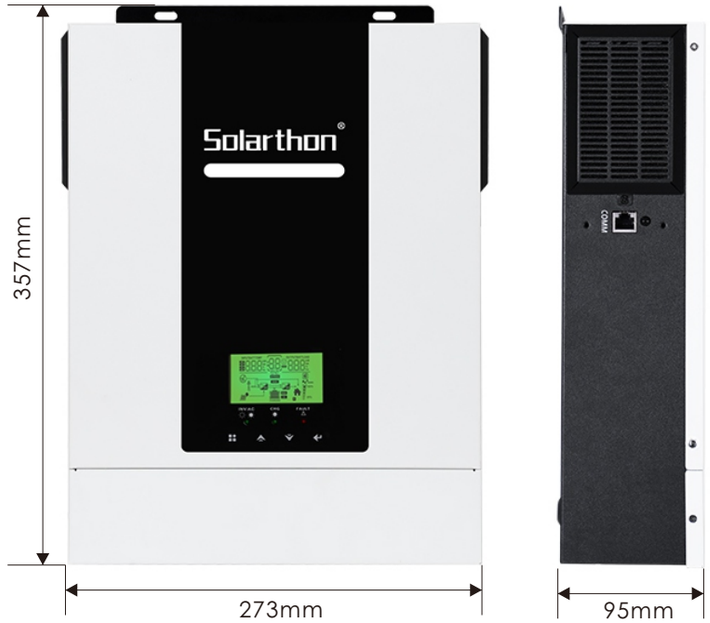
Model	STN15224
Rated Power	1500VA/1500W
Surge Power	3000VA
AC Input Voltage	230VAC
Frequency Range	50/60Hz
AC Output Voltage	230VAC
Efficiency(Peak)PV To INV	98%
Maximum AC Charging Current	40A
Battery Voltage	24VDC
Maximum PV Array Power	1200W
Maximum PV Array Open Voltage	150VDC
MPPT Operating Voltage Range	30~120VDC
Maximum PV Charging Current	40A
Operating Temperature	-10~50°C
Product Size	290x240x91mm
Weight	3.6kg
Warranty	3 years

STN15224 1.5KW

PRODUCT SPECIFICATION

Model	STN20212
Rated Power	2000VA/2000W
Surge Power	4000VA
AC Input Voltage	230VAC
Frequency Range	50 Hz/60Hz(Auto Sensing)
AC Output Voltage	230VAC
Efficiency(Peak)PV To INV	98%
Efficiency(Peak)Battery To INV	60A
Maximum AC Charge Current	12VDC
Battery Voltage	2000W
Maximum PV Array Power	400VDC
Maximum PV Array Open Circuit Voltage	30~400VDC
Full Load MPPT Operating Voltage	240~350VDC
Maximum Charging Current	80A
Operating Temperature	-10~50°C
Communication Interface	RS232/GPRS/WIFI
Product Size	273x357x95mm
Weight	5.2kg
Warranty	3 years

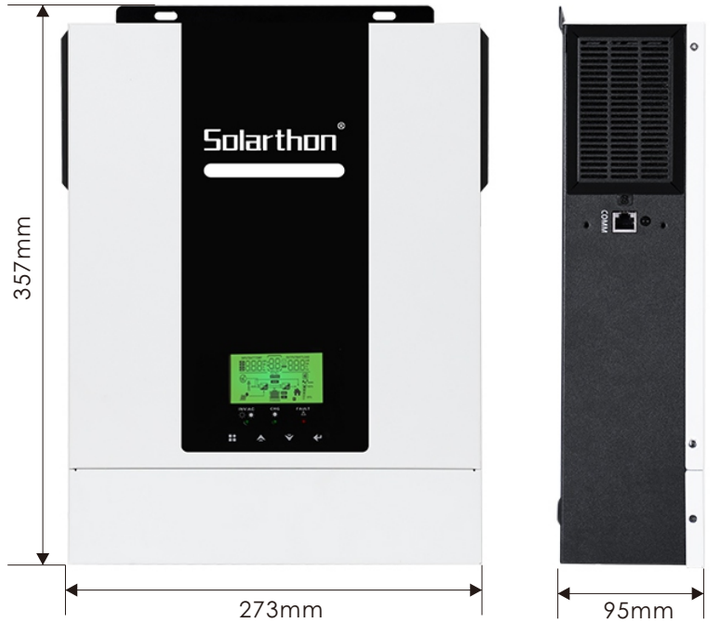
STN20212 2.0KW



PRODUCT SPECIFICATION

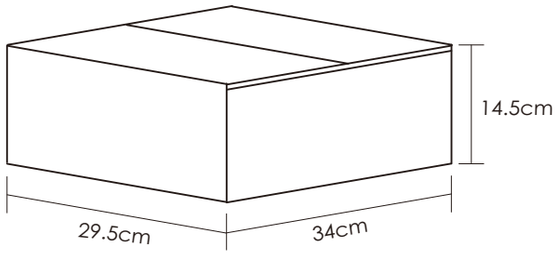
Model	STN30224
Rated Power	3200VA/3000W
Surge Power	6400VA
AC Input Voltage	230VAC
Frequency Range	50 Hz/60Hz(Auto Sensing)
AC Output Voltage	230VAC
Efficiency(Peak)PV To INV	98%
Efficiency(Peak)Battery To INV	94%
Maximum AC Charge Current	60A
Battery Voltage	24VDC
Maximum PV Array Power	3000W
Maximum PV Array Open Circuit Voltage	400VDC
Full Load MPPT Operating Voltage	240~350VDC
Maximum Charging Current	80A
Operating Temperature	-10~50°C
Communication Interface	RS232/GPRS/WIFI
Product Size	273*357*95mm
Weight	6.2kg
Warranty	3 years

STN30224 3.0KW

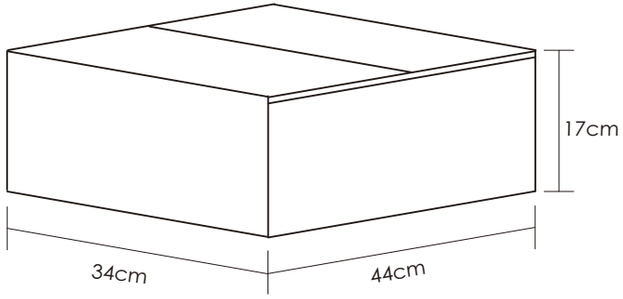


PACKAGING SPECIFICATION

P/N	Power	Packing Size(CM)			PCS/CTN	CBM/CTN	G.W/CTN(KGS)
		L	W	H			
STN10212	1000W	29.50	34.00	14.50	1	0.0145	4.00
STN15224	1500W	29.50	34.00	14.50	1	0.0145	4.20
STN20212	2000W	34.00	44.00	17.00	1	0.0254	6.00
STN30224	3000W	34.00	44.00	17.00	1	0.0254	7.00



STN10212/STN15224



STN20212/STN30224

INSTALLATION

Consider the following points before selecting where to install:

- Do not mount the inverter on flammable construction materials.
- Mount on a solid surface
- Install this inverter at eye level in order to allow the LCD display to be read at all times.
- For proper air circulation to dissipate heat, allow a clearance of approx. 20 cm to the side and approx. 50 cm above and below the unit.
- The ambient temperature should be between 0C and 55C to ensure optimal operation.
- The recommended installation position is to be adhered to the wall vertically.
- Be sure to keep other objects and surfaces as shown in the diagram to guarantee sufficient heat dissipation and to have enough space for removing wires.