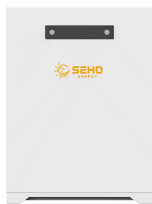


# **PV COUPLING BATTERY EB2150 USER MANUAL**



**Rev 1.0**

# 1.What's in the Box



EB2150



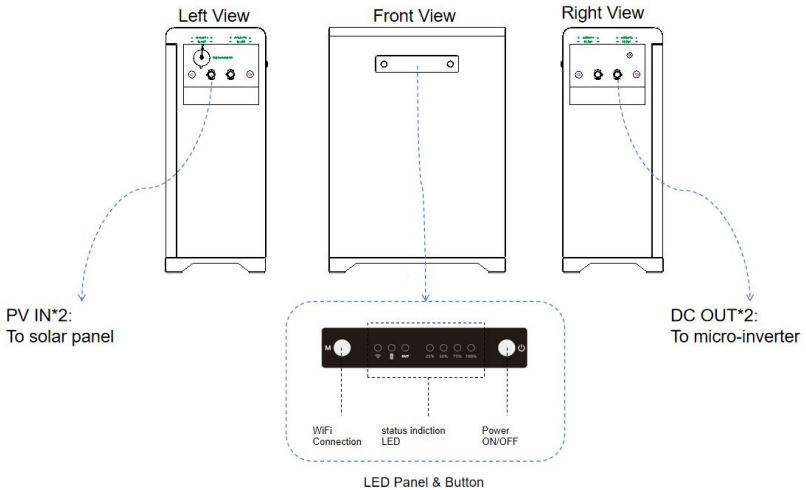
MC4 DC Output Cable(2m) ×2





User Manual

## 2. Overview




### 2.1 Product Overview



### 2.2 Button Controls

Button	Action	Function
		
	Press for 3 seconds	Turn EB2150 on.
	Press for 3 seconds	Turn EB2150 off
	Press twice quickly	Turn on "Force Output Mode"

## 2.3 LED Status

LED Status		Description
	RED	Bluetooth connected
	Blue	WIFI connected
	Blue Flash	Enter pairing mode with your phone
	ON	DC forced output mode is on.
	OFF	DC forced output mode is off.
	ON	The extended battery pack is connected.
	OFF	The extended battery pack is not connected.

## 2.4 Battery pack SOC status indication

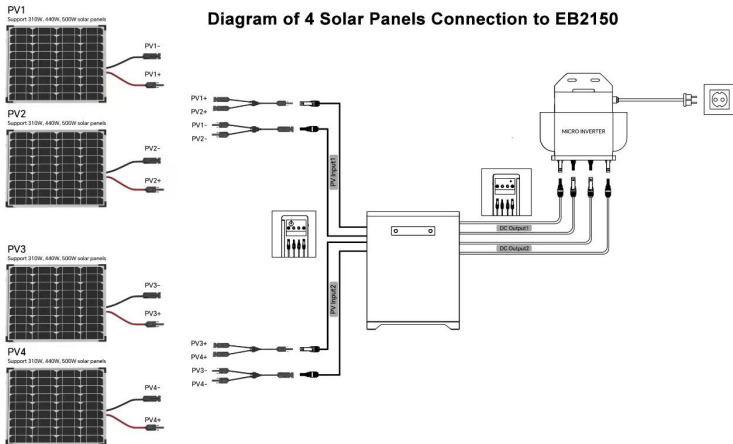
Battery Status	Charging Mode				Discharging Mode			
	25	50	75	100	25	50	75	100
SOC ≤ 25%	Flash	OFF	OFF	OFF	Flash	OFF	OFF	OFF
25% < SOC ≤ 50%	ON	Flash	OFF	OFF	ON	Flash	OFF	OFF
50% < SOC ≤ 75%	ON	ON	Flash	OFF	ON	ON	Flash	OFF
75% < SOC ≤ 100%	ON	ON	ON	Flash	ON	ON	ON	Flash

