

Violetta Solargear VS12-B20LA 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.

Product Summary

An AGM deep cycle battery compartment for IP67 dust and waterproof mobile PV systems designed for powering a broad range of appliances. Composed of a combination of an ultra-thin, light and efficient solar panel and a compact, lightweight yet rugged battery compartment for ultimate portability, reliability, safety, impact resistance, weather resistance and ruggedness in business, disaster prevention, leisure and everyday living.

Applications

Charging the built-in AGM deep cycle battery by sunlight, and powering a broad range of appliances through AC100V, DC12V and DC5V 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.
- A built-in 12V 20Ah AGM deep cycle battery which offers exceptional 650 cyclic use at 50% discharge with maintenance-free operation and high safety for air transport.
- A built-in Denryo SA-MN05-8 charge controller with only 1mA of self-consumption current to protect the uncharged battery from over-discharging, and with a programmable nightlight function.
- IP67 dust and water proof input connectors for weather resistant outdoor installations.
- 2 input connectors for 2 solar panels for quick charging.
- A 200W modified sine wave (square wave) DC-AC inverter with 2 AC100V outlets, a DC12V cigar lighter receptacle and a DC5V USB receptacle.

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: AGM deep cycle battery
- Nominal capacity*: 240Wh (12V 20Ah)
- Max output: 200W (AC100V inverter outlet)
2.1A (DC5V USB)
10A (DC12V cigar lighter receptacle)
8.5A (DC12V charge controller terminals)
- Operating temperature (charge)**: -10 - 50°C
- Operating temperature (discharge)**: 0 - 40°C (AC100V inverter outlet, DC5V USB and DC12V cigar lighter receptacle)
-20 - 50°C (DC12V charge controller terminals)
- Dimensions (WXDXH): 270X175X246mm
- Weight: approx. 7.8kg (incl. accessories)
- Input terminals: IP67 dust and water proof connector X 2
- Output terminals:
 - AC100V inverter outlet X 2
 - DC5V USB receptacle X 1
 - DC12V cigar lighter receptacle X 1
 - DC12V charge controller terminals X 1
- Safety features: Denryo SA-MN05-8 charge controller
- Cycle life: 1500 cycles / 30% discharge
650 cycles / 50% discharge
500 cycles / 75% discharge
- Accessories: Ohashi Sangyo 1757 200W DC-AC inverter

*20 hr rate at 25°C

**No freezing

Feature Diagram



How to Use

Charging the built-in Battery

- Please read the operating instructions manual of the solar panel.



Powering Appliances

- 1 After charging the built-in battery, open the lid of the battery compartment.
- 2 To power appliances with AC100V or DC5V input, turn on the provided DC-AC inverter, and connect the appliance to the inverter. To power appliances with DC12V input, connect the cigar lighter plug of the appliance to the cigar lighter receptacle of the inverter, or connect the input cables of the appliance to DC12V load terminals of the built-in charge controller. You can also control the load output at night by a programmable nightlight function. Please refer to the instruction manual of the controller for details.

AC100V DC5V(USB) AC100V



DC12V (cigar lighter receptacle)



- ⚠ **Note:** To power appliances with AC100V input that consume more than 200W, use other DC-AC inverters with higher capacity. In such cases, connect DC-AC inverters directly to the built-in battery. If you connect DC-AC inverters to DC12V load terminals of the built-in charge controller, it may be damaged by overcurrent.

- ⚠ **Note:** To power appliances that cannot be powered through the provided modified sine wave (square wave) DC-AC inverter, such as scientific testing equipments and rapid-start fluorescent lamps, use other pure (true) sine wave DC-AC inverters. In such cases, connect DC-AC inverters directly to the built-in battery. If you connect DC-AC inverters to DC12V load terminals of the built-in charge controller, it may be damaged by overcurrent.

- 3 To monitor the status of the solar panel and the battery, press "SELECT SW" (red button) of the built-in charge controller. "STATUS LED" blinks 3 times when battery level is full. It blinks twice when battery level is middle. It blinks once when battery level is low. "ERROR LED" blinks 3 or 4 times when the solar panel has no output. Please refer to the instruction manual of the controller for details.



- ⚠ **Note:** When you press "MODE SW" (white button), it stops charging. To restart charging, press 1-2 times again until all the LEDs blink twice.

- ⚠ **Note:** When you are in an emergency or mission critical operations, monitor the status of the battery frequently.

- 4 After you have finished powering appliances with AC100V or DC5V input, turn off the provided DC-AC inverter, and disconnect the appliance from the inverter. After you have finished powering appliances with DC12V input, disconnect the cigar lighter plug of the appliance from the cigar lighter receptacle of the inverter, or disconnect the input cables of the appliance from DC12V load terminals of the built-in charge controller.

- 5 To keep away from dust and water, and to avoid short circuit, close the lid of the battery compartment once you have finished powering appliances.

Maintenance

- To protect the built-in battery from over-discharging, charge it immediately when "STATUS LED" blinks once (Battery Level Low), or "ERROR LED" of the charge controller blinks once or 4 times (LVD = Load Off), or charge it at least every 6 month.
- The life of the built-in battery varies widely depending on the operating environment. Replace the battery every 3 - 5 years, or 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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