Solargear SG12-B200LIM Battery Compartment
Operating Instructions

Thank you very much for purchasing our product. Please read this manual thoroughly before using this product, and retain it for future reference in order to use the product safely, and to make the most of its features. If you use other products together with this product, please read the operating instructions of those products thoroughly before use as well.

Applications

Charging the built-in LiFePO4 battery by sunlight, and powering a broad range of appliances through AC100V pure sine wave (inverter outlet, dust and water proof connectors), DC5V (USB) and DC12V (charge controller terminals, dust and water proof connectors) output. A built-in nightlight function can control DC12V load such as LED light at night and is widely programmable.

Features

● An IP67 dust and water proof Pelican Case with a fail-safe automatic pressure equalization valve as the battery compartment. Equipped with a retractable extension handle and strong polyurethane wheels with stainless steel bearings.
● A built-in state-of-the-art LiFePO4 battery with a heat function which starts working at 5 ℃ and stops at 10℃ ensures a lifespan of more than 5000 cycles.
● A built-in MPPT charge controller with a nightlight function accepts solar panels with up to 100V of Voc and 260W of Pm.
● Free "DC Home" App for monitoring power generation, charging/discharging current and SOC of the battery by smartphones available from "App Store" and "Google Play".
● A 1000W pure sine wave DC-AC inverter with 2 AC100V outlets and a DC5V USB receptacle for powering a broad range of appliances.
● Various solar panels with up to 100V of Voc and 260W of Pm can be connected with MC4 Conversion Cables (sold separately).
● Dust and water proof power supply to appliances with AC100V input with AC100V Output Cables.
● Dust and water proof power supply to appliances with DC12V input with DC12V Output Cables (sold separately).
● DC Power Cables (sold separately) to double the output capacity of the batteries.

Important Safety Instructions

⚠ **Caution** Please follow the instructions below. Failure to comply may damage this device, cause the built-in battery to burst or result in leakage, fire and injury.

● Charge only the specified batteries.
● Do not allow metal objects to touch the input/output connectors.
● Do not block the automatic pressure equalization valve on the battery compartment.
● Do not short circuit, or disassemble this device.
● Do not put this device into water.
● Do not use or leave this device near fire.
● Do not use or leave this device in enclosed spaces.
● Do not use or leave this device in unstable high places.
● Stop charging in case of leakage from the battery.
● Stop charging in case the battery becomes unusually hot.
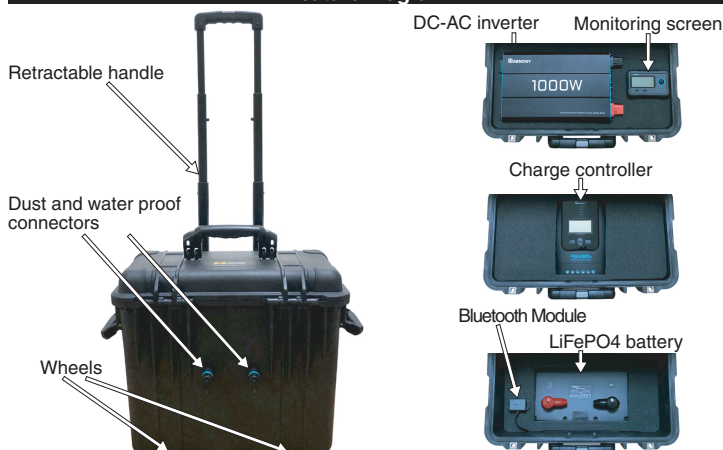
Important Note

We are not responsible for any physical damage to appliances, any loss of memorized data, any interruption of business, and any loss of business opportunities caused by this product.

Specifications

● Built-in battery: LiFePO4 battery
● Nominal capacity*: 2560Wh (12.8V 200Ah)
● Cycle life*: 5000 cycles
● Max input: Voc: 100V Pm: 260W
● Max output: 1000W (AC100V)
  2.1A (DC5V USB)
  20A (DC12V charge controller terminals)
  17A (DC12V dust and water proof connectors)
● Operating temperature (charge)**: -10 - 50℃
● Operating temperature (discharge)**: 0 - 40℃ (AC100V, DC5V USB)
  -15 - 60℃ (DC12V)
● Dimensions (WXDXH): 500X305X457mm
● Weight: approx. 30.0kg (excl. battery charger)
● Input/output terminals: IP68 dust and water proof connector X 1
● Output terminals: IP68 dust and water proof connector X 1
  AC100V inverter outlet X 2
  DC5V USB receptacle X 1
  DC12V charge controller terminals X 1
● Safety features: 20A MPPT charge controller
  20A fuse for short circuit prevention X 2
● Accessories: 1000W pure sine wave DC-AC inverter
  AC 100 - 240V 150W battery charger
  5m dust and water proof jacket cable for AC100V output