## 2.5 Electrical connection interface

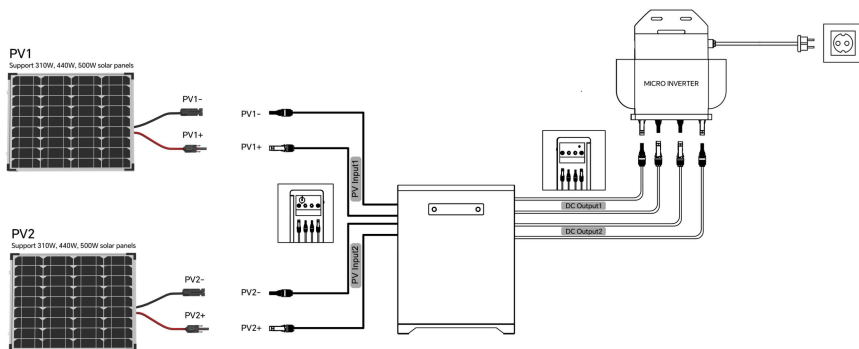
Interface	Function	Electrical characteristics
PV input 1	Connect to the first group/piece of photovoltaic modules	<ul style="list-style-type: none"> <li>● Input voltage range:12V~60V</li> <li>● Maximum input current:20A</li> <li>● Maximum input power:750W</li> </ul>
PV input 2	Connect to the second group/piece of photovoltaic modules	<ul style="list-style-type: none"> <li>● Input voltage range:12V~60V</li> <li>● Maximum input current:20A</li> <li>● Maximum input power:750W</li> </ul>
DC output 1	The lithium battery energy output port 1 is connected to the micro inverter input port 1.	<ul style="list-style-type: none"> <li>● Output voltage range:20V~52V</li> <li>● Maximum output current:10A</li> <li>● Maximum output power:400W</li> </ul>
DC output 2	The lithium battery energy output port 2 is connected to the micro inverter input port 2.	<ul style="list-style-type: none"> <li>● Output voltage range:20V~52V</li> <li>● Maximum output current:10A</li> <li>● Maximum output power:400W</li> </ul>

### 3.Electrical Connections

1. Connect EB2150 to the micro inverter using the MC4 cables.
2. Connect the micro inverter to a home outlet using the original cable.
3. Connect the solar panels to EB2150 using solar panel extension cables.
4. Press the power button for 3 seconds to turn on your EB2150. When powered on, the status LED will display blue .



## Diagram of 2 Solar Panels Connection to EB2150



Note: If we use 4 photovoltaic modules and EB2150 to form a solar photovoltaic power generation system, we need to confirm whether the current after the modules are connected in parallel exceeds the bearing capacity of EB2150 before installation. Because after the photovoltaic modules are connected in parallel, the current will be twice the output current of a single photovoltaic module, which may damage EB2150 or even cause a safety accident. The principle of connecting 2 photovoltaic modules in parallel is as shown in the figure below:

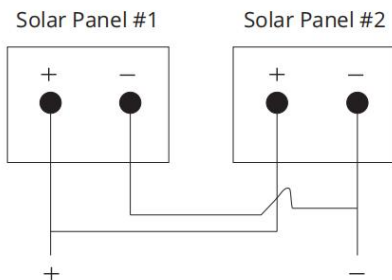


Figure:Schematic of two panels in parallel

## 4.Lithium battery output mode

4.1 Output Priority Mode: The output priority mode is also called the load priority mode. If the photovoltaic power generation is greater than the load consumption, the photovoltaic power generation will be used to meet the load consumption first, and the remaining power will be used to charge the lithium battery. If the photovoltaic power generation cannot meet the load consumption, the photovoltaic power generation will be used for load consumption, and the lithium battery will not be charged.

4.2 Power Reserve Priority Mode: Also known as battery backup mode, regardless of whether photovoltaic power generation can meet the load consumption, all photovoltaic power generation will prioritize ensuring that the battery is fully charged, and then supply the excess power to the load for consumption.

4.3 Forced Output Mode: The forced output mode is to forcing photovoltaic or lithium battery to power the home load. If the photovoltaic power generation cannot meet the energy demand of the load, the lithium battery discharge is started until the lithium battery is discharged to SOC protection. The forced output mode is started and closed by the M button on the front panel of the lithium battery.

4.4 Timer Switching ON/OFF: This mode is the same as the output priority mode mentioned above. We can set the system's working time through the APP.



## 5.APP Smart Control

### 5.1 APP download and installation

The APP compatible with EB2150 is Wonderfree, which can be found in Google APP Store and Apple APP Store.

### 5.2 Device Connection

1. Make sure the phone's "Bluetooth" is turned on. Open the APP and select "Add Device". The system will ask for "Location" permission, select "Allow". Then, the system will prompt "Do you want to allow Wonderfree to obtain information about nearby devices?" Select "Allow". The APP will start searching for nearby devices.
2. Press and hold the "POWER" button on the front panel of EB2150 for 5 seconds, and the device will enter pairing mode. At this time, the "WiFi" status indicator on the front panel of EB2150 will flash. Please complete the pairing of APP and EB2150 within 10 minutes, otherwise, you need to repeat the previous steps to enter pairing mode.
3. Click "Add Device" in the upper right corner of the APP, and the APP will start searching for nearby devices (please make sure EB2150 is in the state of waiting for network configuration). We will find "EB2150" on the APP, and then click "Add". In this way, we will successfully pair the APP with EB2150.

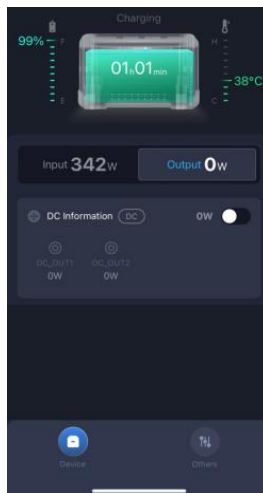
### 5.3 APP functions and control modes

1. PV Input Power Status on this interface, we can see the photovoltaic input power, the input power of each MPPT, the temperature inside the lithium battery, the charge and discharge status of the lithium battery, and the real-time SOC of the lithium battery.



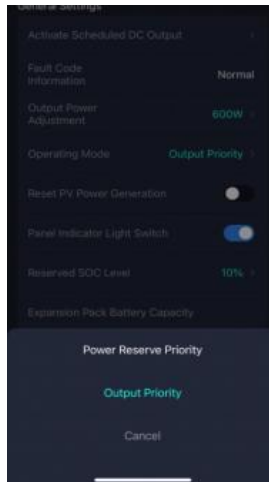
## 2. Output Power Status

On this interface, we can see the total power of the lithium battery DC output, the power of each DC output, the temperature inside the lithium battery, the charge and discharge status of the lithium battery, and the real-time SOC of the lithium battery.



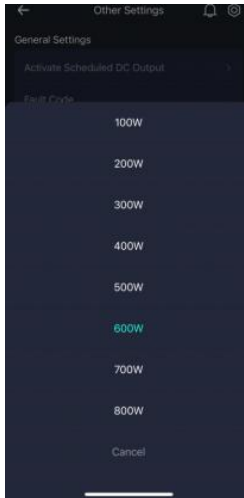
### 3. Lithium battery output mode setting

In the "Other Settings" interface, you can set the output working mode of the lithium battery, the upper and lower limits of the lithium battery SOC, etc.



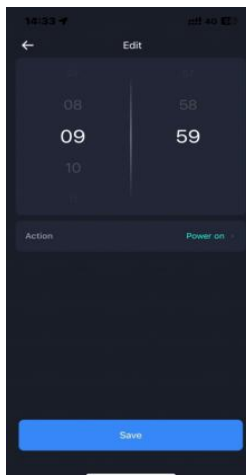
### 4. Adjust DC Output Power

The "Output Power Adjustment" option in the "Other Settings" interface can adjust the output power of the lithium battery according to the actual needs of the user.