*0.2C rate at 25℃ 80% DOD **No freezing

Feature Diagram

Retractable handle

Dust and water proof connectors

Wheels

DC-AC inverter

Monitoring screen

1000W

Charge controller

Bluetooth Module

LiFePO4 battery

How to Use

Connecting the solar panel/AC battery charger

1 Connect the output cables of the solar panel or AC battery charger to this product. Screw anticlockwise the cover off 4P dust and water proof connector. Align the ▲ marks of both connectors and screw the ring clockwise tightly by hand.

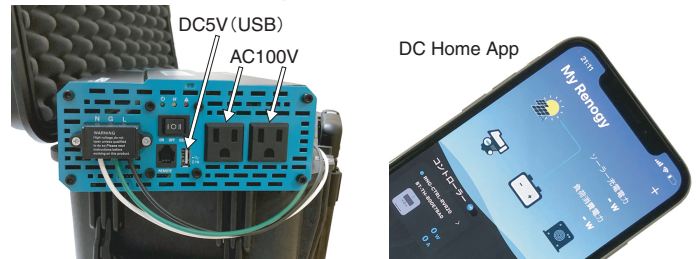☼ **Note:** Pull the connectors lightly to make sure they are locked.

LCD display   Power button

Page Down button   Page Up button

2 Press the Power button on the monitoring screen to activate the battery. The backlight will then be lit and the LCD Display will show the present voltage.

Charging the built-in Battery

1 Face the solar panel towards the sunlight, and charge the built-in battery. To mount the solar panel on the fence or on the ground, s-hooks, fixing ties or fixing pegs can be used. For the most efficient charging, adjust the direction and angle of the solar panel 90 degrees in opposition to the sun rays. Use the AC battery charger in the night and in bad weather.

Powering Appliances

1 To power appliances with AC100V input indoors, open the lid, turn on the provided DC-AC inverter, and connect the plug of the appliances to the outlet of the inverter. To power light-load with AC100V input outdoors, connect the AC100V Output Cable to 5P dust and water proof connector, and the appliances to the outlet of the cable.

☼ **Note:** When the inverter stops working with the red error LED turns on due to overheating, keep opening the lid for cooling duling power supply.

2 To power appliances with DC5V input, turn on the provided DC-AC inverter, and connect the appliances to the inverter.

3 To power appliances with DC12V input indoors, connect the input cables of the appliance to the load terminals of the controller. To power appliances with DC12V input outdoors, connect the DC12V Output Cables to 5P dust and water proof connectors and the processed end to the appliances.

4 To power appliances with DC12V input, such as LED light, the built-in nightlight function can control the load at night and is widely programmable. Please refer to the instruction manual of the charge controller for details.

DC5V（USB）   AC100V   DC Home App

5 To monitor the status of the solar panel and the battery, refer to the LCD Display of the monitoring screen or the charge controller. Please refer to the instruction manual of the monitoring screen or the charge controller for details.

6 You can monitor the power generation, charging/discharging current and SOC of the battery by smartphones with Free "DC Home" App available from "App Store" and "Google Play".

7 After you have finished powering appliances with AC100V or DC5V input, turn off the provided DC-AC inverter, and disconnect the appliances from the inverter. After you have finished powering appliances with DC12V input, disconnect the input cables of the appliances from the load terminals of the controller or from dust and water proof connectors.

8 Once you have finished powering appliances, press the Power button on the monitoring screen for 3 seconds to put the battery into shelf mode to protect the built-in battery from over-discharging. To keep away from dust and water, and to avoid short circuit, close the lid of the battery compartment and cover the dust and water proof connectors.

9 You can connect another battery compartment with DC Power Cables to double the output capacity to power appliances with power consumption up to 200W.

Maintenance

● To protect the built-in battery from over-discharging, charge it immediately when the charge controller indicates low voltage, or charge it at least every month.
● The life of the built-in battery varies widely depending on the operating environment. Replace the battery when the operating time becomes notably short.
● Clean this product with a dried or dampened cloth. Do not use oil, solvents, petrol or paint thinners for cleaning.

Warranty

● 1 year from the date of purchase

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Design and specifications are subject to change without notice.

Assembled in Japan 01-04-25