## 5. Timer power on/off settings

In the "Other Settings" interface, you can also set a scheduled startup or shutdown.



## 6.Storage and Maintenance

For optimal performance, follow the instructions below to store and maintain your EB2150 regularly.

1. Keep the product on a flat surface when using, charging, and storing.
2. Use a cotton cloth and water to clean. Do not use steel wool or other hard materials for cleaning.
3. For long-term storage, charge and discharge EB2150 once every 3 months (discharge EB2150 to 20%, then recharge it to 80%).

## 7.Specifications

### DC INPUT(PV)

Max. Input Charging Power	1500W: 750W*2
Operating Voltage Range	12V-60V
Max. Input Current	20A

### DC OUTPUT(INVERTER SIDE)

Supported Solar Inverter Type	Major Micro Inverter
Bypass Power	800W after battery is full
Max. Output Voltage	52V
Operating Output Voltage Range	20V-52V
Max. Output Current	800W: 400W*2

### BATTERY

Cell Type	LFP
Energy Capacity	2150wh
Nominal Charge/ Discharge Current	0.5C/0.4C
DoD	70%

<b>GENERAL</b>	
Dimension (W/D/H)	L320MM*W185MM*H400MM
Weight	26.4kg
Operating Temperature	- 20℃-50℃
Operating Altitude	< 2000M
Cooling Method	Aluminum cooling fin
Noise Level	0
Relative Humidity	10%~90%
Protection Level	IP65
<b>COMPLIANCE</b>	
CE-RED	EN 300328
	EN 301 489-1
	EN 301 489-17
	EN 55032/55035
	EN 62311:2008
	EN 62368
Delivery Standard	UN 38.3

## 8.Safety Information

1. Please carefully read the documents before installing, operating or maintaining the equipment. The documents are subject to change due to product updates or other reasons.
2. Do not put heavy objects on the equipment.
3. Ensure that all cables and connectors are intact and dry before connecting to prevent electric shocks.
4. Do not install or operate the equipment in extreme weather events such as lightning, snow, heavy rain, strong wind and so on.
5. Do not damage, smear or rip off any warning labels on the equipment.
6. Do not hit, pull, drag, squeeze or step on the equipment, or throw it into the fire, as there is risk of explosion.
7. After installing, please clean the remains of the installation, such as boxes, clipped cable ties, ripped insulation materials, etc.
8. Do not modify or repair the equipment, please contact our customer service or qualified personnel if necessary.
9. Use tools and the equipment correctly to prevent personal injuries and product damage.
10. Understand the components and function of the grid-tied PV power system. Make sure that all electrical connections, and voltage and frequency at the connection point meet the local micro inverter grid-tie requirements and electrical standards.



11. The installation location should be convenient for you to put out the connectors.
12. Before you pull out the AC (or battery) connector from the micro inverter, disconnect the cable from the AC socket (or battery's) end.
13. Do not clean the product with harmful chemicals or detergents.
14. Misuse, dropping, or excessive force may cause product damage.
15. Do not use or store this product in direct sunlight for a long period, such as in a car, cargo bed, or any other place where it will be exposed to high temperatures. Doing so may cause the product to malfunction, deteriorate, or generate heat.
16. Do not use this product near strong static electricity or strong magnetic fields.
17. Do not immerse the product in water. If the product accidentally falls into water, place it in a safe, open place and keep it away from fire until it is completely dry.

## 9.Environment requirements

1. Make sure the equipment is installed, operated or stored in a well ventilated place.
2. Do not install or operate the equipment near flammable, explosive, corrosive, caustic or moist sources.
3. Do not expose the equipment to strong electromagnetic fields to avoid radio interference.

## 10. Customer Service

Email: [sales@sehoenergy.com](mailto:sales@sehoenergy.com)

Web: [www.sehoenergy.com](http://www.sehoenergy.com)

Address: 303 Hennessy Road, Wan Chai District, Hong Kong

## 11. Last but not least

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